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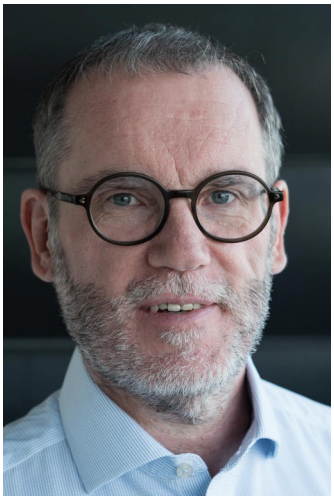
Mats Christiansen

Sexual Health in Caring Science

Making Sexuality Intelligible After Prostate Cancer in Men Who Have Sex with Men



Åbo Akademi University



Mats Christiansen

Born 1972

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Sexual health in caring science

Making sexuality intelligible after prostate cancer in men who have sex with men

Mats Christiansen

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My doctoral path eventually led me to the University of California, San Francisco. I remain deeply grateful to Professors Bill Holzemer, Kit Chesla, Shari Dworkin, and Patricia Benner for the scholarship, intellectual challenge, and ways of thinking about nursing, qualitative inquiry, health, and human experience I encountered there. I also remember with particular affection the Mission Bay Journal Club and Dr. Amy Crickmer, Dr. Roxanne O'Brien, Dr. Paul Smith, and Mary Nottingham. Our discussions taught me much about reading critically, questioning what seems self-evident, and thinking together. Although the dissertation before you was ultimately completed in another country, at another university, and within a different scholarly tradition, UCSF remains part of the researcher who wrote it.

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Study I relied on people willing to help me reach men whose experiences are not easily accessible through conventional recruitment channels. I am

particularly grateful to Dr. Göran Bratt, whose knowledge of the community and willingness to connect me with others made recruitment possible. I am also grateful to Dr. Tsz Kin Lee for generously sharing the developing MSM-specific questionnaire that later became COMPASS and for allowing me to use it in Study I. My thanks also go to Dr. Nicklas Dennermalm for reviewing my Swedish translation of the questionnaire and for bringing his expertise in sexual health research among MSM to the process.

Above all, I owe my gratitude to the four men who participated in Study I. You entrusted me with intimate, complex, sometimes painful experiences, often shared with remarkable openness and humor. Your accounts of bodies, sexuality, relationships, healthcare, loss, adaptation, and possibility form the empirical heart of this thesis. I hope I have treated what you shared with the care and seriousness it deserves.

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I also want to remember my dear friend Ewa Ericsson, who is no longer here to see this thesis completed. More than thirty-five years ago, long before an academic career seemed an obvious path for me, you urged me to aim higher and imagined possibilities for me that I did not yet necessarily imagine for myself. I have carried that encouragement with me. I wish you could have seen where the journey eventually led.

Finally, my deepest thanks go to my husband, Jacob. When we met in 2000, I was already a doctoral student in venereology at the University of Gothenburg. You have therefore lived alongside my doctoral ambitions for as long as we have known each other. The road that followed was anything but straight: from Gothenburg to San Francisco, back to Sweden and Karolinska Institutet, and eventually to Åbo Akademi, with Uppsala University becoming my academic home along the way. Through changes of direction, interrupted plans, new beginnings, setbacks, successes, and all the years in between, you have been the constant. Thank you for your patience, humor, encouragement, and confidence in me, even when my own was less certain. More than anything, thank you for sharing a life where there has always been room for my academic ambitions, and for so much more. Twenty-six years after we met, one very long chapter of that journey has finally reached its conclusion.

This thesis began with questions about sexuality after prostate cancer. Along the way, it became equally concerned with what can be seen, spoken, known, recognized, and cared for. I have learned that scholarship, too, depends on what others make possible for us to see. For that, and for all those who have accompanied me along the way, I am deeply grateful.

Uppsala, Sweden, September 19, 2026
Mats Christiansen

Abstract

Christiansen, Mats, 2026: Sexual health in caring science: Making sexuality intelligible after prostate cancer in men who have sex with men

Supervisors:
Professor Lisbeth Fagerström, Åbo Akademi University.
Professor Henrik Eriksson, University West.

Background: Prostate cancer treatment commonly results in substantial and persistent changes affecting sexuality, intimacy, and sexual health. Although these consequences are well documented, sexual rehabilitation has historically been strongly oriented toward biomedical outcomes and the restoration of sexual function, particularly erectile capacity. Such approaches provide important clinical knowledge but may insufficiently account for the relational, experiential, and contextual dimensions of sexuality.

These limitations are particularly relevant for men who have sex with men (MSM), whose sexual practices, relationships, and experiences may fall outside heteronormative assumptions embedded in research, rehabilitation, and supportive care. Previous research has documented distinct patterns of sexual change, adaptation, and unmet supportive care needs among MSM following prostate cancer treatment. At the same time, sexual health support extends beyond formal healthcare to peer networks, digital environments, and emerging forms of technologically mediated communication. This raises questions not only about sexual changes following treatment but also about the conditions under which sexuality becomes possible to articulate, recognize, and support.

Aim: The overall aim of this thesis was to explore how sexual health is experienced, reconfigured, recognized, and supported among MSM following prostate cancer treatment across clinical, relational, and digitally mediated contexts. Drawing on the theory of caritative caring and complementary analytical perspectives, the thesis further examined the relational, normative, and sociotechnical conditions that make it possible to recognize and support sexuality within care.

Methods: The thesis employed a qualitative, interpretive multi-study design comprising two complementary studies. Study I used interpretive description to explore experiences of sexual health and supportive care among MSM in Sweden following prostate cancer treatment. Between October 2021 and January 2023, four participants who had undergone radical prostatectomy were interviewed via individual semi-structured videoconferencing interviews.

Interview data were complemented by contextual questionnaire data on sexual function and sexual health.

Study II employed auto-netnography to examine researcher-generated interactions with four generative artificial intelligence (GenAI) chatbots: ChatGPT, Claude, Copilot, and Gemini. Interactions took place from February to March 2025, using standardized prompts formulated from a mock-patient perspective and addressing sexuality-related concerns relevant to a gay man following prostate cancer treatment. The analysis was qualitative, interpretive, and interaction-focused.

After completing the individual study analyses, an interpretive cross-study synthesis was conducted using the findings, themes, and analytical interpretations from the two studies. Relationships across clinical, relational, peer-based, and digitally mediated contexts were examined through repeated comparison. The theoretical framework was grounded in the theory of caritative caring and complemented by queer epistemology and Actor-Network Theory.

Findings: Study I showed that sexual recovery was experienced not simply as restoration of a pre-treatment state but as an ongoing process of adaptation to changed bodily and relational conditions. Participants renegotiated sexual practices, intimacy, expectations, and meanings of sexuality. Within healthcare encounters, same-sex sexuality could be acknowledged without participants' sexual practices, relationships, or concerns becoming meaningfully integrated into subsequent supportive care. Peer interactions provided experiential knowledge, practical guidance, normalization, and validation that complemented professional care and, at times, compensated for perceived limitations in sexual health support.

Study II showed that GenAI chatbot interactions provided an additional context in which sexuality-related concerns could be articulated and explored iteratively. Four recurring interactional styles were identified: structured overview, rational clarity, compassionate perspective, and compassionate precision. Interactions varied in emotional attunement, informational specificity, and the extent to which same-sex sexuality and relational circumstances were incorporated. Within the scope of the study, GenAI was interpreted as a potential digital adjunct for sexual health information and exploration rather than as a substitute for professional healthcare.

The cross-study synthesis identified three interrelated processes: *reconfiguration*, concerning how sexuality is renegotiated under changed bodily and relational conditions; *recognition*, concerning the conditions under which sexuality becomes intelligible and available for engagement; and *support*, con-

cerning how different forms of sexual health knowledge and support become available across clinical, relational, peer-based, and digitally mediated contexts. These processes were integrated into the Queer Supportive Assemblage Model (QSAM), an interpretive conceptual synthesis of the thesis findings.

Discussion: Sexual recovery following prostate cancer treatment among MSM can be understood as reconfiguration rather than restoration alone. Physiological recovery remains clinically important, but bodily change acquires meaning within sexual practices, relationships, and wider contexts of support. The findings further indicate that acknowledging sexual diversity does not necessarily make sexuality available for meaningful engagement within caring practice.

From the perspective of the theory of caritative caring, sexuality can be understood as ontologically encompassed within the person's being as embodied, relational, and meaning-oriented. Ontological encompassment does not, however, ensure epistemological availability. Queer epistemology illuminates how normative conditions shape intelligibility and recognition, while Actor-Network Theory directs attention to the relational and sociomaterial arrangements through which sexuality, knowledge, and support become actionable. The findings further distinguish caring from the broader distribution of support: professional caring retains specific clinical and ethical responsibilities, whereas peer, community-based, and digitally mediated contexts may provide other forms of experiential, informational, and interactional support.

Conclusion: Sexual health following prostate cancer treatment among MSM cannot be reduced to the restoration of sexual function. It is reconfigured under changed bodily and relational conditions, becomes differentially recognizable across contexts, and is supported through different relational and sociotechnical resources. QSAM represents these interrelated processes as a theoretically informed conceptual proposition, the usefulness of which beyond the present context requires further empirical examination.

For caring science, the thesis contributes by making sexuality explicit within an ontology already capable of encompassing it while showing that ontological inclusion alone does not ensure epistemological availability in caring practice. Responding to sexual health therefore requires attention not only to bodily function or the acknowledgment of sexual diversity, but also to the conditions through which sexuality becomes possible to know, articulate, affirm, and support as part of the person's lived experience.

Suggestions for further research: Further research should examine sexual reconfiguration longitudinally and among MSM with different prostate cancer

treatment trajectories. Research is also needed on how sexuality becomes recognized and responded to within actual clinical encounters and on how organizational practices, professional knowledge, and assessment approaches enable or constrain such engagement. Patients' everyday use of GenAI and other digital resources requires investigation alongside systematic evaluation of clinical accuracy, safety, and potential harms.

QSAM requires further theoretical and empirical examination. Future research should critically test, revise, or reject aspects of the model in other populations and care contexts rather than assume its transferability beyond the specific empirical setting from which it was developed.

Keywords: sexual health, sexuality, prostate cancer, men who have sex with men, supportive care, caring science, generative artificial intelligence, queer epistemology

Abstrakt

Christiansen, Mats, 2026: Sexuell hälsa inom vårdvetenskapen: Att göra sexualitet begriplig efter prostatacancer hos män som har sex med män

Handledare:
Professor Lisbeth Fagerström, Åbo Akademi.
Professor Henrik Eriksson, Högskolan Väst.

Bakgrund: Behandling av prostatacancer leder ofta till betydande och bestående förändringar som påverkar sexualitet, intimitet och sexuell hälsa. Trots att dessa konsekvenser är väl dokumenterade har sexuell rehabilitering historiskt varit starkt inriktad på biomedicinska utfall och återställande av sexuell funktion, särskilt erektionsförmåga. Sådana angreppssätt bidrar med viktig klinisk kunskap men kan otillräckligt beakta sexualitetens relationella, erfarenhetsmässiga och kontextuella dimensioner.

Dessa begränsningar är särskilt relevanta för män som har sex med män (MSM), vars sexuella praktiker, relationer och erfarenheter kan falla utanför heteronormativa antaganden inom forskning, rehabilitering och stödjande vård. Tidigare forskning har visat särskilda mönster av sexuella förändringar, anpassning och otillgodosedda stödbehov bland MSM efter behandling för prostatacancer. Samtidigt sträcker sig stöd för sexuell hälsa bortom den formella hälso- och sjukvården till kamratnätverk, digitala miljöer och nya former av teknologiskt medierad kommunikation. Detta aktualiserar frågor inte bara om sexuella förändringar efter behandling, utan också om de villkor under vilka sexualitet blir möjlig att artikulera, erkänna och stödja.

Syfte: Det övergripande syftet med avhandlingen var att utforska hur sexuell hälsa erfars, omformas, erkänns och stöds bland MSM efter behandling för prostatacancer i kliniska, relationella och digitalt medierade sammanhang. Med utgångspunkt i teorin om caritativ vård och kompletterande analytiska perspektiv undersökte avhandlingen även de relationella, normativa och sociotekniska villkor som möjliggör erkännande och stöd av sexualitet inom vården.

Metod: Avhandlingen hade en kvalitativ och tolkande flerstudiedesign och omfattade två kompletterande delstudier. I delstudie I användes interpretive description för att utforska erfarenheter av sexuell hälsa och stödjande vård bland MSM i Sverige efter behandling för prostatacancer. Fyra deltagare som genomgått radikal prostatektomi intervjuades i individuella semistrukturerade videointervjuer mellan oktober 2021 och januari 2023. Intervjudata kompletterades med kontextualiserande enkätdata om sexuell funktion och sexuell hälsa.

I delstudie II användes auto-netnografi för att undersöka forskargenererade interaktioner med fyra generativa AI-chattbotar: ChatGPT, Claude, Copilot och Gemini. Interaktionerna genomfördes mellan februari och mars 2025 med standardiserade frågor formulerade utifrån ett simulerat patientperspektiv och med fokus på sexualitetsrelaterade frågor relevanta för en homosexuell man efter behandling för prostatacancer. Analysen var kvalitativ, tolkande och interaktionsinriktad.

Efter att analyserna av de båda delstudierna hade slutförts genomfördes en tolkande syntes med utgångspunkt i studiernas resultat, teman och analytiska tolkningar. Relationer mellan kliniska, relationella, kamratbaserade och digitalt medierade sammanhang undersöktes genom upprepade jämförelser. Den teoretiska referensramen grundades i teorin om caritativ vård och kompletterades med queer epistemologi och Actor-Network Theory.

Resultat: Delstudie I visade att sexuell återhämtning inte enbart erfors som ett återställande av tillståndet före behandling, utan som en fortgående process av anpassning till förändrade kroppsliga och relationella villkor. Deltagarna omförhandlade sexuella praktiker, intimitet, förväntningar och sexualitetens innebörd. I vårdmöten kunde samkönad sexualitet uppmärksammas utan att deltagarnas sexuella praktiker, relationer eller bekymmer på ett meningsfullt sätt integrerades i den fortsatta stödjande vården. Kamratinteraktioner erbjöd erfarenhetsbaserad kunskap, praktisk vägledning, normalisering och bekräftelse som kompletterade professionell vård och ibland kompenserade för upplevda begränsningar i stödet för sexuell hälsa.

Delstudie II visade att interaktioner med generativa AI-chattbotar erbjöd ytterligare ett sammanhang där sexualitetsrelaterade frågor kunde artikuleras och utforskas iterativt. Fyra återkommande interaktionsstilar identifierades: *structured overview, rational clarity, compassionate perspective* och *compassionate precision*. Interaktionerna varierade i emotionell lyhördhet, informationsspecificitet och i vilken utsträckning samkönad sexualitet och relationella omständigheter integrerades. Inom studiens avgränsning tolkades generativ AI som ett potentiellt digitalt komplement för information om och utforskande av sexuell hälsa, snarare än som en ersättning för professionell hälso- och sjukvård.

I syntesen mellan delstudierna identifierades tre sammanlänkade processer: *omformning (reconfiguration)*, som avser hur sexualitet omförhandlas under förändrade kroppsliga och relationella villkor; *erkännande (recognition)*, som avser villkoren för att sexualitet ska bli begriplig och tillgänglig för bemötande; samt *stöd (support),* som avser hur olika former av kunskap och stöd kring sexuell hälsa blir tillgängliga i kliniska, relationella, kamratbaserade och digi-

talt medierade sammanhang. Dessa processer integrerades i Queer Supportive Assemblage Model (QSAM), en tolkande konceptuell syntes av avhandlingens resultat.

Diskussion: Sexuell återhämtning efter behandling för prostatacancer bland MSM kan förstås som en omformning snarare än enbart en återställande process. Fysiologisk återhämtning är fortsatt kliniskt betydelsefull, men kroppsliga förändringar får sin innebörd i sexuella praktiker, relationer och bredare stödjande sammanhang. Resultaten visar vidare att ett erkännande av sexuell mångfald inte nödvändigtvis innebär att sexualiteten blir tillgänglig för ett meningsfullt bemötande i vårdandet.

Utifrån teorin om caritativ vård ryms sexualiteten i en ontologisk förståelse av människan som kroppslig, relationell och meningsskapande. Att sexualiteten ryms i denna ontologi innebär emellertid inte att den automatiskt blir epistemologiskt tillgänglig i vårdandet. Queer epistemologi synliggör hur normativa villkor formar begriplighet och erkännande, medan Actor-Network Theory riktar uppmärksamheten mot de relationella och sociomateriella arrangemang genom vilka sexualitet, kunskap och stöd blir möjliga att omsätta i handling. Resultaten tydliggör även skillnaden mellan vårdande och en bredare distribution av stöd: professionellt vårdande innebär ett särskildt kliniskt och etiskt ansvar, medan kamratbaserade, gemenskapsbaserade och digitalt medierade sammanhang kan erbjuda andra former av erfarenhetsbaserat, informativt och interaktionellt stöd.

Slutsats: Sexuell hälsa efter behandling för prostatacancer bland MSM kan inte reduceras till återställande av sexuell funktion. Sexualiteten omformas under förändrade kroppsliga och relationella villkor, blir i olika grad möjlig att erkänna i olika sammanhang och stöds genom skilda relationella och sociotekniska resurser. QSAM representerar dessa sammanlänkade processer som ett teoretiskt informerat konceptuellt förslag vars användbarhet utanför den aktuella kontexten behöver undersökas empiriskt.

Avhandlingens bidrag till vårdvetenskapen är att göra sexualiteten explicit inom en ontologi som redan rymmer den, samtidigt som avhandlingen visar att detta inte i sig säkerställer att sexualiteten blir epistemologiskt tillgänglig i vårdandet. Att möta sexuell hälsa kräver därför uppmärksamhet inte bara på kroppslig funktion eller erkännande av sexuell mångfald, utan också på de villkor genom vilka sexualitet blir möjlig att förstå, artikulera, bekräfta och stödja som en del av människans levda erfarenhet.

Förslag till fortsatt forskning: Fortsatt forskning bör undersöka sexuell omformning longitudinellt och bland MSM som har genomgått olika behandling-

ar för prostatacancer. Det behövs även forskning om hur sexualitet blir erkänd och bemött i faktiska vårdmöten samt om hur organisatoriska praktiker, professionell kunskap och bedömningsmetoder möjliggör eller begränsar sådant bemötande. Patienters faktiska användning av generativ AI och andra digitala resurser behöver undersökas parallellt med systematiska bedömningar av klinisk korrekthet, säkerhet och potentiella risker.

QSAM behöver fortsatt teoretisk och empirisk prövning. Framtida forskning bör kritiskt pröva, revidera eller förkasta delar av modellen i andra populationer och vårdkontexter, snarare än att förutsätta att modellen är överförbar utanför den specifika empiriska kontext där den utvecklades.

Nyckelord: sexuell hälsa, sexualitet, prostatacancer, män som har sex med män, stödjande vård, vårdvetenskap, generativ artificiell intelligens, queer epistemologi

List of abbreviations

Abbreviation	Meaning
AI	Artificial Intelligence
ANT	Actor-Network Theory
COMPASS	Comprehensive Prostate Cancer Assessment on Sexual Health for Men Who Have Sex With Men
GenAI	Generative Artificial Intelligence
IIEF	International Index of Erectile Function
MSM	Men Who Have Sex with Men
PROM	Patient-Reported Outcome Measure(s)
QSAM	Queer Supportive Assemblage Model
SRHR	Sexual and Reproductive Health and Rights
WHO	World Health Organization

List of publications

Study I

Christiansen, M., Eriksson, H., & Fagerström, L. (submitted). Supportive care and sexual recovery among men who have sex with men after prostate cancer: An interpretive description study.

Study II

Christiansen, M., Eriksson, H., & Fagerström, L. (2026). Generative AI Chatbots as Digital Adjuncts for Sexual Health Information After Prostate Cancer in Men Who Have Sex with Men: Auto-Netnographic Study. *JMIR Cancer*, *12*, Article e81745. https://doi.org/10.2196/81745

Scholarly correspondence related to Study II

Christiansen, M., Eriksson, H., & Fagerström, L. (2026). Authors' Reply: Urological Content Accuracy as an Unmeasured Dimension in Generative AI Chatbot Communication About Sexual Health After Prostate Cancer [Letter]. *JMIR Cancer*, *12*, Article e109004. https://doi.org/10.2196/109004

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1 Introduction

Sexual health is increasingly recognized as an integral component of overall well-being and whole-person healthcare (Reese & Bober, 2026; World Health Organization, 2006). Within cancer care, attention has increasingly been directed toward the impact of disease and treatment on sexuality, intimacy, and quality of life, reflecting an understanding of sexual health as a multidimensional aspect of survivorship rather than merely a question of sexual function (Marino et al., 2026). Despite this development, sexuality remains inconsistently addressed in research and clinical practice (Perz et al., 2013; Reese & Bober, 2026; Ussher et al., 2016). This discrepancy is particularly evident in prostate cancer, where treatment commonly results in profound and enduring changes affecting sexual function, intimacy, and embodied experience.

Although these changes are well documented, dominant approaches to sexual rehabilitation remain grounded in biomedical frameworks that prioritize functional restoration, most notably erectile capacity (Perz et al., 2013; Ussher et al., 2016). While such approaches provide important clinical guidance, they often frame sexual recovery in terms of measurable outcomes, offering limited insight into how sexuality is lived, negotiated, and reconfigured in everyday life after treatment. This focus may narrow what counts as sexual health, leaving relational, experiential, and existential dimensions less visible in research and care.

These limitations are further amplified when considering men who have sex with men (MSM), whose sexual practices, relational configurations, and understandings of intimacy often fall outside the heteronormative assumptions that structure both clinical practice and research (Hart et al., 2014; Pratt-Chapman et al., 2021). Existing frameworks may implicitly define sexual function in relation to penile-vaginal intercourse, thereby excluding or marginalizing forms of sexuality central to MSM experiences (Rosser et al., 2016; Ussher et al., 2016). As a result, sexual health in this context is not only insufficiently addressed but also insufficiently conceptualized.

Research has increasingly documented the experiences of MSM following prostate cancer, including distinct patterns of sexual adaptation, relational negotiation, and unmet supportive care needs (Hart et al., 2014; Rosser et al., 2016; Vartolomei et al., 2025; Vedovo et al., 2025). These studies have increased empirical visibility, but differences are still often interpreted within frameworks oriented toward functional outcomes, limiting how fully the complexity of lived experience can be captured.

The challenge therefore extends beyond representation. The question is not only whether MSM are included in research and care, but under what conditions sexuality becomes possible to recognize and support following prostate cancer treatment. Sexuality, from this perspective, is not a stable or self-evident

domain but is shaped through interaction, interpretation, and social practice (Ahmed, 2006; Butler, 2004).

Sexuality following prostate cancer also unfolds over time and across contexts. Adaptation to bodily change occurs within relationships and depends in part on the forms of support available. These processes extend beyond formal healthcare to peer interactions, online environments, and digitally mediated forms of support and information-seeking (Haun et al., 2020; Lisy et al., 2018). Sexual health is therefore not confined to clinical encounters but negotiated across multiple contexts of care, support, and interaction.

The emergence of generative artificial intelligence (GenAI) as a source of health information further complicates this landscape. Its relevance to supportive care concerns not only whether generated information is clinically accurate, complete, and safe, but also how health concerns are framed, articulated, and responded to in interaction. These dimensions have subsequently become the subject of scholarly dialogue arising from Study II of this thesis. The exchange highlights clinical benchmarking and interaction-focused interpretive inquiry as complementary approaches: the former examines the clinical reliability of generated information, whereas the latter examines how information becomes framed and meaningful within situated interaction (Christiansen et al., 2026; Isler & Bayraktar, 2026). Together, these perspectives underscore the need to distinguish communicative and supportive possibilities from claims concerning clinical reliability when considering GenAI as a potential digital adjunct.

These limitations call for an understanding of sexual recovery that extends beyond biomedical and function-oriented models to examine how sexuality is reconfigured, recognized, and supported across changing bodily, relational, and sociotechnical contexts. This requires both empirical investigation and theoretical attention to the conditions that shape what can be recognized and supported as sexual health within care.

The thesis comprises two complementary studies: an interpretive description of sexuality and supportive care among MSM in Sweden following prostate cancer treatment and an auto-netnographic study of generative AI chatbots as digitally mediated contexts for sexual health communication and support. The overall aim is to explore how sexual health is experienced, reconfigured, recognized, and supported among MSM following prostate cancer treatment across clinical, relational, and digitally mediated contexts. By bringing the theory of caritative caring into dialogue with queer epistemology and Actor-Network Theory, the thesis develops a relational and context-dependent understanding of sexual health and the conditions under which sexuality becomes recognizable and supportable within care.

2 Background

The background chapter draws on literature identified through structured searches conducted in PubMed, CINAHL, PsycINFO, and Scopus during March and April 2026. Searches focused on prostate cancer, sexual health, survivorship, men who have sex with men, healthcare encounters, and supportive care. Additional literature was identified through reference tracking and theoretical sampling relevant to the conceptual and analytical aims of the thesis. The background should therefore be understood as a narrative and theoretically informed synthesis intended to contextualize the present thesis rather than as a systematic review.

2.1 Prostate cancer and sexual health

Prostate cancer is one of the most common cancers among men worldwide (Bergengren et al., 2023; Bray et al., 2024; Schafer et al., 2025), and advances in detection and treatment have led to improved survival (Bratt et al., 2022; Galdieri et al., 2026; Orrason et al., 2020). Consequently, more men live with the long-term consequences of prostate cancer and its treatment, making survivorship an important focus of clinical and research attention. Sexual health is a central concern within survivorship because of its implications for quality of life, intimate relationships, psychological well-being, and adjustment after treatment (Lee et al., 2015; Reese & Bober, 2026).

Management of prostate cancer depends on disease characteristics, life expectancy, individual health status, and patient preferences, and may include active surveillance, surgery, radiotherapy, hormonal treatment, or combinations of these approaches (Bratt et al., 2022; Galdieri et al., 2026; Regionala cancercentrum i samverkan, 2025). Prostate cancer treatment can result in substantial and sometimes persistent changes in sexual function and bodily experience (Dickstein et al., 2025; Li et al., 2022; Muermann & Wassersug, 2022). Reported consequences include erectile dysfunction, loss of ejaculation, altered orgasmic sensation, climacturia, urinary incontinence affecting sexual activity, penile shortening, and decreased libido. Such changes may disrupt established sexual practices, alter body image and self-perception, and affect emotional intimacy and relational well-being (Hart et al., 2014; Ussher et al., 2016).

Sexual health following prostate cancer has historically been approached in clinical practice and research largely in terms of sexual function, particularly erectile function and penetrative capacity (Lee et al., 2022). This orientation has contributed important clinical knowledge and rehabilitation strategies but may also narrow sexual health to aspects that are readily measured and treated. Intimacy, emotional adjustment, changing sexual practices, and the everyday experience of sexuality after treatment may consequently receive less attention (Dickstein et al., 2023; Graugaard, 2017; Laursen et al., 2026; Åkeflo et al.,

2021). This limitation is particularly relevant for MSM, whose sexual practices and experiences may not be adequately represented by function-oriented models of sexual recovery (Vartolomei et al., 2025; Vedovo et al., 2025).

Contemporary clinical recommendations increasingly reflect a broader understanding. An international expert panel recommends that sexual health be addressed throughout prostate cancer survivorship and encompass physiological function as well as intimacy, relationships, communication, and individual sexual concerns (Wittmann et al., 2022). Similarly, the Swedish national prostate cancer care program recommends structured rehabilitation addressing both sexual function and sexual well-being, repeated assessment of rehabilitation needs, early information about sexual rehabilitation, and opportunities to discuss sexual health with healthcare professionals throughout care (Regionala cancercentrum i samverkan, 2025). These recommendations indicate an important shift beyond an exclusively function-oriented approach, although research suggests that broader relational and experiential dimensions of sexuality are not consistently addressed in clinical practice (Neenan & Chatzi, 2025).

Sexuality after prostate cancer may involve changes in identity, intimacy, and relational dynamics, as well as shifts in how sexuality is valued and expressed. These dimensions are less readily captured by standardized measures but remain central to how sexual health is experienced in survivorship (Dickstein et al., 2023). Sexual recovery may therefore concern not only what the body can do after treatment but also how sexuality is experienced, renegotiated, and sustained under changed bodily and relational conditions.

Sexual health is a multidimensional concept that extends beyond the absence of dysfunction or disease (Wellings & Johnson, 2013). Although frequently associated with sexual function in clinical contexts, broader understandings encompass relational, emotional, psychological, social, and existential dimensions of sexuality. The World Health Organization (2006) defines sexual health as:

> …a state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled.

Subsequent work within sexual and reproductive health and rights (SRHR) has placed greater emphasis on well-being, pleasure, intimacy, and self-expression rather than solely on risk, disease, or function (Starrs et al., 2018; Wellings & Johnson, 2013). The World Health Organization (2017) further distinguishes sexual health from reproductive health while emphasizing their close relationship. In the context of this thesis, it is also important to distinguish sexual health from sexual function. Sexual function concerns physiological capacities such as erection, ejaculation, and orgasm, whereas sexual health encompasses

how sexuality is experienced and given meaning within bodily, relational, and social life. Within this broader understanding, sexuality is used in this thesis to refer to the lived experience and expression of sexual desires, practices, meanings, identities, relationships, and intimacy. Sexual desire and sexual function are therefore understood as dimensions of sexuality and sexual health rather than as synonymous with either. Intimacy and sexual relationships refer to relational contexts in which sexuality may be experienced and negotiated, while sexual recovery is used as a process-oriented concept describing how sexuality is renegotiated and sustained following treatment rather than a return to a previous level of sexual function. Terms such as sex life are used descriptively, particularly when reflecting terminology used by participants or in previous research, rather than as distinct theoretical constructs.

In this thesis, sexual health is therefore not approached as a fixed or universal state but as relational and context-dependent. The WHO definition provides an important normative and holistic point of departure, while the thesis focuses more specifically on how sexuality is lived following prostate cancer and on the conditions under which it becomes possible to recognize, articulate, negotiate, and support within care.

2.2 Dominant models of sexual recovery after prostate cancer

Sexual recovery following prostate cancer has historically been conceptualized within biomedical frameworks that emphasize restoration of physiological sexual function, particularly erectile capacity and the ability to engage in penetrative intercourse (Dickstein et al., 2023; Mainwaring et al., 2023; Mulhall et al., 2010). This orientation has shaped both rehabilitation practices and the outcomes used to evaluate recovery. Although contemporary recommendations increasingly adopt a broader understanding of sexual health, as discussed above, the legacy of function-oriented models remains evident in research and rehabilitation after prostate cancer.

Sexual rehabilitation has traditionally focused on preserving or restoring erectile function through interventions such as phosphodiesterase-5 inhibitors, vacuum erection devices, intracavernosal injections, penile implants, and structured penile rehabilitation programs (Hatzimouratidis et al., 2016; Nguyen et al., 2021; Schubach et al., 2023; Ussher et al., 2019). These interventions provide important options for managing treatment-related erectile dysfunction. The limitation lies not in the interventions themselves, but in treating restoration of erectile capacity as the principal marker of sexual recovery. Such a focus may leave less room for changes in desire, pleasure, intimacy, sexual practices, and relational adjustment after treatment.

This orientation is also reflected in the use of standardized patient-reported outcome measures (PROMs) to assess sexual outcomes. Measures such as

the International Index of Erectile Function (IIEF) have enabled systematic assessment and comparison of treatment-related sexual dysfunction and have contributed substantially to evidence-based clinical practice (Lee et al., 2015; Rosen et al., 1997). At the same time, commonly used measures tend to privilege domains such as erectile function, orgasmic function, and capacity for penetrative intercourse (Mainwaring et al., 2023). What is measured therefore also reflects assumptions about which aspects of sexuality constitute relevant outcomes (Alexis & Worsley, 2018; Perz et al., 2013; Ussher et al., 2016). Recent instrument development has begun to address this limitation through population-specific measures that include sexual practices and relational contexts relevant to MSM (Lee et al., 2026; Lee et al., 2022). Such developments illustrate how measurement can broaden what becomes available for assessment beyond outcomes emphasized in conventional sexual-function measures.

These assumptions extend beyond physiological function. Sexual recovery has frequently been evaluated against an implicit model in which penetrative intercourse represents successful return to sexual activity, often within a heterosexual relational context (Mainwaring et al., 2023). Experiences that do not conform to this model may consequently be less visible in research and rehabilitation. Changes in sexual practices, pleasure, intimacy, communication, and the meanings attached to sexuality can be central to life after prostate cancer even when they are not readily captured by conventional functional outcomes (Alexis & Worsley, 2018; Perz et al., 2013).

Similar concerns have been identified in contemporary nursing research. An umbrella review found that, although sexuality is recognized as an important component of prostate cancer care, communication about sexual health and the integration of broader sexual concerns into supportive care remain inconsistent (Neenan & Chatzi, 2025). The issue is therefore not that biomedical knowledge or functional rehabilitation is unimportant, but that neither provides a sufficient account of sexual recovery on its own. Research among sexual minority men makes this limitation particularly visible because sexual practices, relational configurations, and understandings of sexual recovery may differ from those assumed by conventional rehabilitation models (Hart et al., 2014; Rosser et al., 2016). The following sections examine this literature more closely.

2.3 MSM and prostate cancer

Historically, men who have sex with men (MSM) have been underrepresented in prostate cancer research and clinical frameworks (Rosser et al., 2016), while sexual health research concerning MSM has focused more extensively on HIV and sexually transmitted infections (Brennan et al., 2017). Prostate cancer research and rehabilitation were largely developed with heterosexual men as the implicit reference population, leaving the sexual practices, experiences,

and supportive care needs of MSM comparatively underexplored (Mitchell & Ziegler, 2022; Rosser et al., 2016).

Sexual recovery among MSM may involve concerns that are not adequately represented within conventional rehabilitation frameworks. For men who engage in anal intercourse, treatment-related changes may have different implications for insertive and receptive practices than those assumed in models centered on penile-vaginal intercourse (Cheng, 2022; Miller et al., 2024). Sexual role preferences and practices may further shape how changes in erectile function, ejaculation, orgasm, urinary function, and bodily sensation are experienced after treatment (Hart et al., 2014; Rosser et al., 2016; Wheldon et al., 2023). The significance of these changes therefore depends not only on physiological impairment but also on how sexuality is practiced and experienced.

The relational implications of treatment may also differ depending on the relationship context. Gay and bisexual men with prostate cancer have been reported to be less likely than heterosexual men to be in committed relationships and more likely to have casual sexual relationships, making treatment-related changes potentially relevant not only within established partnerships but also when dating or seeking new sexual and intimate relationships (Mainwaring et al., 2021). Treatment-related changes in bodily function and appearance may further affect sexual confidence and body image, although body image remains insufficiently studied among gay and bisexual men with prostate cancer (Mainwaring et al., 2021). These findings broaden the context in which sexual recovery needs to be understood beyond assumptions centered on established heterosexual couple relationships.

These experiences should also be situated within the broader literature on cancer among sexual and gender minority populations. Across cancer diagnoses, sexual and gender minority patients and survivors experience disparities in health and healthcare outcomes, indicating that the challenges encountered by MSM following prostate cancer form part of a wider context in which sexual and gender diversity may remain insufficiently addressed in cancer care (Pratt-Chapman et al., 2021). Within prostate cancer specifically, recent reviews have similarly identified unmet sexual health and supportive care needs among LGBTQ+ patients and gay and bisexual men (Alexis et al., 2025; Vartolomei et al., 2025). At the same time, prostate cancer creates a particular configuration of sexual consequences for MSM because treatment-related changes in erectile function, ejaculation, orgasm, urinary function, and bodily sensation may intersect directly with sexual practices and, for some men, with insertive and receptive sexual roles. Sexual recovery following prostate cancer can therefore be understood at the intersection of broader challenges concerning recognition and inclusion in cancer care and consequences specifically shaped by prostate cancer treatment and sex between men.

2.4 Quantitative research among MSM

Quantitative research on MSM following prostate cancer treatment has expanded over the past two decades, providing evidence on sexual outcomes, quality of life, and supportive care needs (Rosser et al., 2016). This research has helped address the limited visibility of MSM in earlier prostate cancer studies and rehabilitation research.

Quantitative studies have documented substantial treatment-related sexual changes among MSM, including erectile difficulties, altered orgasmic function, changes in ejaculation, and urinary symptoms that affect sexual activity (Hart et al., 2014; Lee et al., 2015; Rosser et al., 2016; Wheldon et al., 2023). These changes have been associated with reduced sexual satisfaction and quality of life, as well as psychological distress (Dickstein et al., 2023; Tatum et al., 2023). Body image, masculinity, and sexual identity have also emerged as relevant concerns, though these dimensions have been studied less consistently than sexual function.

Comparative studies indicate that some sexual concerns and supportive care needs may differ between MSM and heterosexual men following prostate cancer treatment (Dickstein et al., 2023; Rosser et al., 2016; Vartolomei et al., 2025). Particular concerns include the implications of treatment for anal intercourse and sexual role functioning, as well as the relevance of rehabilitation advice developed for heterosexual sexual practices (Hart et al., 2014; Mainwaring et al., 2023). Unmet sexual health needs and dissatisfaction with supportive care have also been reported among MSM following treatment (Dickstein et al., 2025).

Important methodological limitations persist in the quantitative literature. Many studies have relied on relatively small or convenience-based samples, cross-sectional designs, and instruments originally developed for predominantly heterosexual populations (Hart et al., 2014; Mainwaring et al., 2023). Commonly used measures have emphasized functional outcomes and may inadequately represent sexual practices and concerns relevant to MSM (Mainwaring et al., 2023). Recognition of these limitations has prompted the development of more population-specific measurement approaches. Lee et al. (2022), for example, developed and pilot-tested a sexual quality-of-life questionnaire specifically for MSM with prostate cancer. The questionnaire comprised 13 domains addressing a broader range of sexual practices and concerns than conventional sexual-function measures, including receptive and insertive anal intercourse, masturbation, oral sex, ejaculation, relationships with regular and casual partners, and urinary incontinence.

This work was subsequently developed into the Comprehensive Prostate Cancer Assessment on Sexual Health for Men Who Have Sex with Men (COMPASS). Further validation of the instrument has supported its structural validity and test-retest reliability across domains addressing sexual function, sexual practices, relationships, and treatment-related concerns relevant to

MSM (Lee et al., 2026). Convergent validity and responsiveness remain to be established. Such developments broaden what can be assessed quantitatively and represent an important response to limitations in earlier measurement. They do not, however, eliminate the distinction between measuring predefined domains of sexual health and understanding how sexuality is experienced and given meaning following treatment. Relational, contextual, and meaning-oriented dimensions may remain difficult to capture with standardized outcome measures alone.

2.5 Qualitative studies among MSM

Complementing quantitative evidence on sexual outcomes and supportive care needs, qualitative research has examined how sexual changes following prostate cancer are experienced and given meaning by MSM (McConkey & Holborn, 2018). These studies have drawn attention to how treatment-related bodily changes become part of everyday sexual life, relationships, identity, and intimacy.

Treatment-related changes may disrupt previously taken-for-granted understandings of sexuality, masculinity, and embodied selfhood (Brass, 2018; Hoyt et al., 2020; Ussher et al., 2016). Erectile dysfunction, changes in orgasm and ejaculation, urinary symptoms, and altered bodily sensations are experienced not only as functional changes but also in relation to sexual confidence, intimacy, and expectations about sexual life. Danemalm Jägervall et al. (2019), for example, found that gay men described erectile difficulties and weaker orgasms alongside concerns more specifically related to their sexual practices, including loss of ejaculation, difficulties with anal penetration, and changes in sensations associated with anal stimulation. Relationship context also mattered: temporary sexual encounters could place different demands on erection and ejaculation than established relationships.

A recurring finding concerns adaptation to altered bodily conditions. MSM have described experimenting with sexual practices, renegotiating sexual roles, and finding alternative ways of maintaining pleasure and intimacy after treatment (Dowsett et al., 2014; Ussher et al., 2016). Sexual roles are not necessarily experienced as interchangeable, and changes in sexual roles may be experienced as consequential. In a mixed-methods study, Tatum et al. (2023) found that prostate cancer treatment could lead to loss or change of preferred role-in-sex, most commonly from an insertive to a receptive role, and that role-in-sex was associated with sexual and mental health outcomes. Adaptation therefore does not necessarily imply an uncomplicated substitution of one sexual practice or role for another.

Qualitative research has also shown that treatment-related changes acquire meaning within wider sexual and social contexts. Ussher et al. (2016) described experiences of sexual disqualification among gay and bisexual men following

prostate cancer, including concerns about desirability, sexual participation, and belonging within gay sexual communities. Such findings illustrate how bodily changes can become consequential through the sexual norms and relational contexts in which they are experienced, rather than through physiological impairment alone.

Qualitative research has thus extended knowledge of prostate cancer and sexuality beyond treatment-related outcomes to include adaptation, meaning, sexual practices, and relational experience. Less attention has been directed toward how these experiences are shaped by the conditions in which sexuality is discussed and supported, particularly within healthcare encounters. The following section therefore turns to healthcare communication, heteronormativity, and the conditions under which sexuality becomes possible to address in care.

2.6 Healthcare encounters and heteronormativity

Healthcare encounters are important settings for addressing sexual health following prostate cancer treatment (Charlick et al., 2025; Matthew et al., 2025; Raque et al., 2024; Schubach et al., 2023; Zhou et al., 2024). Contemporary supportive cancer care extends beyond treatment of physical symptoms to include concerns related to sexuality, intimacy, and relationships, making communication about sexual health part of person-centered survivorship care (Laursen et al., 2026).

Despite this broader remit, sexual health communication remains uneven in prostate cancer care. Studies describe discussions that are limited, inconsistently initiated, or concentrated on erectile function and its medical management (Rogers et al., 2022; Ussher et al., 2016). Questions of pleasure, intimacy, changing sexual practices, and relational adjustment may receive less attention, particularly as patients move beyond active treatment into longer-term survivorship.

For MSM, these limitations intersect with heteronormative assumptions about relationships and sexual practices (Alexis et al., 2025; Hart et al., 2014; Rose et al., 2017). Communication and rehabilitation may implicitly assume heterosexual partnership and penile-vaginal intercourse, leaving concerns related to same-sex sexuality less readily incorporated into care (Moore et al., 2019; Panken et al., 2024). Disclosure does not necessarily resolve this problem. Studies have described encounters in which same-sex sexuality was acknowledged but did not lead to tailored discussion, relevant information, or adaptation of supportive care (Panken et al., 2024; Vartolomei et al., 2025; Vedovo et al., 2025).

Similar patterns have been reported in other areas of Swedish healthcare. In reproductive healthcare, LGBTQ expectant and new parents have described heteronormative barriers, inadequate support, and experiences of mistreatment,

alongside positive experiences when care was LGBTQ competent (Klittmark et al., 2019). Although the clinical context differs from prostate cancer care, the study illustrates how heteronormativity can shape both what healthcare professionals assume and what patients experience as possible to communicate and receive support for within care.

Professional uncertainty may be another part of this problem. In a Swedish qualitative study, healthcare professionals described the implications of prostate cancer treatment for masculinity, sexuality, and intimate life as important while sometimes regarding these concerns as partly outside the medical domain of their professions (Andreasson et al., 2023). They nevertheless engaged patients in such conversations and described efforts to support them in reorienting understandings of masculinity following treatment. The study illustrates a tension between recognizing sexuality as relevant to rehabilitation and uncertainty about its place within professional practice.

Such uncertainty should also be considered in relation to professional education. A national mapping of 93 Swedish higher education programs in healthcare, law, police work, and social work found that sexual and reproductive health and rights (SRHR) content was unevenly represented and that most of the SRHR indicators examined were poorly covered (Areskoug-Josefsson et al., 2019). Coverage varied both between professions and between educational institutions, creating the potential for unequal preparation among future professionals. Limited educational preparation cannot by itself explain how sexuality is addressed in clinical encounters, but it provides an important structural context for understanding why healthcare professionals may feel insufficiently prepared to engage with sexual health and sexual diversity.

Broader research involving sexual minority patients similarly describes discomfort, silence, assumptions, avoidance, and uncertainty about how to engage with sexual diversity in clinically meaningful ways (Alexis et al., 2025; Appelgren Engström & Almqvist, 2025; Franco-Rocha et al., 2023; Röndahl, 2009; Röndahl et al., 2009; Röndahl et al., 2004, 2006; Searle, 2019). Research involving transgender, gender-nonconforming, and nonbinary people with cancer has also documented discrimination and barriers to affirming care, although these populations and experiences should not be conflated with those of MSM (Sabater Minarim et al., 2026). This literature shows how normative assumptions may shape what patients are invited to discuss and what healthcare professionals are prepared to address.

Recent Swedish population data provide a broader context for these findings. The Swedish Public Health Agency reports persistent inequalities in sexual and reproductive health and rights among lesbian, gay, bisexual, and transgender populations, including lower confidence in healthcare, experiences of discrimination, and unmet sexual health needs (Folkhälsomyndigheten, 2026). Although these population-level findings are not specific to prostate cancer or

MSM, they reinforce the importance of healthcare that can respond to sexual and gender diversity.

The challenge is therefore not limited to whether sexuality is mentioned in healthcare encounters. It also concerns whether patients' disclosures and concerns are followed by clinically meaningful engagement. In prostate cancer care, acknowledging sexual orientation or partner gender does not in itself ensure that sexual practices, intimacy, or changing meanings of sexuality become part of supportive care.

2.7 Digital, peer-based, and distributed sexual health support

Support for sexual health following prostate cancer treatment is not confined to formal healthcare. Men may seek information, practical guidance, and reassurance through peers, community networks, and online resources, particularly when professional support does not address their concerns or experiences (Capistrant et al., 2018; Moore et al., 2019; Zeeman et al., 2019). These sources differ from professional care in terms of expertise and responsibility, but they may provide knowledge and support grounded in lived experience.

Peer support can be particularly relevant to sexuality and intimacy after prostate cancer treatment (Capistrant et al., 2018; Capistrant et al., 2016). Shared experience may help normalize treatment-related changes and provide practical knowledge about sexual adaptation that is difficult to obtain through standardized rehabilitation alone (Ussher et al., 2016). For MSM, the significance of peer support also needs to be understood within a longer history of community-based sexual knowledge. Gay social and sexual networks have functioned as sites in which knowledge about bodies, sexual practices, risk, pleasure, and sexual identity is exchanged and negotiated (Graham, 1998; Race, 2015). Although this literature does not concern prostate cancer specifically, it provides a relevant context for understanding why community-based knowledge may become important when negotiating sexual changes following illness or treatment.

Digital environments have expanded the settings in which such exchanges can occur. People affected by cancer and their partners use online forums, social media, blogs, and other digital resources to seek information and share experiences (Li et al., 2022; O'Connor et al., 2021). Digital spaces may offer privacy and greater control over when and how sensitive concerns are raised, which can be relevant when discussing sexuality, bodily changes, or stigmatized experiences. At the same time, the accessibility of online information does not ensure its accuracy, relevance, or suitability for individual circumstances. Digital resources therefore supplement rather than remove the need for clinically reliable and responsive professional support.

Conversational artificial intelligence introduces a further form of digitally mediated health communication. Generative AI and chatbot systems can provide immediate responses, allow questions to be reformulated and pursued iteratively, and enable users to raise sensitive concerns without interpersonal disclosure to another person (Bibault et al., 2019; Fitzpatrick et al., 2017; Khairat et al., 2025; Lawson McLean & Hristidis, 2025). These characteristics may make conversational systems relevant to sexual health information-seeking. Their role in supportive care nevertheless remains uncertain, particularly regarding clinical accuracy, safety, contextual understanding, and the relationship between AI-generated information and professional healthcare.

Sexual health support may therefore take shape across several interconnected settings rather than within the clinical encounter alone. Professional care, peer experience, community knowledge, online resources, and emerging AI-mediated interactions offer distinct forms of information and support, each with its own strengths and limitations. Understanding how these resources relate to one another raises questions about where sexual health knowledge is produced, how it is evaluated, and how people navigate between different sources of support following prostate cancer treatment.

2.8 Sexuality in nursing and caring science

Sexuality is relevant to nursing and caring science because illness, treatment, and care affect people as embodied and relational beings. The theory of caritative caring provides an ontological and ethical basis for approaching the person as a whole, encompassing bodily, relational, and existential dimensions of human life (Eriksson, 2002, 2018). From this perspective, sexuality need not be treated as separate from caring concerns such as dignity, vulnerability, intimacy, and well-being. Yet sexuality has occupied a comparatively limited explicit position within major nursing theory traditions and caring science scholarship (Alligood & Hardin, 2025; Willman, 2022). Recent theoretical work has addressed this gap by arguing that sexuality should be understood as a fundamental care need rather than an optional or specialist concern (Laursen et al., 2026).

Sexuality has not been absent from nursing research or practice. It has been particularly visible in areas such as HIV/AIDS care, sexually transmitted infections, reproductive health, and public health, where nursing has made important contributions to prevention, treatment, and support (Eriksson & Berglund, 2007; MacIntyre, 1999; Phillips et al., 2021; Taylor & Robertson, 1994). However, these traditions have often foregrounded risk, transmission, reproduction, or disease. Pleasure, intimacy, sexual expression, and the meanings attached to sexuality have received less consistent attention. Similar conceptual gaps have been identified in adjacent fields such as midwifery, where sexuality and sexual well-being remain incompletely integrated into research and care (Brigante et al., 2024).

The difficulty of translating sexuality into everyday care is also evident in nursing practice. Nurses have described uncertainty about professional responsibility, limited preparation, and discomfort when discussing sexuality with patients (Graugaard, 2017; Saunamäki & Engström, 2014). Cancer nursing research similarly indicates that sexual health care is inconsistently provided despite recognition of its relevance to quality of life and survivorship (Papadopoulou et al., 2019). These findings point to a persistent gap between acknowledging sexuality as relevant to health and incorporating it into routine caring practice.

Normative assumptions further shape this gap. Nursing research has documented heterosexual assumptions in communication and limited preparedness for encounters with lesbian, gay, bisexual, and transgender patients (Röndahl, 2009; Röndahl et al., 2004, 2006). More recent research continues to identify heteronormativity and cisheteronormativity as influences on healthcare experiences among LGBTQ populations (Appelgren Engström & Almqvist, 2025; Franco-Rocha et al., 2023). Although these studies concern different populations and clinical settings, they demonstrate that apparently neutral understandings of relationships, bodies, and sexual life may privilege some experiences while making others less readily addressed within care.

At the same time, nursing and related healthcare scholarship increasingly approaches sexuality as more than a functional or reproductive concern. Sexuality has been described in relation to embodiment, intimacy, pleasure, communication, adaptation, and changing life circumstances (Danemalm Jägervall et al., 2019; Graugaard, 2017; Laursen et al., 2026; Perz et al., 2013). Within cancer survivorship, this broader orientation has supported greater attention to how sexuality is lived through illness and treatment rather than only to whether sexual function is restored (Alexis & Worsley, 2018; Ussher et al., 2016).

These developments establish sexuality as a legitimate concern for nursing and caring science while also revealing an unresolved conceptual problem. Sexuality can be encompassed within commitments to holistic, embodied, and relational care without being explicitly articulated in the theories, knowledge frameworks, and practices that shape how care is understood and organized. This tension provides an important background to the present thesis and is examined more directly in the theoretical framework in Chapter 4.

2.9 Conceptual and methodological limitations in existing research

Across sexual health research more broadly, an important conceptual challenge concerns how bodily function, lived experience, relationships, social norms, and access to support are brought together. Multidimensional definitions of sexual health acknowledge that sexuality extends beyond physiological func-

tion, yet these dimensions are often examined separately in research and practice (Graugaard, 2017; Wellings & Johnson, 2013). This can make it difficult to understand how changes in the body acquire meaning within intimate and social life, or how those experiences become matters that healthcare and other forms of support can address.

This challenge is particularly visible in research on sexual health following prostate cancer. Biomedical and quantitative research has generated extensive knowledge about treatment-related sexual dysfunction and has provided an essential basis for rehabilitation and clinical decision-making. At the same time, the historical emphasis on erectile function and penetrative capacity has shaped both how sexual recovery has been measured and what has been treated as a relevant outcome (Mainwaring et al., 2023; Perz et al., 2013). More recent clinical recommendations and measurement approaches have begun to broaden this focus, while qualitative research has demonstrated that sexual recovery also involves adaptation, intimacy, bodily self-understanding, and changes in sexual practices and relationships.

Research concerning MSM following prostate cancer has developed substantially and now provides evidence of treatment-related sexual outcomes, specific sexual practices and concerns, unmet supportive care needs, and experiences of adaptation after treatment (Dickstein et al., 2023; Rosser et al., 2016; Ussher et al., 2016). Recent developments in MSM-specific measurement have begun to address limitations of instruments derived primarily from heterosexual populations (Lee et al., 2022; Mainwaring et al., 2023). Nevertheless, improved representation and measurement do not by themselves explain how bodily changes are interpreted, how sexuality is negotiated within relationships and everyday life, or how sexual concerns become possible to address within care.

A further limitation concerns fragmentation across fields of inquiry. Sexual experience after prostate cancer, healthcare encounters, peer and community support, and digital information-seeking have largely been studied as separate phenomena (Capistrant et al., 2018; Moore et al., 2019). Each body of research contributes important knowledge, but their separation provides less insight into how people move between these contexts or how different forms of knowledge and support interact over time. The emergence of digitally mediated and AI-based health communication makes this question increasingly relevant, as sexual health information and support are no longer located solely within formal healthcare.

The remaining gap is therefore not simply a lack of knowledge about sexual dysfunction or a lack of representation of MSM. It concerns how sexuality, care, and sexual health knowledge can be understood together as bodily, relational, and context-dependent processes following prostate cancer treatment. Addressing this gap requires attention both to lived experience and to the con-

ditions under which sexuality can be discussed and supported across clinical, social, and digitally mediated settings.

3 Rationale

Prostate cancer research has generated substantial knowledge about treatment-related sexual dysfunction and its management, while a growing body of research has made the sexual health experiences and supportive care needs of MSM increasingly visible (Dickstein et al., 2023; Rosser et al., 2016; Ussher et al., 2016). As demonstrated in the preceding chapter, important gaps nevertheless remain in understanding how bodily changes following treatment are experienced within sexual and relational life, how sexuality is addressed within supportive care, and how people draw on sources of knowledge and support beyond formal healthcare (Capistrant et al., 2018; Pratt-Chapman et al., 2021).

These questions are closely connected but have commonly been examined separately. Research on sexual outcomes has largely focused on what changes following treatment, qualitative studies have explored how such changes are experienced and negotiated, and supportive care research has examined whether and how sexual concerns are addressed within healthcare (Mainwaring et al., 2023; McConkey & Holborn, 2018; Neenan & Chatzi, 2025). Peer-based and digital forms of support introduce further contexts in which sexual health knowledge is sought, exchanged, and interpreted (Capistrant et al., 2018; Moore et al., 2019). Bringing these areas of inquiry into relation makes it possible to examine sexual health not only as an outcome of treatment but as something negotiated across bodily, relational, clinical, and digitally mediated contexts.

MSM following prostate cancer treatment provide a particularly relevant context for such an inquiry. Their experiences make visible the limitations of assumptions that equate sexual recovery with restoration of erectile function or penile-vaginal intercourse, while also drawing attention to variation in sexual practices, relationships, and supportive care needs (Hart et al., 2014; Mainwaring et al., 2023; Ussher et al., 2016). The focus on MSM is therefore important both because this population has historically been insufficiently represented in prostate cancer research and because it provides an opportunity to examine how normative assumptions shape what is treated as relevant sexual health within care (Browne & Nash, 2010; Rosser et al., 2016).

The thesis addresses these questions through two complementary empirical studies. Study I examines how MSM experience sexuality and supportive care following prostate cancer treatment, providing insight into bodily change, sexual adaptation, healthcare encounters, and peer-based support. Study II examines generative AI chatbots as an emerging context for sexual health communication, extending the inquiry beyond interpersonal and clinical encounters to digitally mediated forms of information and support. The studies address different but related aspects of sexual health: one begins with lived experience following treatment, while the other examines an emerging context in which sexual health concerns can be articulated and explored. Together, they provide

a basis for examining how sexuality, care, and sexual health knowledge take shape across different contexts.

Understanding these relationships requires an approach that attends to the person as embodied and relational while also examining the normative and sociomaterial conditions that shape how sexuality is understood, articulated, and supported. Methodologically plural and theoretically informed approaches have been advocated in LGBTQ health research to address the complexity and heterogeneity of sexual and gender minority health experiences (Stall et al., 2020). The following chapter develops the theoretical framework used in this thesis to examine these dimensions.

4 Theoretical framework

This thesis is situated within the theory of caritative caring in caring science and draws on complementary perspectives from queer epistemology and Actor-Network Theory. The theory of caritative caring provides the primary ontological and ethical foundation of the thesis, while queer epistemology and Actor-Network Theory offer analytical resources for examining the conditions under which sexuality becomes recognizable and supportable within care. Together, these perspectives enable an exploration of sexual health as lived experience and as shaped through normative, relational, and sociomaterial conditions.

4.1 Sexual health in nursing and caring science: Silences, normativity, and epistemological absence

The preceding review identifies a tension central to the theoretical positioning of this thesis. Sexuality is increasingly acknowledged as relevant to health and caring practice, yet that acknowledgment does not necessarily make sexuality an explicit object of knowledge, communication, or care. Within nursing and caring science, sexuality may be encompassed by commitments to holistic, embodied, and relational care while remaining only partially articulated within the conceptual and practical frameworks through which care is understood and organized.

This tension can be observed in frameworks intended to support holistic and person-centered care. Sexuality has been incorporated into nursing documentation systems such as the VIPS model (Ehnfors et al., 2026), although earlier research found that it was seldom documented in practice (Ehrenberg et al., 1996). Its position within the Fundamentals of Care framework has also shifted over time: sexuality was present in earlier discussions of fundamental care, was subsequently absent from international consensus formulations, and has more recently been explicitly reintroduced as a fundamental care need (Feo et al., 2018; Laursen et al., 2026; Muntlin Athlin et al., 2018). These examples do not indicate that sexuality is regarded as unimportant. Rather, they illustrate an instability in how sexuality becomes explicitly represented within nursing knowledge and care frameworks.

A similar tension is visible in contemporary cancer nursing. Sexuality and sexual health may be acknowledged as relevant to survivorship while remaining unevenly integrated into professional knowledge and practice (Neenan & Chatzi, 2025; Papadopoulou et al., 2019). A recent Swedish textbook on cancer nursing and oncological care, for example, gives extensive attention to symptom management, psychosocial support, and survivorship while providing little explicit discussion of sexuality or sexual health (Jakobsson & Langegård, 2023). Such examples illustrate how sexuality may be implicitly encompassed

within holistic care while remaining only partially articulated and available as an explicit domain of knowledge and practice.

This distinction is important for how sexual health and sexuality are used in this thesis. Sexual health constitutes the overarching phenomenon of interest and refers broadly to well-being in relation to sexuality. The analytical focus, however, is primarily on sexuality as lived following prostate cancer treatment: embodied experiences, sexual practices, intimacy, relationships, desires, and the meanings through which sexual life is negotiated. The concepts are therefore closely related but not interchangeable. Sexuality is approached as a dimension of lived experience through which sexual health may be realized, constrained, or reconfigured.

The theoretical problem is thus not simply whether sexuality is present or absent within nursing and caring science. A phenomenon may be acknowledged in principle while remaining difficult to articulate, recognize, or engage with in particular practices of care. This directs attention from the inclusion of sexuality toward the epistemological conditions under which sexuality becomes intelligible as something that can be known, communicated, and responded to. Normative assumptions are relevant to this process because they shape which bodies, relationships, practices, and concerns are readily understood as belonging within the domain of sexual health (Ahmed, 2006; Butler, 2004; Nagington, 2023, 2025; Warner, 1993).

In this sense, sexuality may be understood as epistemologically muted rather than simply absent. The term draws attention to a condition in which sexuality is present in lived experience and may be implicitly included in holistic understandings of the person, yet remains only partially available for articulation and recognition within established forms of knowledge and care. Sedgwick's (1990, 2003) work on the organization of sexual knowledge is relevant here because it directs attention to relations between knowing and not knowing, disclosure and silence, and the conditions under which sexuality becomes speakable. Epistemological muting therefore concerns not an absence of sexuality itself, but limits in the frameworks through which sexuality becomes available as an object of knowledge and response.

This tension provides the theoretical point of departure for the thesis. The theory of caritative caring offers an ontological and ethical foundation for approaching the person as embodied, relational, and meaning-oriented. Queer epistemology provides analytical resources for examining the normative conditions that shape intelligibility and recognition, while Actor-Network Theory extends the analysis to the relational and sociomaterial arrangements through which sexuality, knowledge, and care are enacted in practice. The following sections develop these perspectives and their contributions to the theoretical framework.

Although the empirical studies focus on MSM following prostate cancer treatment, the theoretical problem addressed here is not inherently limited to

men, prostate cancer, or sexual minority populations. The broader question concerns how sexuality becomes available for recognition and support under particular relational, normative, and sociomaterial conditions. The empirical studies provide a specific context for examining this question; broader applicability remains a matter for theoretical and empirical investigation.

4.2 The theory of caritative caring: Ontological and ethical foundations

The theory of caritative caring, developed within the caring science tradition and articulated by Katie Eriksson, provides the primary ontological and ethical foundation for this thesis. Grounded in an understanding of the human being as a unity of body, soul, and spirit, the theory approaches caring as an ethically grounded relationship oriented toward alleviating suffering and preserving dignity (Eriksson, 2002, 2018; Nåden & Bergbom, 2025). Caring is therefore not reducible to interventions or professional tasks but concerns the person as an embodied, relational, and meaning-oriented whole.

Within this tradition, health is understood as a dynamic process of becoming rather than as a fixed state or the absence of disease (Eriksson, 2018; Wiklund Gustin & Lindwall, 2012). Experiences of illness, vulnerability, and bodily change become part of a person's continuing relationship with self, others, and the world. This understanding is particularly relevant to sexuality following prostate cancer, when altered bodily capacities may require new ways of living with intimacy, desire, relationships, and sexual expression rather than a straightforward return to a previous state.

Within this understanding of health as becoming, confirmation may also be understood as relationally significant to the person's possibilities for becoming and experiencing health. In the caritative caring relationship, the encounter in love affirms the person as a whole rather than only the condition, need, or bodily function requiring attention (Eriksson, 2002, 2018). From this perspective, confirmation becomes relevant to sexuality because sexual desires, relationships, and ways of being form part of the person who is encountered in care. Confirmation of the person may therefore also create possibilities for sexuality to be affirmed as meaningful within the person's life rather than reduced to bodily function or treated as peripheral to care.

Suffering and dignity are central to this ethical orientation. Eriksson distinguishes between absolute dignity, which belongs to the human being as such, and relative dignity, which is shaped in relation to cultural and external conditions (Eriksson, 2018; Nåden & Bergbom, 2025). Caring entails responsiveness to suffering while safeguarding the person's dignity and resisting reduction of the person to the condition requiring treatment. Applied to sexual health, this directs attention beyond treatment-related dysfunction toward how bodily

change may affect intimacy, self-understanding, relational life, and possibilities for well-being.

The theory also offers conceptual openings for understanding sexuality through caring needs, desire, and embodiment. Fagerström's work on caring needs emphasizes that human needs encompass not only observable problems but also desires, longings, and existential orientations (Fagerström, 1999; Fagerström et al., 1999). These dimensions create space for understanding sexuality as connected to relational and existential meaning rather than solely to function. This interpretation resonates with Tillich's (1954) account of eros and longing as expressions of human striving toward participation, connection, and wholeness. Lindwall's (2004) phenomenological work on the lived body further supports understanding the body as a bearer of health and suffering, inseparable from identity and lived experience. From this perspective, sexuality can be understood as ontologically encompassed within caritative caring, even though it has not been extensively theorized as a distinct domain within the tradition.

The contemporary development of caritative caring has also extended questions of caring into technologically mediated contexts. Andtfolk (2022) explored the possibilities of humanoid robots as technological care resources, opening a discussion within the tradition about how caring may be mediated through arrangements involving both people and technologies. This line of inquiry has since been developed in relation to the ethical boundaries of caritative caring when social assistive robots participate in healthcare (Andtfolk & Estman, 2026). These developments do not imply that technological systems can be equated with caring subjects. Rather, they indicate that the ethical and relational concerns of caritative caring increasingly need to be considered in care arrangements that involve technologies. This development is relevant to the present thesis, in which digitally mediated interactions form part of the empirical inquiry into sexual health communication and support.

The conceptual openness of the theory toward embodiment, relationality, desire, and technologically mediated care, however, contrasts with the comparatively limited explicit articulation of sexuality within the caring science knowledge tradition at Åbo Akademi University. A review of doctoral dissertations within this tradition over approximately four decades indicates that sexuality has not been established as a sustained and explicit object of inquiry, despite longstanding attention to closely related phenomena such as embodiment, suffering, intimacy, identity, desire, and relationality. This does not imply that sexuality is absent from the experiences examined in these studies. Rather, sexuality has often remained implicit within phenomena that could encompass it, without being consistently named or theorized as sexuality.[1]

1 This observation is based on an exploratory review of doctoral dissertations in caring science at Åbo Akademi University spanning approximately four decades. The review examined the dissertation corpus for explicit engagement with sexuality and sexual health, alongside closely related phenomena such as intimacy, embodiment, desire, and sexual identity. It was undertaken to contextualize the theoretical positioning of the present thesis rather than as a systematic

Arman's (2003) study of women living with breast cancer provides an illustrative example. The dissertation offers a detailed account of suffering, embodiment, and identity in relation to cancer, while the sexual dimensions of these experiences remain largely implicit rather than being developed as an explicit analytical focus. Similar patterns can be observed in caring science scholarship concerned with the lived body, intimacy, touch, and altered bodily self-understanding. These observations should not be read as deficiencies in individual studies; they illustrate a broader disciplinary pattern in which phenomena closely connected to sexuality can be examined without sexuality itself becoming an explicit object of knowledge.

The significance of this pattern lies not in a lack of concern for the whole person in caritative caring. On the contrary, the tradition offers substantial ontological and ethical openness to embodiment, desire, intimacy, relationality, and meaning. The tension lies between this ontological openness and the comparatively limited explicit articulation of sexuality as an object of caring knowledge. Sexuality may therefore be ontologically encompassed within caring while remaining epistemologically muted within its knowledge tradition.

This distinction also clarifies the role of confirmation in the present thesis. Within the interpretation of caritative caring adopted here, confirmation is the ethical and relational affirmation of the person as a whole. What remains less explicitly theorized is the prior epistemological question of how particular experiences become intelligible and articulable within care. An ethical commitment to holistic care does not, in itself, ensure that sexual practices, desires, relationships, or concerns become available for discussion and response. Addressing this question requires attention to the normative conditions of intelligibility and recognition, which provide the point of departure for queer epistemology in the following section.

4.3 Queer epistemology: Intelligibility, normativity, and recognition

The distinction developed in the preceding section between confirmation and epistemological availability provides the point of departure for queer epistemology in this thesis. Within caritative caring, confirmation directs attention to the ethical significance of affirming the person as a whole. Queer epistemology introduces a related but distinct question: under what conditions can an experience become sufficiently intelligible to be recognized in the first place? Recognition is not simply the acknowledgment of an already available experience but is shaped by normative frameworks that influence what can appear coherent, legitimate, and meaningful within a particular context (Butler, 2004, 1990/2006).

review. Accordingly, the observation concerns the explicit articulation and theorization of sexuality within the tradition, not whether sexuality may have been implicitly present in the phenomena or experiences examined.

Butler's work on intelligibility is particularly relevant to this distinction. Subjects and experiences become recognizable through normative frameworks that establish the terms through which they can be understood (Butler, 2004). Applied to sexual health, this means that sexuality does not enter healthcare encounters as a neutral and self-evident object. What can be articulated and understood as a legitimate sexual concern depends partly on the available frameworks through which bodies, relationships, practices, and desires are interpreted. Recognition must therefore be understood not only as an ethical response to the person but also as an epistemologically conditioned process.

Heteronormativity is one important example of such normative organization. Warner (1993, 1999) describes how heterosexuality is institutionalized as an unmarked, expected social order, shaping assumptions about intimacy, couplehood, sexual practice, and legitimate forms of relational life. In healthcare, these assumptions need not take the form of explicit exclusion. They may instead be embedded in seemingly neutral questions, rehabilitation goals, informational materials, or expectations about what constitutes successful sexual recovery. Sexual concerns that align with these expectations may consequently be easier to recognize and incorporate into care than those that do not.

Ahmed's (2006) concept of orientation further illuminates how such differences in recognition can arise without deliberate exclusion. Orientations shape what comes into reach, what attracts attention, and what remains in the background. Applied to healthcare encounters, clinical attention may already be oriented toward particular bodies, relationships, and sexual practices. For example, erectile function and penetrative intercourse can readily become objects of assessment and intervention because established clinical practices are already organized around them. Other concerns may remain less visible, not necessarily because they are deliberately rejected, but because attention is not similarly oriented toward them.

Normative conditions also shape how recovery is understood over time. Queer perspectives on temporality challenge the assumption that desirable lives follow linear, socially expected trajectories (Halberstam, 2005). In rehabilitation, recovery may likewise be organized around temporal expectations of improvement, restoration, and return to a prior state. Such assumptions can render forms of sexual adaptation that involve discontinuity, altered practices, or new meanings less readily intelligible as successful recovery. Queer temporality therefore invites questioning whether recovery must be understood as return and creates analytical space for forms of sexual life that emerge under changed bodily conditions.

Sedgwick's (1990, 2003) work adds another dimension by directing attention to the organization of sexual knowledge through relations of knowing and not knowing, disclosure and concealment, speech and silence. Silence cannot necessarily be interpreted as the absence of sexuality or as an individual failure to disclose. What can be said depends partly on whether a context provides

recognizable terms through which an experience can be articulated and understood. Sexuality may therefore remain epistemologically muted even when it is highly significant within lived experience. This perspective is particularly relevant to healthcare encounters in which sexual orientation may be disclosed while the sexual practices, relationships, or concerns associated with it remain unexplored.

These queer epistemological perspectives shift the analytical question from whether sexuality is included in care to how particular forms of sexuality become intelligible, recognizable, and speakable within care. Butler offers a framework for understanding recognition as normatively conditioned; Warner makes visible the heteronormative organization of legitimate sexuality; Ahmed directs attention to how institutional orientations bring some concerns into view while leaving others in the background; Halberstam unsettles linear assumptions about recovery; and Sedgwick illuminates the epistemological relations among sexuality, knowledge, disclosure, and silence. Together, these perspectives provide analytical resources for examining why sexuality may be ethically encompassed within care while remaining differentially available for recognition and response.

These epistemological questions also have methodological implications. Queer inquiry does not become queer simply through the inclusion of sexual minority populations; it also requires attention to how research categories, methods, and analytical practices participate in producing what can become known about sexuality (Browne & Nash, 2010; Ghaziani & Brim, 2019). In the present thesis, MSM therefore functions as an empirically necessary population descriptor without being treated as a homogeneous or self-explanatory category of sexual experience.

Queer epistemology, however, does not fully account for how these normative conditions are materially and relationally produced within specific practices. Clinical routines, assessment instruments, technologies, informational resources, and other actors help shape what becomes available for recognition and action. Examining how these conditions are enacted therefore requires an additional relational and sociomaterial perspective. This provides the point of departure for Actor-Network Theory in the following section.

4.4 Actor-Network Theory: Relational ontology, knowledge, and enactment

Queer epistemology directs attention to the normative conditions that shape what becomes intelligible and recognizable within care. Actor-Network Theory (ANT) extends this inquiry by asking how these possibilities are produced and sustained through concrete relations and practices. In this thesis, ANT serves as a complementary analytical perspective rather than the primary ontological foundation. It directs attention to how sexuality, knowledge, and support take

form through associations among people, bodies, practices, technologies, institutions, and material arrangements (Latour, 2005).

A central premise of ANT is that entities cannot be understood apart from the relations through which they take form (Latour, 2005). Applied to sexual health, this shifts analytical attention away from treating sexuality as a fixed individual attribute or a predefined domain. What becomes available as sexual health depends in part on the arrangements through which it is encountered, including clinical consultations, assessment instruments, rehabilitation practices, intimate relationships, peer networks, informational resources, and digital technologies. These arrangements do not merely provide different settings in which an unchanged sexuality is expressed; they participate in shaping what can be articulated, known, and acted upon as sexual health.

This relational perspective also distributes agency beyond individual human actors. ANT does not assume that action originates solely in patients or healthcare professionals but examines how possibilities for action emerge through associations among heterogeneous actors (Latour, 2005). A clinical question, a standardized assessment instrument, medication, a peer conversation, or a chatbot interface may each alter what becomes possible to ask, disclose, interpret, or pursue. Agency, in this sense, concerns the capacity to make a difference within a network rather than intentionality or ethical responsibility alone. This distinction is particularly important for the concept of care-like interaction used in this thesis. AI-mediated interactions may exhibit communicative and relational qualities resembling aspects of caring, such as responsiveness, attentiveness, and support, without the technological system being understood as a caring subject in the caritative sense. From an ANT perspective, a chatbot can nevertheless participate as an actor in shaping the interaction, the knowledge produced through it, and the possibilities for articulating and exploring sexual health concerns. The concept of care-like interaction thus preserves the distinction between technological participation in supportive encounters and the ethical intentionality and responsibility associated with human caring.

Mol's (2002, 2008) work on enactment and multiplicity further develops this relational understanding. Phenomena do not necessarily exist as singular objects that are subsequently viewed from different perspectives; they may be enacted differently across practices. Applied to sexual health, erectile function assessed through a clinical measure, sexuality discussed with a partner, practical knowledge exchanged among peers, and a concern explored through a digital interaction do not simply offer different descriptions of an identical object. Each practice may bring particular aspects of sexual health into being as relevant, knowable, and actionable, while leaving others less available. Sexual health can therefore be understood as multiple without being fragmented into unrelated phenomena.

From this perspective, knowledge is inseparable from the practices through which it is produced and mobilized. Clinical knowledge, patient accounts, stan-

dardized measures, experiential peer knowledge, and digitally generated information do not merely represent sexual health from different vantage points; they help configure what sexual health becomes within particular contexts (Latour, 2005; Mol, 2002). This is especially relevant to the present thesis because sexual health knowledge circulates across settings that differ in authority, relational form, and material organization. What becomes actionable within a clinical consultation may differ from what is possible to explore within a peer interaction or a digitally mediated exchange.

Bringing ANT into dialogue with queer scholarship further extends this analysis. Race (2020) asks what possibilities a queer ANT might generate by attending to sexuality, affect, non-normative relations, and the material practices through which sexual worlds are assembled. Such a perspective is useful here because networks are not normatively neutral. The relations through which sexuality is enacted may themselves be organized by assumptions about bodies, partners, sexual practices, or legitimate forms of recovery. Queer epistemology and ANT therefore address related but distinct questions: queer epistemology examines the normative conditions that shape intelligibility, while ANT focuses on how those conditions are assembled, reproduced, and potentially altered through situated relations and practices.

This combined perspective is especially relevant to the empirical scope of the thesis, which encompasses clinical encounters, intimate and peer relationships, community-based knowledge, and digitally mediated sexual health communication involving generative AI. ANT enables examination of these contexts without assuming that care, support, or knowledge resides exclusively within a healthcare professional or institution. At the same time, distributed participation does not imply equivalence. Professional healthcare, peer experience, intimate relationships, and digital technologies involve different forms of expertise, responsibility, authority, and relational possibilities.

Within the theoretical framework of this thesis, ANT therefore provides analytical resources for examining how sexual health is enacted across interconnected contexts and how particular configurations enable or constrain recognition and support. It complements the ontological and ethical foundation provided by the theory of caritative caring and the analysis of normativity and intelligibility provided by queer epistemology by directing attention to the situated relations through which sexuality, knowledge, and support become actionable in practice.

4.5 Toward a relational, contextual, and enactment-oriented understanding of sexual health

The theoretical perspectives brought together in this thesis support an understanding of sexual health as embodied and relational, while also drawing attention to the conditions that render sexuality intelligible, recognizable, and

actionable within care. The theory of caritative caring establishes the person as embodied, relational, and meaning-oriented and provides the primary ethical and ontological basis for understanding sexuality as encompassed within human health and becoming (Eriksson, 2002, 2018; Fagerström, 1999). Queer epistemology and Actor-Network Theory extend this foundation by examining, respectively, the normative conditions of intelligibility and the relational and sociomaterial arrangements through which sexual health is enacted.

Bringing these perspectives into relation shifts the analytical focus from asking whether sexuality is present in care to examining how it becomes available in particular contexts. Sexuality may be significant in a person's lived experience without becoming readily articulable in a healthcare encounter. Conversely, certain aspects of sexuality may become highly visible because clinical practices, assessment instruments, or rehabilitation routines are already organized to recognize and act on them. What becomes available as sexual health is therefore shaped both by the person's embodied and relational life and by the normative and sociomaterial conditions through which sexuality is encountered.

This understanding also complicates any simple distinction between individual experience and context. Sexuality is lived through the body, yet bodily experience acquires meaning within relationships, sexual practices, cultural norms, healthcare encounters, and other material and social arrangements. These contexts do not merely surround an otherwise stable sexual subject. They help shape what sexuality becomes, what can be expressed, and which forms of support become possible. Sexual health is consequently approached neither as solely an individual state nor as solely a social construction, but as a lived phenomenon that takes form through ongoing relations among embodied experience, meaning, norms, practices, and material conditions.

Recognition is central to this synthesis and carries both ethical and epistemological significance. From the perspective of caritative caring, recognition and confirmation concern the ethical responsibility to encounter and respond to the person as a whole. Queer epistemology draws attention to the prior conditions that make particular experiences intelligible and recognizable, while ANT makes visible the arrangements that produce possibilities for recognition and response in practice. Recognition therefore cannot be reduced to an individual clinician's attitude or willingness to acknowledge sexuality; it also depends on the concepts, questions, practices, technologies, and relations through which sexuality becomes available within care.

Support is similarly understood as relational rather than confined to a single intervention or setting. Different arrangements may make different forms of knowledge and support available, and participation in such arrangements does not imply equivalence among their actors. Professional caring retains ethical responsibilities that cannot be simply transferred to peers or technologies, while peer-based, community-based, and digitally mediated interactions may nevertheless participate in shaping what can be known, explored, and support-

ed. The distinction between caring and care-like interaction is important in this respect: technologies may participate in supportive arrangements and produce care-like communicative qualities without thereby assuming the ethical status of a caring subject.

Sexual health is therefore understood in this thesis as a relational and context-dependent phenomenon grounded in embodied experience yet continuously shaped by normative and sociomaterial conditions. It is lived and given meaning through changing bodily and relational circumstances, becomes differentially intelligible and recognizable within particular contexts, and is supported by arrangements that draw on different forms of knowledge, relationships, practices, and technologies. This understanding provides the theoretical basis for examining sexuality across the empirical contexts of the thesis without reducing sexual health either to physiological function or to an abstract social category.

Figure 1 summarizes this theoretical positioning. The theory of caritative caring provides the primary ontological and ethical foundation, while queer epistemology and Actor-Network Theory serve as complementary analytical extensions that address normativity, intelligibility, relationality, and enactment. Their integration does not imply theoretical equivalence or the construction of a unified meta-theory. Rather, the perspectives are brought into dialogue because they illuminate different dimensions of the theoretical problem addressed in the thesis.

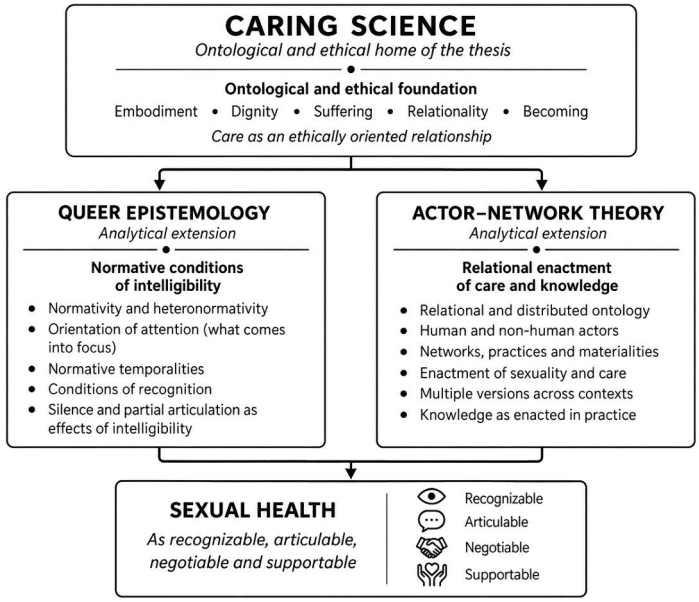

Figure 1. Theoretical positioning of the thesis.

4.6 Epistemological positioning

The epistemological positioning of this thesis is grounded in interpretive understanding within the hermeneutic tradition of caring science. Eriksson and Lindström (2007) describe hermeneutics as a natural epistemological home for caring science, grounded in its ontological and ethical orientation toward the human being and the caring reality. Drawing particularly on Heidegger and Gadamer, this tradition approaches understanding as interpretive, situated, and oriented toward meanings that are not immediately given. Consequently, knowledge concerning sexual health is approached through engagement with lived experience, meaning, and the contexts in which sexuality is expressed and encountered.

This hermeneutic orientation entails a particular understanding of preunderstanding. Interpretation does not begin from a presuppositionless position. Heidegger's account of the fore-structure of understanding emphasizes that what is encountered is always approached through what is already understood, anticipated, and brought into view (Heidegger, 1927/1962). Within the caring science tradition, Eriksson and Lindström (2007) likewise describe interpretation as proceeding through preunderstanding, drawing on Gadamer's account of the productive relation between prior understanding and the otherness of what is encountered. Preunderstanding is therefore treated in this thesis as a condition of interpretation rather than something that can be fully bracketed or set aside. Reflexivity concerns critical engagement with how prior knowledge, experience, positionality, and theoretical commitments shape what becomes possible to notice, ask, and interpret.

Openness is nevertheless essential to this position. Acknowledging preunderstanding does not mean allowing prior assumptions to determine interpretation. Drawing on Gadamer, Eriksson and Lindström (2007) emphasize questioning, openness, and a willingness to let what is encountered challenge what is already understood. Interpretation involves a movement between familiarity and otherness, in which prior understanding may be revised rather than simply confirmed. Reflexivity in the present thesis is therefore concerned both with recognizing the conditions from which interpretation begins and with remaining open to meanings that unsettle those conditions.

Interpretive understanding does not imply rejecting explanatory or biomedical knowledge. In caring science, explanation and understanding can be viewed as complementary rather than mutually exclusive forms of knowledge. Fagerström and Bergbom (2010) describe a dialectical movement between explaining and understanding and argue for an epistemological position that engages both scientific and humanistic forms of knowledge. This is particularly relevant to sexual health following prostate cancer treatment. Physiological and clinical knowledge is necessary to explain treatment-related changes in erectile function, ejaculation, orgasm, urinary function, and other bodily conditions. Such knowledge, however, does not exhaust what can be known about these

changes. Understanding also concerns what they mean to the person, how they affect sexual practices and relationships, and how sexuality is negotiated under changed bodily conditions. Explanation and understanding are therefore treated as complementary forms of knowledge within the present thesis.

The primary analytical emphasis of the thesis is on understanding. Sexual health is approached by examining how bodily and relational changes acquire meaning in lived experience and everyday life, this approach is informed by explanatory knowledge of the physiological and clinical conditions in which those experiences occur. Clinically accurate knowledge of treatment-related sexual effects is necessary but cannot by itself account for what sexuality means to the person or how sexual health is lived following treatment.

The complementary theoretical perspectives developed in the preceding sections further shape this interpretive orientation. Queer epistemology draws attention to the normative conditions through which some experiences become more readily intelligible and recognizable than others (Butler, 2004; Sedgwick, 1990, 2003). Actor-Network Theory extends attention to the relations, practices, technologies, and material arrangements through which knowledge is produced and made actionable (Latour, 2005; Mol, 2002). These perspectives do not replace interpretive understanding as the epistemological orientation of the thesis. Rather, they provide analytical resources for examining the conditions under which sexuality becomes possible to articulate, recognize, and support.

Knowledge of sexual health is thus approached as emerging from an interplay among embodied conditions, lived experience, interpretation, and the normative and sociomaterial contexts in which sexuality is encountered. Methodologically, this entails attention both to what is expressed and to the conditions through which sexuality becomes available for communication, interpretation, and response. The thesis consequently seeks neither a context-independent account of sexuality nor an exclusively subjective account of individual experience, but an interpretive understanding of how sexual health is lived and becomes knowable within particular contexts of care and support.

5 Aim and research questions

5.1 Aim

The overall aim of this thesis is to explore how sexual health is experienced, reconfigured, recognized, and supported among MSM following prostate cancer treatment across clinical, relational, and digitally mediated contexts.

Drawing on the theory of caritative caring and complementary analytical perspectives, the thesis further examines the relational, normative, and sociotechnical conditions that make it possible to recognize and support sexuality within care.

5.2 Research questions

The thesis addresses the following research questions:

1) How do men who have sex with men experience sexual health and supportive care following prostate cancer treatment, including changes in sexuality, the support they access, and the care they receive? (Study I)
2) How do four generative AI chatbots respond to questions about sexual health following prostate cancer treatment, and how do these responses differ in addressing the needs of a gay man? (Study II)

6 Methodology and methods

6.1 Ontological and epistemological positioning

The methodological choices of the thesis were informed by the ontological and epistemological positioning developed in Chapter 4. The theory of caritative caring provides the primary ontological and ethical foundation, while the epistemological orientation is grounded in interpretive understanding within the hermeneutic tradition of caring science (Eriksson, 2002, 2018; Eriksson & Lindström, 2007; Nåden & Bergbom, 2025). Sexuality is consequently approached as embodied, relational, and meaning-oriented, and knowledge of sexual health is situated and developed through interpretation.

This positioning informed the use of qualitative methodologies that engage with lived experience, meaning, and situated interaction. Interpretive description was used to examine experiences of sexual health and supportive care following prostate cancer treatment (Thorne et al., 1997; Thorne, 2016), while auto-netnography enabled examination of sexuality-related communication within digitally mediated interactions with generative AI (Howard, 2020; Kozinets, 2020, 2024). These methodologies address different forms of empirical material but share an emphasis on knowledge developed through engagement with context rather than as independent of the conditions through which it is generated.

Consistent with the hermeneutic positioning of the thesis, interpretation was understood as involving preunderstanding rather than proceeding from a presuppositionless position. Methodologically, this required reflexive engagement with the ways in which the researcher's prior experience, professional knowledge, positionality, and theoretical commitments shaped the research process. Reflexivity was therefore integral to both studies and is addressed further in Section 6.5.

The two methodologies address different but related dimensions of the thesis aim. Together, they enable attention to sexual health as lived within embodied, relational, and caring contexts and to how sexuality-related concerns can be articulated and explored within digitally mediated interaction. The methodological procedures of the individual studies and their subsequent cross-study synthesis are described in the following sections.

6.2 Overview of study design and methods

The thesis comprises two qualitative studies that address complementary aspects of sexual health among MSM following prostate cancer treatment. Study I used interpretive description to explore how MSM experienced sexual health and supportive care following treatment, including changes in sexuality, the

support they accessed, and the care they received (Thorne et al., 1997; Thorne, 2016). Study II used auto-netnography to examine how four generative AI chatbots responded to questions about sexual health following prostate cancer treatment, with particular attention to the needs of a gay man (Howard, 2020; Kozinets, 2020, 2024). The studies were conducted independently, using methodologies appropriate to their respective aims and forms of empirical material.

Study I generated experiential accounts through qualitative interviews, whereas Study II generated interactional material through researcher engagement with generative AI chatbots. The studies therefore provide different forms of empirical material: one concerned primarily with lived experience and encounters with supportive care, and the other with how sexual health concerns were articulated and responded to within digitally mediated interactions. Table 1 provides an overview of the aims, designs, empirical material, and analytical approaches of the two studies.

Table 1. Overview of the included studies

Study	Aim	Design	Data source	Participants or material	Analytical approach
I	To explore how men who have sex with men experience sexual health and supportive care after prostate cancer treatment, including how they describe changes in sexuality, the support they access, and the care they receive.	Interpretive description	Semi-structured interviews and questionnaire data	Four MSM in Sweden treated for prostate cancer	Interpretive description
II	To describe and compare how four GenAI chatbots respond to questions about sexual health following prostate cancer treatment, with a focus on the needs of a gay man, and to interpret these responses using netnographic and Actor-Network Theory perspectives.	Auto-netnography	Iterative chatbot interactions	Researcher-chatbot interaction sequences and reflexive field notes	Reflexive auto-netnographic analysis

6.2.1 Cross-study synthesis

Following completion of the individual analyses, an interpretive cross-study synthesis was conducted to examine relationships between the findings of the two studies and to develop an integrated understanding in relation to the overall aim of the thesis. The synthesis was not part of the original analytical procedures of either study, nor did it involve reanalysis of the primary empirical material. Instead, the findings, themes, and analytical interpretations developed within each study served as the material for the synthesis.

The synthesis proceeded through repeated comparisons of findings across the studies. Attention focused on recurring concerns, differences across empirical contexts, and relationships among bodily and relational change, healthcare encounters, peer and community-based support, and digitally mediated interaction. Rather than seeking thematic similarity alone, the synthesis examined how findings from the two studies illuminated distinct dimensions of sexual health and how these dimensions could be understood in relation to one another. This interpretive movement between parts and an emerging understanding of the whole was consistent with the hermeneutic positioning of the thesis (Eriksson & Lindström, 2007).

The theoretical perspectives developed in Chapter 4 were used as interpretive resources during this process rather than as a predetermined coding framework. The theory of caritative caring supported interpretation of embodiment, health, suffering, relationality, and the ethical orientation of care (Eriksson, 2002, 2018); queer epistemology sensitized the synthesis to normativity, intelligibility, and recognition (Butler, 2004; Sedgwick, 1990, 2003); and Actor-Network Theory directed attention to relational and sociomaterial arrangements through which knowledge and support became possible (Latour, 2005; Mol, 2002). The synthesis involved movement between the study findings and theoretical interpretation, allowing relationships to be developed and refined without assigning findings to predefined theoretical categories.

Through this process, three interrelated processes were identified: reconfiguration, recognition, and support. Reconfiguration concerned how sexuality was renegotiated under changing bodily and relational conditions; recognition concerned the conditions under which sexuality became intelligible and available for response; and support concerned how knowledge and supportive possibilities were distributed across clinical, relational, peer-based, and digitally mediated contexts. These processes provided the organizing structure for the cross-study findings presented in Chapter 8.

In a subsequent conceptual step, the relationships among the three processes were developed into the Queer Supportive Assemblage Model (QSAM). QSAM was constructed as an interpretive conceptual synthesis of the thesis findings rather than as a separately derived or validated theoretical model. Its development involved examining how reconfiguration, recognition, and support could be represented relationally while remaining consistent with the theoretical po-

sitioning of the thesis. The model is presented following the cross-study synthesis in Chapter 8 and further interpreted in the Discussion.

6.3 Study I: Interpretive description

6.3.1 Methodological rationale

Study I employed interpretive description, a qualitative methodology developed for applied health disciplines to generate clinically relevant understandings of complex experiential phenomena (Thorne et al., 1997; Thorne, 2016). The methodology was appropriate to the study aim because it enabled exploration of how MSM experienced sexual health and supportive care following prostate cancer treatment, while attending to patterns, variation, and relationships across individual accounts. Rather than aiming to produce a purely descriptive account or a formal explanatory theory, interpretive description supported the development of practice-relevant interpretations grounded in participants' experiences.

Interpretive description acknowledges that qualitative inquiry is shaped by disciplinary knowledge and the researcher's engagement with the phenomenon under study (Thorne, 2016). This aligns with the epistemological positioning of the thesis, in which interpretation is understood as situated and preunderstanding as a condition of inquiry rather than something that can be fully suspended. The reflexive implications of the researcher's position and prior knowledge are addressed further in Section 6.5.

6.3.2 Participants and recruitment

Participants were recruited through community-based networks. Eligibility criteria were being a man who has sex with men, having completed prostate cancer treatment at least six months before participation, being able to provide informed consent, and being able to participate in a Swedish-language interview. Twelve men received information about the study, of whom ten returned the questionnaire. Four subsequently participated in an interview. Interviews could not be arranged with the remaining six questionnaire respondents because of practical scheduling constraints, including travel. All four participants who began an interview completed it; no participant withdrew during data collection. The four participants were aged 62–74 years. All had undergone radical prostatectomy between 2010 and 2019 and were at least one year post-treatment at the time of interview. Three participants identified as gay, and one as bisexual. Relationship circumstances varied, including being single and living in monogamous or open relationships.

In interpretive description, sampling is oriented toward obtaining information-rich material that supports interpretation of patterns and variation rather

than statistical representation (Thorne, 2016). Despite the small sample, participants provided detailed accounts across diverse relational and sexual contexts. The implications of the sample size and recruitment strategy for the scope and transferability of the findings are discussed in Section 10.2.

6.3.3 Data collection

Data were collected between October 2021 and January 2023. Before the interviews, participants completed an MSM-specific sexual quality-of-life questionnaire developed for men with prostate cancer (Lee et al., 2022). The translation and use of the questionnaire in the present study are described below.

Semi-structured interviews explored experiences of sexual health, changes in sexuality following treatment, supportive care received, and unmet needs. An interview guide ensured consistency across interviews while allowing participants to elaborate on experiences they considered personally significant. Questions addressed changes in sexuality and sexual practices, relationships, experiences of sexual health support within healthcare, and sources of support outside healthcare. Follow-up questions were used to explore individual experiences in greater depth.

Interviews were conducted via Zoom because data collection began during the COVID-19 pandemic. Videoconferencing provided a feasible alternative to face-to-face interviews and enabled participation regardless of geographic location (Archibald et al., 2019; Oliffe et al., 2021). Interviews were audio-recorded and transcribed verbatim. The interviews lasted 16–36 minutes and generated approximately 1 hour and 44 minutes of recorded material and 57 pages of verbatim transcripts.

6.3.4 Questionnaire data

In addition to the interview data, an MSM-specific questionnaire was administered to provide contextual information on sexual function and sexual health. The questionnaire was a developmental version of the instrument described by Lee et al. (2022), which was subsequently further developed and validated as the Comprehensive Prostate Cancer Assessment on Sexual Health for Men Who Have Sex with Men (COMPASS) (Lee et al., 2026). The version used in Study I included background and treatment characteristics, as well as questions on sexual desire and arousal, ejaculation, erectile function, orgasm, overall sexual functioning and satisfaction, MSM-specific sexual practices, urinary leakage, and sexual relationships with regular and casual partners.

The first author translated the questionnaire into Swedish. The translation did not follow a formal forward-backward procedure because the questionnaire was not intended for psychometric evaluation or use as a validated outcome measure in the present study. Nevertheless, attention was paid to conceptual adequacy, linguistic clarity, and contextual relevance for the study population

(Wild et al., 2005). The Swedish translation was subsequently reviewed by a researcher with expertise in sexual health research among MSM.

Given the qualitative and exploratory orientation of the study, questionnaire responses were not subjected to statistical analysis or treated as measurements from a validated Swedish-language instrument. Instead, they were used descriptively to characterize the participants, contextualize the interview material, and support interpretation of participants' accounts of sexuality and sexual health in relation to treatment-related bodily changes (Sandelowski, 2001; Thorne, 2016).

6.3.5 Data analysis

The verbatim interview transcripts constituted the primary qualitative material and were analyzed according to the principles of interpretive description (Thorne et al., 1997; Thorne, 2016). Analysis involved iterative processes of immersion, coding, comparison, and interpretive synthesis to identify patterns and relationships that could inform clinical understanding. Questionnaire responses were used descriptively to contextualize the interview material and were not included in a separate quantitative analysis.

Initial coding focused on participants' descriptions of sexual change, healthcare encounters, and support-seeking. Codes were compared within and across cases to identify recurring patterns and points of divergence. Through iterative analysis and discussion among the authors, codes were grouped into higher-order categories that captured clinically relevant processes rather than descriptive topics. These categories were then refined into themes through repeated comparison with the original material.

Analytic rigor was supported by reflexive memo-writing, repeated discussion of emerging interpretations within the research team, and systematic return to the empirical material to consider alternative interpretations. Consistent with interpretive description, the analysis sought to preserve the complexity and variation of participants' accounts while developing interpretations relevant to supportive cancer care (Thorne, 2016).

Sexual script theory, queer scholarship, and the theory of caritative caring served as sensitizing perspectives rather than prescriptive coding frameworks in Study I. Sexual script theory and queer perspectives focused on sexual norms, meaning-making, and adaptation, while caring science informed the interpretation of care encounters, dignity, and supportive care. The analysis remained inductively grounded in the empirical material, with theoretical perspectives used to deepen interpretation rather than to assign data to predetermined categories.

6.4 Study II: Auto-netnography

6.4.1 Methodological rationale

Study II employed auto-netnography to examine interactions with GenAI chatbots concerning sexual health following prostate cancer treatment. Auto-netnography extends netnographic inquiry by incorporating the researcher's engagement with digital environments as both part of the empirical material and part of its interpretation (Howard, 2020; Kozinets, 2020, 2024). This approach was appropriate because the study focused on interactions generated directly between the researcher and chatbot systems, rather than on observing an existing online community or analyzing patient-generated material.

The study aimed to describe and compare how four GenAI chatbots responded to questions about sexual health following prostate cancer treatment, with particular attention to the needs of a gay man, and to interpret these responses from netnographic and Actor-Network Theory perspectives. The analytical focus therefore extended beyond the factual content of individual responses to include how information was framed, how sexuality and same-sex sexual concerns were addressed, and how the researcher-chatbot interaction developed.

Auto-netnography also enabled explicit consideration of the researcher's role in generating the material. The prompts, follow-up exchanges, and decisions about what to pursue were part of the interaction rather than neutral instruments for eliciting independent chatbot outputs (Howard, 2020; Kozinets, 2024). This was consistent with the interpretive positioning of the thesis and with the understanding of researcher involvement described further in Section 6.5.

6.4.2 Study context and data generation

Data were generated through interactions with four publicly available GenAI chatbot systems: ChatGPT (GPT-4o; OpenAI), Claude (3.5 Sonnet; Anthropic), Copilot (GPT-4 Turbo; Microsoft), and Gemini (2.0 Flash; Google). These platforms were selected for their widespread accessibility at the time of data collection and for their representation of prominent general-purpose GenAI systems.

Interactions occurred between February and March 2025 via the web interfaces of the respective chatbot systems. The first author interacted with each chatbot from a standardized mock-patient perspective. Prompt development was guided by the study aim and prior research on sexual health among MSM following prostate cancer treatment (Alexis et al., 2025; Lee et al., 2022; Ussher et al., 2016). The prompts addressed both treatment-related sexual concerns and issues relevant to same-sex sexuality and relationships.

Two standardized prompts were presented verbatim to all four chatbot systems to support comparison across platforms. The first addressed sexual health following prostate cancer treatment, including erections, orgasm, intimacy, and sexual relationships with a male partner. The second focused more specifically on concerns relevant to a gay man, including same-sex sexual practices, relational issues, and communication with healthcare professionals. Brief follow-up exchanges were undertaken in response to the chatbot outputs, while remaining within the substantive areas introduced by the standardized prompts.

All interactions were saved as textual material, including the prompts and chatbot-generated responses. Reflexive field notes were recorded during and after the interactions and documented impressions of tone, emotional attunement, specificity, responsiveness, and interactional dynamics. Consistent with the auto-netnographic approach, these notes formed part of the analytical material alongside the interaction sequences (Howard, 2020; Kozinets & Gretzel, 2024). No human participants or patient-generated data were involved.

6.4.3 Analytical approach

The analysis was qualitative, interpretive, and interaction-focused. The analytical material comprised chatbot-generated responses, the interaction sequences in which they were produced, and the researcher's reflexive field notes (Howard, 2020; Kozinets, 2024). Accordingly, the analysis considered both response content and the communicative characteristics of the interactions.

Analysis began with repeated readings of the interaction sequences. Responses were compared across the four chatbot systems to identify similarities and differences in informational content, specificity, emotional attunement, inclusivity, responsiveness, and communicative framing. Initial coding focused on features such as tone, forms of guidance, relational orientation, and the extent to which sexuality-related and same-sex-specific concerns were explicitly acknowledged and addressed.

Particular attention was directed toward how the chatbot responses addressed, expanded, redirected, normalized, or constrained the concerns raised in the prompts and follow-up exchanges. Comparison across platforms therefore concerned not only what information was provided but also how the systems framed sexual health concerns and responded to the mock-patient perspective.

Through iterative comparison and interpretation, recurring patterns of communicative orientation were identified. These were then organized along two intersecting dimensions—emotional attunement and informational specificity—which yielded the four interactional styles reported in Study II. The resulting heuristic was used to characterize variation in the material rather than to rank the chatbot systems or evaluate their clinical performance.

Actor-Network Theory informed the interpretation of the interactions by directing attention to how communication and knowledge emerged through

relations among the researcher, prompts, chatbot systems, platform conditions, and generated responses (Latour, 2005). The chatbot was therefore not treated simply as a neutral channel for retrieving information or as an autonomous caring agent, but as a technological actor participating in the production of the interaction. This analytical use of ANT was complementary to the auto-netnographic attention to researcher involvement and digitally mediated interaction.

Reflexive attention was sustained throughout the analysis because prompt formulation, follow-up decisions, and the researcher's professional and experiential knowledge shaped both the material generated and its interpretation (Finlay, 2002; Howard, 2020). These methodological implications are discussed further in Section 6.5.

6.5 Reflexivity

Reflexivity was an integral methodological and analytical component of the thesis and followed from the epistemological positioning outlined in Section 4.6. Preunderstanding was not treated as something that could be fully bracketed or eliminated from the research process. Rather, consistent with a hermeneutic understanding of interpretation, prior experience and knowledge were regarded as conditions through which understanding becomes possible (Eriksson & Lindström, 2007; Heidegger, 1927/1962). This position does not imply that prior assumptions were accepted uncritically. Reflexivity involved remaining open to how engagement with the empirical material could question or revise what was already understood, while critically examining how the researcher's positionality, professional knowledge, prior experience, and theoretical commitments shaped the generation and interpretation of the material (Berger, 2015; Finlay, 2002; Tracy, 2010). The purpose was not to neutralize researcher involvement but to make its role in knowledge production available for critical examination.

In Study I, reflexivity involved sustained attention to how the researcher's position informed both the interview process and the subsequent analysis. The researcher's background as a gay man and clinician in sexual health provided familiarity with the subject matter and may have facilitated discussion of sexuality and same-sex relationships. At the same time, shared points of reference could not be assumed to imply shared meanings or experiences. Reflexive attention therefore concerned how questions were posed, how apparent familiarity influenced the research encounter, and how participants' accounts were interpreted (Browne & Nash, 2010; Finlay, 2002). Memo-writing, repeated engagement with the interview material, and supervisory dialogue provided opportunities to question initial interpretations and consider alternative readings (Thorne, 2016).

In Study II, reflexivity held a distinct methodological significance because the empirical material was generated through the researcher's interactions with

GenAI chatbot systems. Prompt formulation, follow-up decisions, and the conduct of these interactions shaped the material produced, while the researcher's professional and experiential knowledge also influenced what was attended to during analysis. Reflexive attention was therefore directed toward the researcher's role in constructing interactional trajectories and interpreting differences across chatbot responses (Howard, 2020; Kozinets, 2020, 2024). The chatbot outputs were not treated as independent informational objects but as material generated within specific researcher-technology interactions.

Across the thesis, reflexivity provided a means of making the conditions of knowledge production more explicit. Memo-writing, iterative analysis, and supervisory dialogue supported reconsideration of emerging interpretations and attention to alternative possibilities. Reflexivity was therefore used not to minimize subjectivity or eliminate interpretation, but to strengthen transparency about how empirical material was generated and how analytical claims were developed (Berger, 2015; Finlay, 2002; Tracy, 2010).

6.6 Use of generative artificial intelligence and AI-assisted tools

Generative artificial intelligence (GenAI) and AI-assisted writing tools were used during the preparation of the integrative summary of this thesis. ChatGPT (OpenAI) was used interactively to support language revision, text restructuring, exploration of alternative formulations, and critical examination of arguments and textual coherence. Grammarly was used for language and writing support. All AI-assisted text was critically reviewed and revised by the author, who takes full responsibility for the content, interpretations, references, and conclusions of the thesis.

ChatGPT was also used to generate the figures included in the integrative summary. The author specified and iteratively developed the figures' conceptual content, relationships, terminology, and intended visual structure, using ChatGPT as a tool for their visual generation. The resulting figures were reviewed and revised by the author to ensure they corresponded with the arguments and findings presented in the thesis.

These uses of AI-assisted tools in preparing the thesis should be distinguished from Study II, in which interactions with ChatGPT, Claude, Copilot, and Gemini constituted the empirical material, generated and analyzed according to the auto-netnographic methodology described in Section 6.4. ChatGPT and Grammarly were not used to generate or analyze the empirical data in Study I, nor were they used as autonomous analytical methods in the cross-study synthesis.

7 Ethical considerations

Ethical considerations were addressed throughout the research process. Study I was conducted in accordance with the Swedish Ethical Review Act concerning research involving humans (Svensk författningssamling, SFS 2003:460) and the ethical principles of the Declaration of Helsinki (World Medical Association, 2024). The original research project was approved by the Swedish Ethical Review Authority (Dnr. 2021-03722). A subsequent amendment, which included additional data collection using openly accessible internet data, was approved in 2024 (Dnr. 2024-02924-02). This amendment provided the ethical approval for the data collection conducted in Study II.

In Study I, participants received written and verbal information about the purpose of the study, the voluntary nature of participation, confidentiality procedures, and their right to withdraw without consequence. Written informed consent was obtained before participation. Identifying information was removed during transcription, and pseudonyms were used when presenting the findings.

Given the sensitive nature of sexuality, cancer, and sexual minority experiences, particular attention was paid to conducting the interviews in a respectful, non-assumptive manner that protected participants' autonomy, dignity, and integrity (Svensk sjuksköterskeförening, 2021). Participants could decline to answer questions, pause the interview, or withdraw from participation. Video-based interviewing also required attention to privacy and secure digital communication and enabled participants to take part from a setting of their choosing.

Ethical considerations in sexuality research extend beyond protection from harm to include the conditions under which participants are invited to speak about their experiences. Normative assumptions may influence what participants perceive as relevant, acceptable, or possible to articulate during a research encounter. Ethical practice, therefore, requires attention to how questions are formulated and to how the interview interaction can either reproduce assumptions about sexuality or create space for participants to describe their experiences in their own terms (Bahner & Lindroth, 2023; Nagington, 2023).

Recruitment through community-based networks required additional attention to voluntariness and confidentiality. Individuals who helped disseminate information about the study were not involved in decisions about participation. Decisions to participate and subsequent communication with the research team remained entirely with potential participants.

The researcher's professional background in sexual health and personal familiarity with the topic also had ethical implications for the research relationship. Familiarity could facilitate discussion of sensitive experiences but could not be assumed to imply shared meanings or experiences. Ethical responsibility therefore included maintaining openness to participants' accounts without pre-

suming similarity based on sexuality or professional knowledge. The methodological implications of this positionality are discussed further in Sections 6.5 and 10.4.

Study II involved researcher-generated interactions with publicly accessible GenAI chatbot systems, using a standardized mock-patient perspective. This data collection was part of the amendment approved by the Swedish Ethical Review Authority (Dnr. 2024-02924-02). The study did not involve human participants, patient-generated data, observation of online communities, or the collection of identifiable personal information. Therefore, the ethical considerations differed from those associated with Study I and from those of online research involving human participants or user-generated content.

Ethical attention in Study II focused on transparency about how the material was generated, the researcher's role in producing the interactions, and the interpretation and presentation of chatbot-generated responses (Howard, 2020; Kozinets, 2024; Salzmann-Erikson & Eriksson, 2023). The use of a mock-patient perspective required clarity that the interactions represented researcher-generated scenarios rather than accounts from an actual patient. Chatbot outputs were not treated as authoritative clinical advice or as objective representations of sexual health knowledge, but as interactional material generated under specific technological and temporal conditions.

The study did not seek to evaluate the clinical accuracy, safety, or effectiveness of chatbot-generated information. Its ethical interpretation therefore required maintaining a clear distinction between examining how sexual health concerns were addressed in AI-mediated interactions and making claims about the suitability of such systems for clinical decision-making or patient care. Generative AI was treated as a context for sexual health communication rather than as a substitute for professional healthcare.

Across both studies, ethical considerations were understood to extend beyond procedural requirements. They included attention to dignity, autonomy, relational responsibility, transparency, and the conditions under which knowledge concerning sexuality and sexual health was generated and interpreted. Although these considerations took different forms in research involving human participants and in researcher-generated interactions with technological systems, both required critical attention to the researcher's responsibility for how sensitive phenomena were elicited, interpreted, and represented.

8 Results

This chapter presents the findings of the two studies and the subsequent interpretive cross-study synthesis. Study I examined experiences of sexual health and supportive care among MSM following prostate cancer treatment, while Study II examined how four generative AI chatbots responded to sexual health questions with particular attention to the needs of a gay man. The chapter concludes by bringing the findings of the two studies together through the processes of reconfiguration, recognition, and support.

8.1 Study I: Interpretive description of sexual recovery and supportive care

Study I explored how MSM experienced sexual health and supportive care following prostate cancer treatment. The analysis generated three interrelated themes: (1) Unscripted sexualities: Navigating loss, adaptation, and possibility; (2) Predominantly heteronormative care: Inclusion without tailored support; and (3) Peer support as supportive care: Mobilizing lived experience. Questionnaire responses provided contextual information concerning treatment-related sexual changes and supported interpretation of the interview findings. As illustrated in Figure 2, treatment-related bodily changes disrupted established sexual practices and expectations, prompting processes of sexual adaptation and renegotiation. These processes unfolded in relation to two contrasting sources of support: formal supportive care, which participants often experienced as insufficiently responsive to same-sex sexuality, and peer support, which provided experiential knowledge and practical strategies for adaptation. The figure therefore brings the three themes together by showing sexual adaptation as shaped not only by bodily change but also by the forms of support that were—or were not—available to participants.

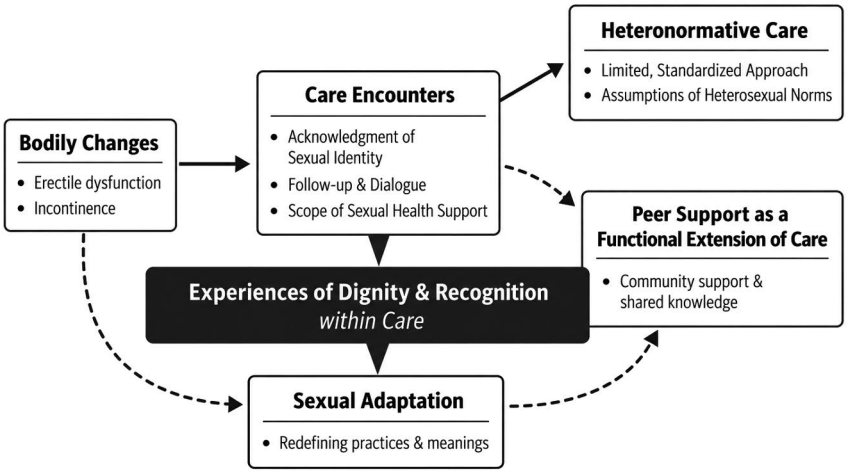

Figure 2. Empirical relationships among treatment-related bodily change, sexual adaptation, formal supportive care, and peer support in Study I.

8.1.1 Unscripted sexualities: Navigating loss, adaptation, and possibility

Participants described sexuality following prostate cancer treatment as initially marked by loss and uncertainty, followed by gradual adaptation to changed bodily conditions. Erectile dysfunction, urinary leakage, altered orgasm, and loss of ejaculation affected sexual confidence and challenged established expectations about sexual activity. Early sexual encounters could therefore involve uncertainty about how the body would respond, particularly with new or casual partners.

Over time, participants described adapting their sexual practices and expectations rather than attempting solely to restore their previous sexual lives. For some participants, penetration and erectile performance became less central, while touch, oral sex, mutual stimulation, closeness, communication, and other forms of sexual engagement took on greater importance. Discovering that orgasm and pleasure remained possible despite treatment-related changes was described as important for regaining sexual confidence.

> "When I realized I could still have an orgasm, it changed everything. I wasn't finished as a sexual person."

Adaptation involved experimentation as well as changes in how sexuality and intimacy were understood. Participants described letting go of established expectations and finding alternative ways of engaging sexually under changed

bodily conditions. This was not experienced as straightforward or uniformly positive; adaptation could involve frustration and emotional adjustment alongside curiosity and new possibilities. For some, changed sexual practices also reduced performance-related expectations and opened different forms of intimacy and communication.

Sexual recovery was therefore described less as restoration of pre-treatment sexual functioning than as an adaptive process in which practices, expectations, intimacy, and meanings of sexuality changed over time.

8.1.2 Predominantly heteronormative care: Inclusion without tailored support

Participants generally appreciated healthcare professionals asking about relationship status or partner gender. However, disclosure of same-sex sexuality rarely resulted in sustained discussion of sexual practices, intimacy, or concerns relevant to participants' sexual lives. Same-sex sexuality could therefore be acknowledged without substantially changing the content of subsequent sexual health support.

> "They asked if my partner was a man or a woman. I said, 'a man,' and then there was silence."

Sexual health discussions were described as predominantly focused on erectile function and pharmacological treatment. Participants reported receiving information or prescriptions concerning erectile dysfunction without corresponding discussion of pleasure, intimacy, or sexual practices relevant to them. One participant recalled receiving Viagra with the comment:

> "I got a prescription for Viagra—'to make the Mrs. happy.'"

Information provided around treatment was similarly described as primarily technical and focused on physical outcomes. Although preoperative information could help participants anticipate treatment-related side effects, emotional and relational dimensions of sexuality received less attention. Follow-up care was described as increasingly focused on biomedical monitoring and practical concerns, with sexual health less frequently revisited after the immediate recovery period.

Timing was important. Participants described sexuality-related concerns as becoming more salient after physical recovery had progressed, when questions about desire, intimacy, and sexual life became easier or more relevant to address.

> "In the beginning, you're just trying to recover. It's later that the questions about sex really start."

Participants did not primarily describe overt discrimination. Rather, the limitation was insufficient knowledge, confidence, or follow-through in addressing same-sex sexuality. Inclusion at the level of acknowledging partner gender or sexual orientation therefore did not necessarily translate into supportive care tailored to participants' sexual practices, relationships, or concerns.

8.1.3 Peer support as supportive care: Mobilizing lived experience

When professional support was perceived as insufficient or insufficiently relevant, peer networks became important sources of sexual health information, practical guidance, and emotional support. Participants described learning from other gay men who had undergone similar treatment and regarded experiential knowledge as particularly useful for navigating sexual changes after prostate cancer.

> "The best advice came from a friend who had the same surgery."

Peer interactions provided practical information about sexual aids, injection therapy, lubrication, positioning, and ways of managing treatment-related effects during sexual activity. Such knowledge could also influence subsequent healthcare encounters by helping participants identify relevant options and formulate more specific requests.

> "I only knew what to ask for because someone else had already gone through it."

Peer support also provided normalization and emotional validation. Participants described being able to discuss sexual changes openly, including through humor, with people who understood the experiences involved. Such interactions could reduce isolation and make treatment-related changes easier to discuss.

> "Talking to others who understand makes it easier. You can laugh about things that could otherwise feel depressing."

Peer interactions occurred in informal social settings and online environments and offered opportunities to discuss sexuality outside the structures of formal healthcare. Participants did not describe peer support as a replacement for professional care. Rather, peer-based knowledge and shared experience complemented professional support and, at times, compensated for areas in which formal supportive care was perceived as insufficient.

Across the three themes, sexual recovery emerged as an adaptive and relational process shaped by the interplay between bodily change, supportive care encounters, and peer-based support. Participants actively adapted sexual practices and meanings under changed bodily conditions, while the support available within healthcare and peer networks influenced the resources through which these changes could be understood and navigated.

8.2 Study II: Auto-netnographic exploration of AI-mediated sexual health communication and support

Study II examined how four GenAI chatbots responded to questions about sexual health following prostate cancer treatment, with particular attention to the needs of a gay man. The analysis showed both commonalities and differences in how the chatbot systems addressed sexuality-related concerns. Responses varied in informational specificity, emotional attunement, interactional style, and the extent to which same-sex sexuality and relationships were explicitly

incorporated. The findings are presented in three related areas: (1) exploration of sexuality-related concerns through AI-mediated interaction; (2) variation in interactional style across chatbot systems; and (3) GenAI chatbots as digital adjuncts for sexual health information and support.

8.2.1 Exploration of sexuality-related concerns through AI-mediated interaction

The chatbot interactions enabled direct, iterative exploration of questions about sexual health after prostate cancer treatment. Sexuality-related concerns could be introduced explicitly and followed through successive exchanges without requiring face-to-face disclosure. The interactions addressed treatment-related changes in sexual function alongside concerns involving intimacy, relationships, sexual practices, and adaptation.

The conversational format allowed questions to be clarified, reformulated, and developed through follow-up exchanges. As the interaction progressed, responses could become more specific rather than remaining limited to a single informational answer. This was particularly relevant for sensitive or complex concerns, where an initial question prompted further exploration.

The extent to which same-sex sexuality was incorporated varied across interactions. Some responses explicitly addressed sexual practices and relational circumstances relevant to gay men, while others remained more general. Inclusion was therefore not uniform across chatbot systems or interaction sequences. The relevance of a response depended not only on whether sexuality was mentioned but also on whether the mock-patient's specific sexual and relational context was incorporated into the response.

8.2.2 Variation in interactional style across chatbot systems

Comparison of the four chatbot systems revealed differences in both communicative orientation and informational specificity. Some responses were predominantly structured and informational, whereas others incorporated greater emotional attunement and relational responsiveness. These differences were organized around two intersecting analytical dimensions: *emotional attunement* and *informational specificity* (Figure 3).

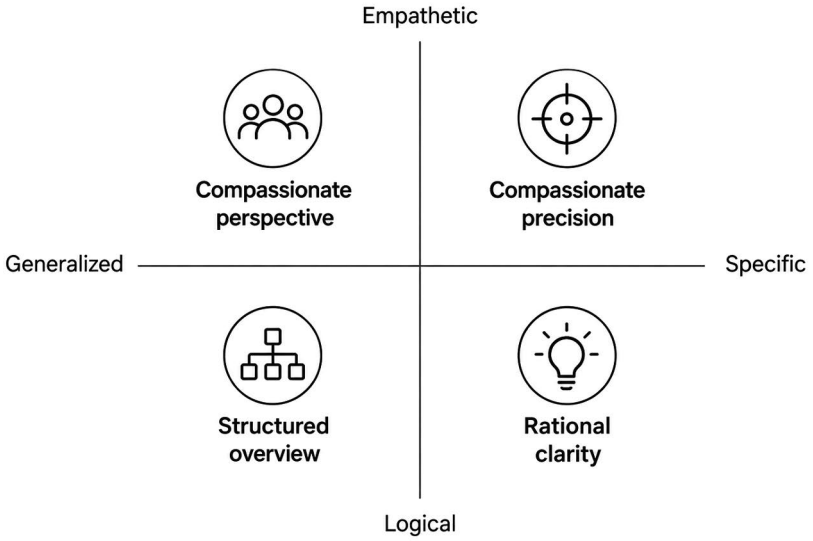

Figure 3. Interactional styles in AI-mediated sexual health communication.

Four recurring interactional styles were identified: structured overview, rational clarity, compassionate perspective, and compassionate precision. These styles captured different combinations of informational organization, specificity, emotional responsiveness, and attention to the relational dimensions of sexual health. They served as an interpretive heuristic for characterizing variation across interactions rather than as fixed classifications of the chatbot platforms.

The analysis indicated that responses could differ not only in the amount or type of information provided but also in how the user was addressed and how sexuality-related concerns were framed. More informationally oriented responses tended to emphasize structured guidance and explanation, whereas more emotionally attuned responses more explicitly acknowledged uncertainty, vulnerability, or relational concerns. The interactional styles therefore captured qualitative differences in how sexual health information was communicated.

8.2.3 GenAI chatbots as digital adjuncts for sexual health information and support

The interactions further suggested a potential role for GenAI chatbots as digital adjuncts for sexual health information and exploration. Their accessibility and conversational format enabled sexuality-related questions to be raised, revisited, and developed outside of face-to-face healthcare encounters. The systems could provide information, suggest issues for further consideration, and support the formulation of questions that might subsequently be discussed with healthcare professionals or others.

This adjunctive role did not imply equivalence to professional healthcare. The study did not evaluate the clinical accuracy, safety, or effectiveness of the information provided, and the chatbot interactions did not include clinical assessment or professional responsibility. Rather, the findings focused on the communicative possibilities observed in the interactions and on how the systems enabled exploration of sexual health questions.

Within this scope, the chatbot systems served as supplementary rather than substitute resources. Their contribution was to provide additional context for asking questions and exploring concerns, while professional healthcare remained necessary for individualized clinical assessment and treatment-related decision-making.

Taken together, Study II showed variation in how GenAI chatbots responded to sexual health concerns following prostate cancer treatment. The interactions differed in informational specificity, emotional attunement, and attention to same-sex sexuality, and the conversational format enabled iterative exploration of sensitive concerns. These findings supported the interpretation of GenAI chatbots as digital adjuncts to sexual health communication rather than as replacements for professional care.

8.3 Cross-study synthesis: Sexuality as reconfigured, recognized, and supported across contexts

The interpretive cross-study synthesis brought together the findings of Studies I and II to examine how sexual health was experienced and negotiated across the contexts represented in the thesis. A comparison of the study findings identified three interrelated processes: reconfiguration, recognition, and support. These processes do not represent additional themes derived from the primary empirical material but rather an interpretive synthesis of relationships identified across the findings of the two studies.

Reconfiguration concerned how sexuality changed and was renegotiated under altered bodily and relational conditions following prostate cancer treatment. Study I showed how treatment-related changes disrupted established sexual practices and expectations, prompting adaptation, experimentation, and shifts in the meanings of sexuality and intimacy. Study II examined this process from a different position: chatbot interactions provided a context in which questions arising from changed sexual circumstances could be articulated, revisited, and explored. Across the studies, sexual health therefore emerged not as the restoration of a stable pre-treatment state but as an ongoing process of negotiating sexuality under changed conditions.

Recognition concerned the conditions under which sexuality became available for articulation and response. In Study I, disclosure of same-sex sexuality did not necessarily lead to tailored discussion of sexual practices, intimacy, or relationships in healthcare. Sexuality could therefore be acknowledged while

remaining only partially engaged in supportive care. Peer interactions offered a contrasting context in which participants described greater openness and shared understanding. In Study II, sexuality-related concerns could be raised directly in chatbot interactions, although responses varied in how explicitly same-sex sexuality and relational circumstances were incorporated. Across the studies, recognition was therefore not a simple matter of whether sexuality was mentioned but concerned whether the particular sexual concerns being expressed became sufficiently engaged to shape the response that followed.

Support concerned how different forms of sexual health knowledge, guidance, and responsiveness became available across contexts. Study I showed that professional healthcare provided access to biomedical knowledge and treatment, while peer networks offered experiential knowledge, practical guidance, normalization, and validation. Study II added a digitally mediated context in which sexual health questions could be explored iteratively and information accessed outside face-to-face encounters. These forms of support were not interchangeable. Rather, they offered different resources and possibilities depending on the concerns being addressed.

The three processes were closely related. Bodily and relational changes created circumstances in which sexuality had to be renegotiated; the ability to articulate and meaningfully engage with sexual concerns influenced the possibilities for doing so; and the forms of support available shaped the knowledge and resources through which adaptation could proceed. Conversely, limited recognition could constrain access to relevant support, while peer-based and digitally mediated contexts could make other forms of exploration and support available.

Taken together, the synthesis suggests that sexual health among MSM after prostate cancer treatment is shaped by ongoing relationships among changing sexuality, opportunities for recognition, and access to support. These processes unfolded across clinical, intimate, peer-based, community-based, and digitally mediated contexts rather than within formal healthcare alone. Sexual health was therefore neither reducible to bodily function nor confined to a single supportive context but was negotiated across changing embodied and relational circumstances and through diverse sources of knowledge and support.

8.3.1 Conceptual integration: Queer Supportive Assemblage Model

The relationships among reconfiguration, recognition, and support were later integrated into the Queer Supportive Assemblage Model (QSAM) (Figure 4). The model offers a conceptual representation of the cross-study synthesis. It illustrates sexual health as continuously reconfigured by changing bodily and relational conditions, differently recognizable within specific relational and communicative contexts, and supported by interconnected clinical, relational, peer-based, and digitally mediated resources.

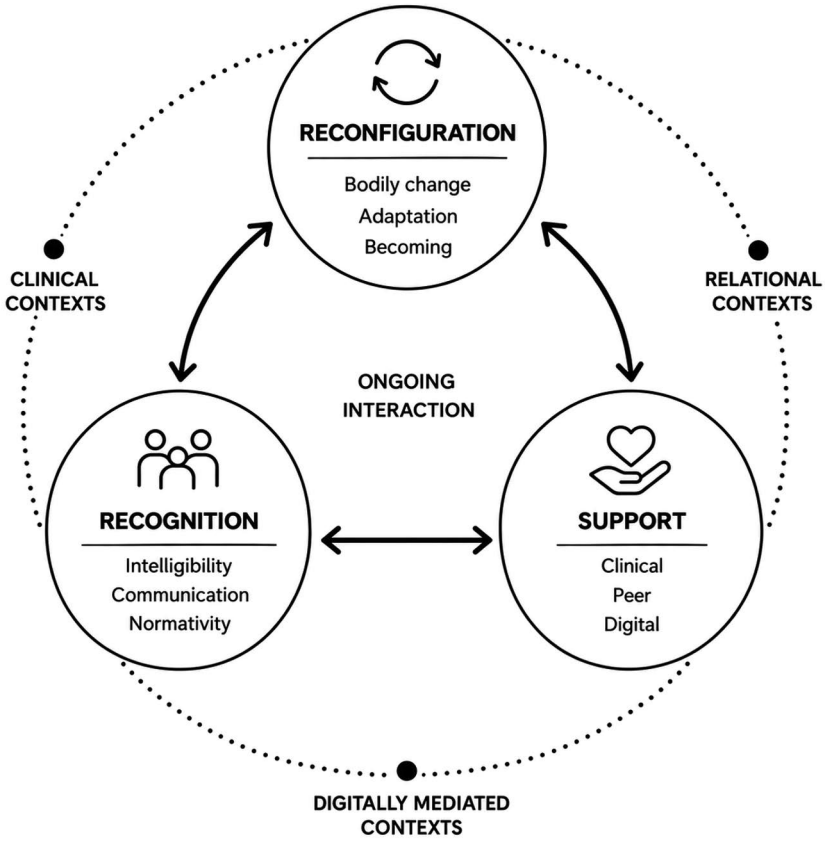

Figure 4. Queer Supportive Assemblage Model (QSAM).

QSAM should be understood as an interpretive conceptual synthesis of the thesis findings rather than as a separately derived or validated theoretical model. The processes represented in the model are interrelated rather than sequential: reconfiguration may alter which forms of recognition and support become relevant; recognition may enable or constrain access to support; and available forms of support may influence how changing sexuality is understood and negotiated. The theoretical implications of these relationships are developed further in Chapter 9.

9 Discussion

The findings of this thesis suggest that sexual health following prostate cancer treatment among MSM cannot be adequately understood through functional recovery alone. Across the studies and the cross-study synthesis, sexuality emerged as embodied and relational, while possibilities for negotiating sexual change were shaped by the conditions under which sexuality could be recognized and supported across different contexts.

This chapter interprets these findings through the theoretical framework of the thesis. The discussion first considers sexual recovery as reconfiguration, then examines recognition and the epistemological conditions of care, and subsequently addresses support as distributed across clinical, relational, peer-based, and digitally mediated contexts. These dimensions are then brought together to consider the distinction between sexuality as ontologically encompassed within care and epistemologically conditioned in practice, before the theoretical contribution to caring science is articulated.

9.1 Sexual recovery as reconfiguration

Sexual recovery following prostate cancer is commonly framed as the restoration or rehabilitation of sexual function. The present findings complicate this understanding. Study I showed that treatment-related bodily changes were consequential, but that living sexually after treatment involved more than whether erectile or other physiological functions returned. Participants adapted their practices, expectations, and meanings of intimacy in response to changed bodily conditions. In the cross-study synthesis, this process was conceptualized as *reconfiguration*: sexual recovery concerned not simply the restoration of what had been lost, but the ongoing negotiation of what sexuality could become after treatment. This interpretation is consistent with previous qualitative research showing adaptation and redefinition of sexuality among gay and bisexual men following prostate cancer treatment (Danemalm Jägervall et al., 2019; Dowsett et al., 2014; Ussher et al., 2016).

Reconfiguration does not diminish the significance of physiological change or biomedical rehabilitation. Erectile dysfunction, altered ejaculation and orgasm, urinary symptoms, and changes in bodily sensation provide material conditions within which post-treatment sexuality is lived. Clinical and physiological knowledge is therefore necessary for explaining treatment-related bodily changes and their functional consequences. As argued in Section 4.6, however, explanation does not exhaust understanding. Knowing why erectile function changes after prostate cancer treatment is different from understanding what that change means for a particular person's sexual practices, relationships, sense of desirability, or possibilities for intimacy. The distinction is not between biomedical and experiential knowledge as competing accounts, but

between forms of knowledge that answer different questions (Fagerström & Bergbom, 2010).

This distinction is particularly relevant for MSM because the meaning of a functional change depends partly on how sexuality is practiced and on what the altered bodily capacity makes possible or difficult. Previous research has shown that erectile and ejaculatory changes may carry different implications depending on sexual practices and preferred sexual roles, and that adaptation may involve changes in practices rather than a straightforward restoration of previous function (Danemalm Jägervall et al., 2019; Hart et al., 2014; Tatum et al., 2023). Reconfiguration therefore does not imply that functional loss becomes unimportant. Rather, it places bodily change within the sexual and relational life in which its significance is experienced.

From the perspective of the theory of caritative caring, this process can be understood in relation to health as becoming. Health is not conceptualized solely as physiological integrity or a return to an earlier state, but as an ongoing movement in which the person lives with changing conditions and possibilities for meaning and wholeness (Eriksson, 2002, 2018). Sexual recovery can similarly be understood as a process in which altered bodily conditions are incorporated into evolving ways of living sexuality, intimacy, and relationships. Reconfiguration therefore shifts the meaning of recovery from return to becoming: recovery is understood not as being restored to what one was before treatment, but as continuing to become under changed conditions. Becoming is not used here to imply progress toward a preferable sexual state. Reconfiguration could involve loss, frustration, and constraint alongside adaptation and, for some participants, the emergence of different possibilities for intimacy, pleasure, and sexual expression.

Queer perspectives further complicate the meaning of recovery. Butler's account of performativity directs attention to how sexuality is constituted through repeated practices and normative expectations rather than expressing a fixed or essential sexual state (Butler, 2004, 1990/2006). Treatment-related bodily changes may disrupt established repetitions and expectations, rendering previously taken-for-granted assumptions about sexual functioning and sexual normality more visible and requiring the renegotiation of practices and meanings. Queer temporality adds a temporal dimension to this disruption by questioning trajectories organized around improvement, restoration, and return (Halberstam, 2005). From this perspective, adaptation that does not culminate in the restoration of previous sexual function need not be understood as incomplete recovery. It may instead represent a different configuration of sexual life.

This interpretation also resonates with accounts of sexuality as something enacted through embodied practices, desires, and relations rather than possessed as a stable capacity. Holmes et al. (2018) conceptualize sexuality as an embodied and relational process of becoming, while Race (2020) directs atten-

tion to how sexual possibilities emerge through situated relations and practices. In the present thesis, treatment-related bodily change altered the conditions under which sexuality could be enacted but did not determine a single outcome. Sexual possibilities were negotiated through interactions among bodies, intimate relationships, sexual practices, knowledge, and available forms of support.

Reconfiguration was therefore not an exclusively individual process. Study I highlighted the importance of intimate and peer relationships in negotiating changed sexual circumstances. Study II offers a different perspective by identifying an additional context in which questions arising from sexual change could be explored. AI-mediated interaction did not itself constitute sexual reconfiguration; rather, it illustrates that making sense of changed sexuality may involve resources and interactions beyond the individual and beyond formal healthcare. What becomes possible after bodily change is partly shaped by the contexts in which new questions, practices, and meanings can be explored.

This interpretation also aligns with broader developments in cancer survivorship and sexual health research that challenge an exclusive focus on functional restoration and instead emphasize intimacy, relational adjustment, and the meanings attached to sexuality following cancer (Marino et al., 2026; Perz et al., 2013; Pratt-Chapman et al., 2021). The present findings extend this literature by conceptualizing sexual recovery as reconfiguration and, in the specific context of MSM following prostate cancer treatment, showing how altered bodily capacities are negotiated through sexual practices, relationships, and available forms of support. The broader conceptual relevance of reconfiguration may therefore extend beyond MSM, while the forms it takes remain shaped by sexual practices, relationships, and sociocultural context.

Understanding sexual recovery as reconfiguration therefore extends, rather than replaces, function-oriented accounts of rehabilitation. Physiological recovery remains clinically important, but it represents only one dimension of sexual health after prostate cancer treatment. A reconfiguration perspective directs attention to how bodily change acquires meaning within sexual and relational life and to how people develop ways of living sexually when restoration is partial, impossible, or no longer the primary goal. This raises a further question: *under what conditions can these changing forms of sexuality become intelligible and available for engagement in care?* This question provides the point of departure for the discussion of recognition in the following section.

9.2 Conditions of recognition and the epistemological limits of care

The findings suggest that sexual recovery following prostate cancer is shaped not only by bodily changes and processes of reconfiguration but also by the conditions under which sexuality can be recognized and engaged with in care.

Recognition, in this sense, cannot be understood as the neutral acknowledgment of pre-existing experiences. Rather, sexuality becomes differentially available depending on the relational, normative, and communicative conditions through which it is encountered.

Within healthcare encounters, participants described how same-sex sexuality was often only partially addressed after disclosure. Questions concerning partner gender were sometimes asked, yet these disclosures rarely led to more extensive discussion of intimacy, sexual practices, or relational concerns. Participants therefore primarily described a limited form of engagement in which aspects of sexuality remained difficult to incorporate into supportive care, rather than an overt exclusion or discrimination. Similar patterns have been described in healthcare and welfare encounters involving LGBTQ individuals, where aspects of identity or experience may be acknowledged without being meaningfully integrated into care practices (Appelgren Engström & Almqvist, 2025). Previous research on prostate cancer among sexual minority men has identified heteronormative care and a need for tailored information and support (Matheson et al., 2017; Moore et al., 2019). Research in other healthcare contexts has likewise shown how heteronormative assumptions can impede communication and inclusive care for LGBTQ patients and families (Klittmark et al., 2019; Röndahl et al., 2006).

From the perspective of the theory of caritative caring, this raises an important distinction between acknowledging sexuality and *confirming the person* within the caring relationship. Encountering the person in caritative love may be understood as affirming the person as a whole and as supporting possibilities for becoming and health (Eriksson, 2002, 2018). The present thesis adds an epistemological dimension to this understanding: for sexuality to become part of such confirmation, it must first become sufficiently intelligible and articulable within the encounter. Same-sex sexuality could be acknowledged at the level of disclosure while participants' sexual practices, relationships, and concerns remained insufficiently engaged. Confirmation and recognition are therefore related but not synonymous. Confirmation concerns the ethical and relational affirmation of the person, whereas recognition, as used in this thesis, concerns the conditions under which dimensions of lived experience become available to be understood and responded to.

Recognition in this sense is not confined to professional caring. Within the theory of caritative caring, caring also encompasses natural caring within human relationships (Eriksson, 2018). This distinction is relevant to the present findings because sexuality became differently available across intimate, peer-based, and professional contexts. Within natural caring and peer relationships, shared experience, intimacy, familiarity, and mutual understanding could make aspects of sexuality easier to articulate and affirm. Professional caring entails different responsibilities: sexuality must become available not only as part of the person's lived experience but also as relevant to professional knowledge,

assessment, communication, and supportive action. Study I showed that these forms of recognition did not necessarily coincide. Participants could experience openness, validation, and practical understanding within peer relationships while their sexuality remained only partially engaged within professional care.

This distinction also helps clarify why an ethical commitment to holistic care does not by itself guarantee that sexuality becomes available within professional practice. The theory of caritative caring conceptualizes the human being as an embodied, relational, and existential whole, within which sexuality may be understood as inherently encompassed rather than as a separate or optional aspect of health and care (Eriksson, 2002, 2018; Fagerström, 1999). Yet professional caring depends on concepts, questions, knowledge, and practices through which particular dimensions of lived experience can be identified and engaged. Contemporary nursing scholarship similarly emphasizes that LGBTQ-inclusive care involves more than acknowledgment or non-discrimination and requires active engagement with sexuality, relationships, communication, and identity (Roman Laporte & De Santis, 2023). In oncology nursing, sexuality is widely recognized as relevant to prostate cancer care while remaining inconsistently integrated into communication, assessment, and supportive care practices (Neenan & Chatzi, 2025).

The present findings should also be situated within a broader Swedish context. Recent population data show persistent inequalities in sexual and reproductive health and rights among lesbian, gay, bisexual, and transgender populations, including experiences of discrimination, lower confidence in healthcare, and unmet sexual health needs (Folkhälsomyndigheten, 2026). These population-level findings are neither specific to prostate cancer nor directly comparable with the experiences of the participants in Study I. They nevertheless indicate that difficulties in obtaining responsive sexual healthcare occur within a wider healthcare context in which sexual and gender minority populations continue to report unequal experiences of care.

Queer epistemology provides complementary analytical resources for understanding why such limitations may persist even when sexuality is acknowledged as relevant. Butler (2004) argues that recognition depends on normative frameworks through which subjects and experiences become intelligible. Recognition is therefore not simply directed toward an already fully available experience; the terms through which an experience can be understood partly determine whether and how it can be recognized. Applied to sexual health, this shifts attention from whether healthcare professionals are willing to discuss sexuality toward the frameworks through which particular sexual concerns become understandable as relevant objects of care.

Ahmed's (2006) concept of orientation further illuminates how these limits may arise without deliberate exclusion. Clinical practices are already oriented toward particular objects of attention. Erectile function, medication, and pene-

trative capacity are readily available for assessment because established rehabilitation practices provide questions, measures, interventions, and professional vocabularies through which they can be addressed. Other concerns—changing sexual practices, receptive sexuality, pleasure, intimacy, or the significance of ejaculation, for example—may be less readily brought into view. The issue is therefore not simply what an individual clinician knows or accepts, but what existing practices make easier to notice, ask about, and act upon.

Sedgwick's (1990, 2003) work on sexual knowledge further complicates the assumption that disclosure resolves this problem. Sexuality is organized through relations of knowing and not knowing, speech and silence, disclosure and concealment. A patient can disclose that his partner is a man without thereby making the meanings and practices of his sexual life available within the encounter. Conversely, silence cannot automatically be interpreted as absence of concern. What becomes speakable depends partly on whether the encounter provides terms through which an experience can be articulated and received. Previous research similarly demonstrates the ongoing work through which lesbian and gay people negotiate disclosure, openness, and concealment across healthcare and social settings (Malterud & Bjørkman, 2016).

Study II extends the question of recognizability beyond interpersonal and professional caring. The chatbot interactions allowed sexuality-related concerns to be stated explicitly and explored without disclosure to another person, while responses varied in how specifically same-sex sexuality and relational circumstances were incorporated. These interactions should not be equated with either natural or professional caring. As discussed in Chapter 4, GenAI systems may participate in *care-like interactions* by enabling responsiveness, exploration, and informational support without possessing the ethical intentionality or responsibility associated with a caring subject. Study II therefore demonstrates not that AI is inherently more recognizing or inclusive, but that different communicative arrangements create different possibilities for articulation and response.

Recognition, as conceptualized in this thesis, thus concerns an epistemological condition that operates differently across caring and supportive contexts. Within natural caring, professional caring, peer relationships, and digitally mediated interaction, different relations and resources shape what can be articulated, understood, affirmed, or acted upon. In professional caring, this has particular consequences because recognition determines what becomes available for assessment and supportive response. The limitations identified in Study I, therefore, concern more than individual communication skills; they point to the concepts, assumptions, and practices through which sexuality becomes professionally knowable and actionable. Once sexuality becomes available for engagement, a further question concerns what forms of knowledge and support become available across these different contexts. This provides the point of departure for the discussion of distributed support in the following section.

9.3 Distributed support across relational and sociotechnical contexts

The findings suggest that support for sexual health following prostate cancer treatment extends beyond formal healthcare and becomes available across multiple relational and digitally mediated contexts. Study I showed that professional healthcare and peer relationships provided different forms of knowledge and support, while Study II identified AI-mediated interaction as an additional context for exploring sexual health concerns. These contexts were neither equivalent nor interchangeable. Rather, they offered different resources for navigating changing sexuality, including biomedical knowledge, experiential guidance, emotional validation, and opportunities to formulate and explore sensitive questions.

From the perspective of the theory of caritative caring, this distribution of support requires a distinction between support and caring. Caring is not confined to professional healthcare but also encompasses natural caring within human relationships (Eriksson, 2018). Professional caring, however, entails specific knowledge, ethical responsibilities, and obligations toward the person that cannot be simply transferred to peers, community resources, or technological systems. The present findings therefore do not suggest that caring itself is uniformly distributed across all supportive contexts. Rather, they show that resources relevant to sexual health may become available through relations extending beyond professional caring.

Peer interactions were particularly important in Study I. Participants turned to other gay men with relevant experience for practical guidance concerning sexual adaptation, treatment-related bodily changes, and sexual practices, as well as for normalization and emotional validation. Previous research likewise demonstrates the importance of peer and social support among sexual minority people affected by cancer (Lisy et al., 2018; Pratt-Chapman et al., 2021). In the present study, peer support was especially significant when participants perceived professional sexual health support as insufficiently specific to their experiences.

The significance of these interactions also needs to be situated within broader histories of community-based sexual knowledge. Gay communities and sexual networks have long functioned as contexts in which knowledge about bodies, sexual practices, pleasure, risk, and identity is exchanged and negotiated (Graham, 1998; Race, 2015). The peer support described in Study I can therefore be understood not simply as an informal substitute for professional information but as participation in forms of experiential and community-based knowledge with their own histories and relational practices. This interpretation resonates with calls for LGBTQ health research to attend more explicitly to the community and relational contexts through which health knowledge and support are produced (Stall et al., 2020).

Peer support should not, however, be treated as equivalent to either natural or professional caring. Peer relationships may include qualities associated with natural care, such as familiarity, mutuality, and responsiveness, but they may also involve organized or situational forms of support that do not fit neatly within that category. Nor does experiential knowledge replace clinical expertise. The significance of peer support in this thesis lies instead in its complementary contribution: it made forms of knowledge, validation, and practical guidance available that participants did not always encounter in professional care.

Study II extends this distributed landscape to digitally mediated interaction. GenAI chatbots enabled immediate, iterative exploration of questions about sexuality and intimacy outside face-to-face healthcare encounters. As digital adjuncts, these interactions provided an additional resource for information-seeking, question formulation, and exploration, but did not provide clinical assessment or assume professional responsibility. Their contribution should therefore be understood as supplementary rather than substitutive. This interpretation aligns with emerging nursing scholarship suggesting that digital technologies are reshaping where and how health knowledge and supportive interaction become available (Christiansen & Wettergren, 2026; Wynn & Garwood-Cross, 2024).

The concept of *care-like interaction* is useful for maintaining this distinction. As developed in Chapter 4, GenAI systems can produce communicative qualities that resemble aspects of caring encounters, such as responsiveness, attentiveness, and emotional attunement, without thereby becoming caring subjects in the caritative sense. The chatbot systems lack the ethical intentionality and responsibility associated with human caring. Nevertheless, their responses made a difference within the interactions by shaping what could be asked, pursued, clarified, or explored. Care-like interaction therefore describes a communicative effect without attributing caritative caring to the technological system.

Actor-Network Theory provides an analytical vocabulary for examining this participation without requiring equivalence among actors (Latour, 2005). From an ANT perspective, sexual health support can be examined as enacted through heterogeneous relations among people, knowledge, practices, technologies, and material arrangements. A healthcare professional, a peer conversation, a sexual aid, an informational resource, or a chatbot interface may each alter what is possible in a particular situation, while differing substantially in their intentionality, authority, expertise, and responsibility. Mol's (2002, 2008) work further suggests that these practices do not simply provide different versions of the same support; they may make different aspects of sexual health available as relevant and actionable.

This perspective also clarifies the relationship between distributed support and recognition. Professional healthcare made biomedical knowledge, treatment, and clinical assessment available, while peer interactions brought experi-

ential knowledge and shared sexual understanding within reach. AI-mediated interaction offered another arrangement in which questions could be articulated and pursued. The form of support available therefore influenced not only which resources could be accessed but also which aspects of sexuality were available for exploration and response. Recognition and support are consequently interrelated rather than sequential processes within QSAM.

Distributed support should therefore not be taken as an argument for dispersing professional responsibility or treating all sexual health information sources as equally authoritative. Rather, it describes how people may draw on different relational and sociotechnical resources when living with changing sexuality. Professional care retains responsibility for clinically reliable assessment, treatment, and individualized support; peer and community contexts may provide experiential knowledge and validation; and digital adjuncts may create additional opportunities for information-seeking and exploration. The theoretical significance lies in recognizing that these resources operate in relation to one another, rather than assuming that sexual health support begins and ends within the clinical encounter.

9.4 Sexuality as ontologically encompassed yet epistemologically conditioned

The preceding discussion highlights a central theoretical distinction in the thesis. From the perspective of the theory of caritative caring, sexuality can be understood as ontologically encompassed within human existence as embodied, relational, and meaning-oriented (Eriksson, 2002, 2018; Fagerström, 1999). Sexuality need not be added to the person as a separate domain to be included in caring. Yet the findings suggest that ontological encompassment, in itself, does not ensure that sexuality becomes epistemologically available within caring practice.

This distinction concerns the relationship between what care may encompass in principle and what becomes possible to know, articulate, recognize, and respond to in practice. Study I showed that same-sex sexuality could be acknowledged even as participants' sexual practices, relationships, and concerns remained only partially engaged within professional care. The problem was therefore not simply whether sexuality was included or excluded, but whether the forms of knowledge, language, and practice available within the encounter enabled sexuality to become relevant to the care that followed. As discussed in Section 9.2, this also has implications for confirmation: an ethical orientation toward affirming the whole person does not, by itself, ensure that every dimension of the person becomes sufficiently intelligible to be confirmed within the caring encounter.

Queer epistemology helps explain this gap by showing that intelligibility and recognition are shaped by normative conditions rather than arising auto-

matically from ethical inclusion (Ahmed, 2006; Butler, 2004; Sedgwick, 1990, 2003). Actor-Network Theory adds that these conditions are enacted through concrete arrangements of people, practices, questions, assessment instruments, knowledge, technologies, and other material resources (Latour, 2005; Mol, 2002, 2008). What becomes available as sexual health is therefore shaped not only by a person's lived experience or an individual caregiver's intentions, but also by the normative and sociomaterial arrangements through which care and support are organized.

The distinction between ontological encompassment and epistemological conditioning also helps link the three processes represented in QSAM. Reconfiguration concerns how sexuality continues to take shape under changing bodily and relational conditions. Recognition concerns whether and how these evolving forms of sexuality become intelligible and available for engagement. Support concerns the relational and sociotechnical resources through which sexuality can be explored, understood, and responded to. These processes are interrelated: what becomes recognizable influences which support becomes relevant, while available forms of support may in turn shape how changing sexuality is understood and negotiated.

Sexuality may therefore be fully compatible with an ontology of holistic and caritative caring while remaining unevenly articulated within the knowledge and practices through which caring is enacted. *Ontological encompassment should not be mistaken for epistemological availability.* Making sexuality part of caring practice requires more than an ethical commitment to the whole person; it also requires concepts, knowledge, language, and relational conditions through which diverse sexual experiences can become intelligible and actionable. This distinction provides the basis for considering the specific contribution of the thesis to caring science in the following section.

9.5 Theoretical contribution to caring science

The theoretical contribution of this thesis does not primarily lie in introducing sexuality as a new domain within caring science. The theory of caritative caring already provides an ontological and ethical foundation for understanding the human being as embodied, relational, and meaning-oriented, and thus offers conceptual space for sexuality within human health and becoming (Eriksson, 2002, 2018; Fagerström, 1999). The contribution instead lies in making sexuality more explicit within this foundation and in examining the conditions under which it becomes possible to recognize and support sexuality in caring practice.

A central contribution is the distinction developed in this thesis between *ontological encompassment and epistemological availability*. Holistic ontological commitments do not necessarily determine what becomes available as an explicit object of knowledge and response within care. The findings show that

sexuality can belong to the person's lived and embodied existence, while particular sexual practices, relationships, desires, and concerns remain difficult to articulate or engage with in professional caring. This distinction directs attention to an epistemological question within holistic care: not only whether a phenomenon belongs within an understanding of the whole person, but also how it becomes sufficiently intelligible to be known and responded to.

This distinction also offers a further interpretation of *confirmation in relation to sexuality* within the theory of caritative caring. Confirmation concerns the ethical and relational affirmation of the person as a whole and is connected to possibilities for becoming and health (Eriksson, 2002, 2018). In the context of the present thesis, sexuality raises an epistemological question for this understanding: dimensions of sexual experience must become sufficiently intelligible and articulable to enter the caring encounter as something that can be understood and responded to. Recognition, as developed through dialogue with queer epistemology, is therefore not synonymous with confirmation but draws attention to the conditions under which aspects of lived experience become available for confirmation within the caring encounter.

Bringing the theory of caritative caring into dialogue with queer epistemology and Actor-Network Theory further contributes by shifting attention from ethical and ontological commitments to the conditions through which caring possibilities are realized in practice. Queer epistemology makes visible how normative frameworks shape intelligibility and recognition (Ahmed, 2006; Butler, 2004; Sedgwick, 1990, 2003), while Actor-Network Theory directs attention to the people, practices, knowledge, technologies, and material arrangements through which possibilities for recognition and support are enacted (Latour, 2005; Mol, 2002, 2008). These perspectives do not replace or revise the ontological foundation of caritative caring. Rather, they provide complementary analytical resources for examining why a dimension of human life encompassed by the theory may nevertheless remain unevenly available in caring practice.

The thesis also contributes by distinguishing *caring from the wider distribution of support*. The theory of caritative caring distinguishes natural and professional caring (Eriksson, 2018), whereas the present findings show that sexual health knowledge and support may also become available through peer, community-based, and digitally mediated contexts. These contexts should not be treated as equivalent forms of caring. Peer support may provide experiential knowledge, validation, and practical guidance, while digital technologies may participate in supportive interactions without assuming the ethical responsibility associated with caring. The concept of *care-like interaction* provides a way of describing communicative qualities such as responsiveness, attentiveness, and emotional attunement in technologically mediated encounters without attributing caritative caring to the technological system.

QSAM provides a conceptual synthesis of these contributions by bringing *reconfiguration*, *recognition*, and *support* into relation. Reconfiguration extends

the understanding of sexual recovery beyond restoration toward sexuality as continuing to take form under changed bodily and relational conditions. Recognition draws attention to the conditions through which these changing forms of sexuality become intelligible and available for engagement. Support concerns the different relational and sociotechnical resources through which sexual health can be explored and responded to. QSAM does not propose a general theory of sexual health or caring, but offers an analytical model developed from the specific empirical and theoretical context of this thesis.

Although developed through research concerning MSM following prostate cancer treatment, these theoretical propositions are not necessarily limited to this population. The distinction between ontological encompassment and epistemological availability, and the processes represented in QSAM, may be relevant in other contexts where illness, treatment, aging, disability, or normative assumptions alter how sexuality can be lived and addressed. Such relevance should be regarded as a proposition for further theoretical and empirical examination rather than as transferability established by the present studies.

The contribution of the thesis to caring science can therefore be summarized as making sexuality explicit within an ontology already capable of encompassing it, while showing that ontological inclusion alone does not ensure epistemological availability in caring practice. By bringing questions of intelligibility, recognition, and distributed support into dialogue with the theory of caritative caring, the thesis provides an analytical basis for examining not only whether sexuality belongs within care, but *how sexuality can be known, affirmed, and supported as part of the person's lived experience*.

10 Methodological considerations

This chapter discusses methodological considerations relevant to the design, conduct, and interpretation of the thesis. In line with the interpretive and qualitative orientation of the research, the discussion focuses on how methodological choices shaped the generation, analysis, and interpretation of knowledge across the two studies. Attention is directed toward issues related to qualitative knowledge production, reflexivity, contextuality, transferability, and the methodological implications of studying sexuality and digitally mediated interactions in sensitive, evolving contexts.

10.1 Interpretive and qualitative knowledge production

The thesis is grounded in an interpretive qualitative approach because its primary concern was not to measure predefined aspects of sexual health but to examine how sexuality, care, and support were experienced, negotiated, and made meaningful among MSM following prostate cancer treatment. The research questions focused on lived experience, relational processes, and supportive practices and therefore required methodological approaches attentive to meaning, context, and interpretation (Thorne, 2016).

As outlined in Sections 4.6 and 6.1, knowledge was not treated as independent of the conditions under which it was generated. The interpretive orientation of the thesis assumes that empirical material becomes meaningful through engagement between the researcher, the material, the context, and prior understanding. The resulting findings should therefore be understood as situated interpretations rather than as context-independent representations of sexual health (Finlay, 2002; Malterud, 2001). This is particularly relevant to a thesis in which one study generated accounts through researcher-participant interviews and the other generated interactional material through researcher engagement with technological systems.

The focus on sexuality and MSM introduces additional methodological considerations. Queer methodological scholarship cautions against treating categories of sexuality as stable, homogeneous, or self-explanatory and draws attention to how research questions, categories, methods, and analytical practices participate in shaping what can become known (Browne & Nash, 2010; Ghaziani & Brim, 2019). The use of MSM in this thesis was necessary to delimit the population in relation to sexual practices and the existing prostate cancer literature, but it does not imply that participants constituted a homogeneous sexual category. Three participants identified as gay and one as bisexual, and their sexual practices, relationships, experiences, and meanings of sexuality varied. MSM therefore functioned as an empirical and analytical descriptor rather than as an assumption of shared identity or experience.

This distinction is also relevant to the relationship between queer epistemology and the methodologies used in the thesis. Neither interpretive description nor auto-netnography was treated as inherently queer methodology. Rather, queer scholarship informed attention to normativity, categorization, intelligibility, and the assumptions that made sexuality available for inquiry and interpretation (Browne & Nash, 2010; Ghaziani & Brim, 2019). This allowed the thesis to retain the methodological commitments of the individual studies while using queer perspectives to question apparently self-evident categories and assumptions about sexuality and sexual recovery.

The interpretive approach entails both possibilities and limitations. It enables attention to dimensions of sexual health that may be difficult to capture through standardized measures, including shifting meanings of sexuality, relational experiences, recognition, and various forms of support. At the same time, interpretation necessarily foregrounds some meanings and relationships over others. The findings should therefore not be understood as representative of all MSM treated for prostate cancer, nor as exhaustive descriptions of sexuality following treatment. They constitute analytically developed interpretations intended to contribute to broader understanding while remaining situated within the empirical, methodological, and theoretical conditions under which they were produced (Malterud, 2001; Tracy, 2010).

10.2 Methodological considerations related to Study I

Study I used interpretive description to explore sexual health and supportive care among MSM following prostate cancer treatment. This methodology was appropriate for examining experiential and relational dimensions of sexual health while retaining an applied orientation toward supportive care (Thorne, 2016). The interviews generated detailed accounts of bodily change, sexual adaptation, healthcare encounters, relationships, and peer support, allowing patterns to be developed across participants while retaining attention to differences in their experiences.

The small sample requires particular consideration. Four men participated, all of whom had undergone radical prostatectomy, so the findings represent a limited range of experiences among MSM treated for prostate cancer. Interpretive description does not aim for statistical representation, and the analytical value of qualitative material cannot be determined by sample size alone (Thorne, 2016). Nevertheless, a larger and more varied sample could have introduced experiences and patterns not represented in the present material. In particular, the study does not provide empirical insight into MSM treated with radiotherapy, hormonal therapy, or other treatment trajectories, and the findings should not be assumed to apply uniformly across these groups.

Recruitment through community-based networks also shaped the material generated. Men who responded to recruitment may have been comparatively

willing to discuss sexuality, same-sex relationships, and healthcare experiences. Those who were less connected to gay or LGBTQ communities, less comfortable discussing sexuality, or experiencing greater stigma or distress may therefore be less represented. The sample also included men with differing relationship circumstances and sexual identities, but this variation should not be taken to represent the heterogeneity of MSM more broadly. As discussed in Section 10.1, MSM functioned as a useful population descriptor without implying a homogeneous sexual identity, set of practices, or experience.

The contextual questionnaire provided additional information about participants' sexual function and sexual health and helped situate the interview accounts in relation to treatment-related bodily changes. However, its use introduces an important methodological limitation. The developmental version of the MSM-specific questionnaire described by Lee et al. (2022) was translated into Swedish for the study without a formal forward-backward translation and cultural adaptation procedure, and the Swedish version was not psychometrically validated. Questionnaire responses were therefore used descriptively and were neither subjected to statistical analysis nor interpreted as standardized outcome measurements. This limited use was consistent with the qualitative purpose of the study, but the questionnaire data should be understood as contextual rather than measurement evidence (Lee et al., 2022; Sandelowski, 2001; Thorne, 2016; Wild et al., 2005).

The study was conducted within a Swedish healthcare and sociocultural context, which shaped the conditions under which sexuality, disclosure, and healthcare encounters were experienced. Possibilities for speaking about same-sex sexuality are influenced by broader cultural, institutional, and historical conditions, and qualitative research concerning sexuality must therefore be interpreted in relation to the contexts in which accounts are produced (Browne & Nash, 2010). Findings concerning disclosure, heteronormativity, and supportive care cannot consequently be assumed to transfer unchanged to healthcare systems or sociocultural contexts in which sexual minority status carries different meanings, risks, or possibilities.

Data collection via Zoom also requires consideration. Videoconferencing was adopted because data collection began during the COVID-19 pandemic and enabled the study to proceed without face-to-face interviewing. It also allowed participation regardless of geographic location and may have given participants greater control over the setting in which sensitive experiences were discussed (Archibald et al., 2019; Irani, 2019; Oliffe et al., 2021). At the same time, digitally mediated interviewing may alter rapport and interactional dynamics and provide less access to certain forms of embodied and nonverbal communication than in-person interviewing. It is not possible to determine whether the same accounts would have been generated in face-to-face encounters.

A further consideration concerns the interpretive character of the analysis. Interpretive description does not treat themes as simply discovered in the data but develops patterns through sustained analytical engagement with participants' accounts and the applied questions informing the inquiry (Thorne, 2016). In Study I, the researcher's familiarity with sexual health and same-sex sexuality supported sensitivity to aspects of the material while also creating the possibility that some meanings would become more readily visible than others. The themes should therefore be understood as interpretive constructions developed through engagement among empirical material, researcher preunderstanding, and analytical dialogue, rather than as categories inherent in participants' accounts (Finlay, 2002). The implications of researcher positionality are considered in greater detail in Section 10.4.

These considerations delimit rather than negate the contribution of Study I. The study provides an in-depth, contextually situated account of how four MSM negotiated sexuality and supportive care following radical prostatectomy and identifies patterns that can be considered in relation to existing research and other care contexts. The findings are therefore better assessed in terms of their analytical and contextual relevance than as estimates of the prevalence or distribution of experiences among MSM following prostate cancer treatment (Malterud, 2001; Thorne, 2016).

10.3 Methodological considerations related to Study II

Study II employed auto-netnography to examine researcher-generated interactions with four GenAI chatbot systems concerning sexual health following prostate cancer treatment. The approach was appropriate for examining digitally mediated interaction as it unfolded and for attending not only to informational content but also to communicative style, responsiveness, inclusivity, and interactional development (Howard, 2020; Kozinets, 2020, 2024). The inclusion of four prominent general-purpose chatbot systems and the use of standardized prompts enabled comparison across platforms while retaining the iterative character of conversational interaction.

The researcher-generated nature of the material is central to interpreting the findings. The interactions do not reflect how patients with prostate cancer use GenAI in everyday life, nor do they provide evidence of patients' experiences with support from chatbots. They represent interactions generated by a researcher using a standardized mock-patient perspective for a specific analytical purpose. The findings should therefore be understood as demonstrating interactional possibilities observed under these conditions rather than typical patterns of patient use, acceptability, benefit, or outcome.

The mock-patient perspective provided consistency across platforms and enabled sexuality-related questions relevant to a gay man following prostate cancer treatment to be posed explicitly. At the same time, a standardized sce-

nario necessarily reduced the complexity and variability of real-world patient circumstances. Sexual concerns following prostate cancer are shaped by treatment, age, relationships, sexual practices, comorbidities, preferences, prior knowledge, and changing concerns over time. Different identities, sexual practices, question formulations, or interactional trajectories could therefore have produced different chatbot responses. The scenario should consequently be understood as an analytical device rather than as a representative account of MSM experience.

A related consideration concerns the co-produced character of the empirical material. Prompt formulation, question sequencing, follow-up decisions, and the researcher's responses shaped the interactional trajectories and the material available for analysis. Chatbot outputs were therefore not independent objects retrieved from the systems, but responses generated within particular researcher-technology interactions (Howard, 2020; Kozinets, 2024). This co-production was methodologically relevant to the auto-netnographic design, but it also means that the findings cannot be separated from the researcher's choices and preunderstanding. Alternative prompting strategies or researcher positions might have generated different interactional patterns. These implications are discussed further in Section 10.4.

Standardization across the four platforms provided a basis for comparison but also introduced a methodological tension. Presenting the same initial prompts supported examination of differences in how the systems responded to comparable concerns, whereas the subsequent follow-up exchanges allowed interactions to develop in response to individual outputs. The resulting material therefore combined standardized comparison with situated interaction rather than constituting a controlled performance test. The four interactional styles identified in the analysis should accordingly be understood as an interpretive heuristic derived from these interaction sequences, not as stable classifications or rankings of the chatbot platforms.

Temporal instability constitutes another important limitation. GenAI systems are continually modified through model updates, changes in platform architecture, safety mechanisms, system instructions, access to external information, and other technical developments. The interactions conducted between February and March 2025 therefore represent a temporally situated snapshot rather than enduring properties of ChatGPT, Claude, Copilot, or Gemini. Repeating the study with current versions of the same systems might produce substantially different responses. This limits reproducibility at the level of specific outputs but does not necessarily negate the analytical relevance of examining how human-AI sexual health communication was configured under the conditions studied (Wynn & Garwood-Cross, 2024).

A further limitation concerns the scope of evaluation. Study II did not systematically evaluate the clinical accuracy, completeness, safety, or effectiveness of the information provided by the chatbot systems. Consequently, findings on

informational specificity, emotional attunement, inclusivity, or digital adjunctive potential should not be interpreted as evidence that the responses were clinically correct or safe for patient use. Interactional quality and clinical accuracy are related but distinct dimensions of chatbot evaluation. The present study addressed the former; determining the latter would require a different design with systematic clinical assessment against appropriate evidence and standards.

This distinction became particularly visible in scholarly correspondence following the publication of Study II, in which clinical accuracy was identified as an additional dimension for evaluating GenAI responses regarding sexual health after prostate cancer (Christiansen et al., 2026; Isler & Bayraktar, 2026). The exchange highlights complementary methodological questions rather than resolving one through the other: interaction-focused inquiry can examine how sexual health concerns are framed, communicated, and made explorable, whereas clinical evaluation is required to determine whether the information provided is accurate, safe, and appropriate. The scope of Study II should therefore be understood in relation to the question it was designed to address rather than as a comprehensive evaluation of GenAI for sexual health support.

Finally, the concept of a digital adjunct requires methodological caution. Study II showed that chatbot interactions could provide an additional context for articulating and exploring sexual health questions, but it did not examine the actual integration of GenAI into patients' care trajectories or demonstrate beneficial clinical outcomes. Digital adjunct should therefore be understood as an interpretation of the supplementary interactional role observed in the study, not as evidence that GenAI should be implemented as an adjunctive clinical intervention. Research involving patients' actual use, clinical accuracy and safety, longitudinal interaction, and relationships between AI-generated information and professional healthcare is required before stronger claims can be made.

Taken together, these considerations position Study II as an exploratory, situated analysis of AI-mediated sexual health communication rather than an evaluation of technological or clinical performance. Its contribution lies in making visible interactional variation and in identifying communicative possibilities and limitations that can inform subsequent research. The findings raise questions about how GenAI may participate in contemporary sexual health information and support, while leaving open questions about patient experience, clinical accuracy, safety, effectiveness, and implementation for further empirical investigation.

10.4 Reflexivity and interpretive positioning

As outlined in Section 4.6, preunderstanding was treated as a condition of interpretation rather than as something that could be fully bracketed or suspended. This position has particular methodological significance in the present thesis

because the researcher brought substantial experiential, professional, and theoretical familiarity with the phenomena under study. Such familiarity provided resources for recognizing nuances, pursuing sensitive issues, and interpreting sexuality within clinical and relational contexts, while also creating the possibility that some meanings would appear more readily than others. Reflexivity therefore required sustained attention not to whether preunderstanding was present, but to how it directed attention and shaped the interpretations that became possible (Berger, 2015; Eriksson & Lindström, 2007; Finlay, 2002; Heidegger, 1927/1962).

In Study I, the researcher's background as a gay man and clinician in sexual health created both proximity to and distance from participants' experiences. Familiarity with sexual health and same-sex sexuality may have facilitated discussions of sexuality, intimacy, and relationships, while professional knowledge provided a vocabulary for addressing treatment-related sexual concerns. At the same time, shared reference points could foster assumptions of similarity and make some meanings appear self-evident. Participants' experiences of sexuality, relationships, aging, illness, and healthcare remained situated and heterogeneous and could not be assumed to align with those of the researcher.

Queer methodological scholarship further complicates any simple positioning of the researcher as either insider or outsider. Shared sexual identity or experience does not establish a stable insider position, because similarity and difference are produced and negotiated across multiple dimensions within the research encounter (Browne & Nash, 2010). The MSM category itself encompassed participants with different sexual identities, relationships, practices, histories, and experiences of prostate cancer. Reflexivity therefore involved questioning apparent familiarity rather than treating shared identity or experience as evidence of shared meaning (Bahner & Lindroth, 2023; Berger, 2015; Browne & Nash, 2010).

In Study II, the researcher's role was more directly constitutive of the empirical material because the interactions were generated through engagement with chatbot systems. Prompt formulation, question sequencing, follow-up decisions, and interpretive attention shaped both the interactional trajectories and the material available for analysis. Chatbot responses were therefore treated not as detached informational outputs but as situated interactions co-produced by the researcher, the technological system, and the interactional context (Howard, 2020; Kozinets, 2024). Professional and experiential familiarity with sexual health and MSM health research influenced what was asked, how follow-up questions were formulated, and what was subsequently recognized as analytically significant. Different prompts, interactional choices, or researcher positions could have generated different material and potentially different interactional patterns.

Theoretical preunderstanding also shaped analytical attention throughout the thesis. The theory of caritative caring, queer epistemology, and Actor-

Network Theory sensitized the interpretation to embodiment, becoming, recognition, normativity, relationality, and sociomaterial conditions. These perspectives made certain relationships within and across the studies analytically visible but inevitably foregrounded some questions and interpretations over others. Alternative theoretical perspectives might have directed attention to different aspects of the same material. The theoretical framework was therefore treated as an interpretive resource rather than a neutral explanatory structure, and the cross-study synthesis should be understood as one theoretically situated interpretation of the relationships among the study findings.

Reflexivity also concerned the relationship between theoretical development and the temporal sequence of the research. The individual studies were conducted and analyzed before the final theoretical integration of the thesis was developed. The cross-study synthesis subsequently brought the study findings into dialogue with the theoretical framework described in Chapter 4. This sequence reduced the risk of presenting the individual study findings as if they had been generated by a predetermined thesis-level framework, while the later synthesis necessarily reflected the theoretical commitments through which relationships among the findings were interpreted.

Memo-writing, iterative analysis, repeated engagement with the empirical material, and supervisory dialogue offered opportunities to revisit emerging interpretations, question assumptions, and consider alternative readings. These practices cannot remove the researcher from the knowledge-production process or establish a single correct interpretation. Rather, they supported critical engagement with the production of interpretations and strengthened transparency in the development of analytical claims (Berger, 2015; Finlay, 2002; Tracy, 2010). Reflexivity was therefore understood not as a means of overcoming subjectivity but as an ongoing examination of the conditions that made particular forms of understanding possible.

10.5 Trustworthiness and analytical rigor

Trustworthiness and analytical rigor were addressed in relation to the interpretive aims and methodological commitments of the thesis. Across the studies, rigor depended on methodological coherence, transparency in developing interpretations, sustained engagement with the material, and critical consideration of alternative readings, rather than on the assumption that interpretation could be separated from the conditions under which knowledge was produced (Thorne, 2016; Tracy, 2010).

In Study I, rigor was supported by repeated engagement with the interview material, comparison within and across participant accounts, iterative development and refinement of codes and themes, and ongoing return to the original material as interpretations developed. Attention was given to both recurring patterns and differences or tensions that complicated emerging interpretations.

Reflexive memo-writing and analytical dialogue within the research team provided opportunities to question initial readings and consider alternative interpretations (Finlay, 2002; Thorne, 2016). The contextual questionnaire data provided an additional source of information about treatment-related sexual changes but, as discussed in Section 10.2, were used descriptively rather than as independently validated measurements.

In Study II, rigor involved both systematic comparison and reflexive attention to the situated production of the material. The same standardized initial prompts were used across the four chatbot systems, providing a common basis for comparison, while follow-up exchanges allowed interactions to develop in response to individual outputs. Analysis involved repeated comparisons across platforms and interaction sequences, with attention to informational specificity, emotional attunement, inclusivity, responsiveness, and communicative framing. Because the material was co-produced through researcher-technology interaction, transparency regarding prompting, follow-up decisions, and interpretive involvement was also central to analytical rigor (Howard, 2020; Kozinets, 2024). The resulting interactional styles were treated as an interpretive heuristic rather than as fixed properties of the chatbot systems.

The cross-study synthesis introduced a further level of interpretation and therefore required its own attention to analytical transparency. The synthesis was conducted after the completion of the individual study analyses and drew on their findings, themes, and analytical interpretations rather than returning to the primary empirical material. Repeated comparisons focused on convergence, complementarity, and differences across the studies, while the thesis's theoretical perspectives were used as interpretive resources rather than as predetermined categories. Making this sequence explicit is important because reconfiguration, recognition, and support should be understood as thesis-level interpretive processes developed through synthesis rather than as themes independently identified in both studies.

The development of QSAM added a subsequent conceptual step. The model was designed to represent relationships identified through the cross-study synthesis and was repeatedly evaluated against the findings and the theoretical framework. Its trustworthiness therefore rests not on independent validation but on the transparency and coherence of the interpretive path from the individual study findings through the cross-study synthesis to the conceptual model. QSAM should accordingly be understood as an analytically grounded and theoretically informed proposition that requires further examination rather than as a validated model.

Across these analytical levels, reflexive memo-writing, supervisory dialogue, and repeated reconsideration of emerging interpretations provided opportunities to identify assumptions, examine tensions, and consider alternative readings. These practices cannot establish a single definitive interpretation, but they strengthen the traceability and coherence of the analytical process (Finlay,

2002; Tracy, 2010). Trustworthiness in the present thesis therefore concerns whether the interpretations are transparently grounded, methodologically coherent, and plausible in relation to the material and theoretical positioning from which they were developed.

10.6 Strengths and limitations of the thesis

A central strength of the thesis is its combination of two methodologically distinct studies addressing complementary dimensions of sexual health following prostate cancer treatment. Interpretive description enabled examination of lived experiences of sexuality and supportive care, while auto-netnography extended the inquiry to an emerging digitally mediated context for sexual health communication. The studies were not designed to replicate or validate one another; rather, their combination enabled examination of sexual health across experiential, relational, clinical, peer-based, and technologically mediated contexts (Howard, 2020; Kozinets, 2020, 2024; Thorne et al., 1997).

A further strength is the focus on MSM, a population historically underrepresented in prostate cancer research and sexual rehabilitation. This focus enabled attention to sexual practices, relationships, and concerns that may be underrepresented in research and clinical frameworks developed primarily around heterosexual populations (Pratt-Chapman et al., 2021; Rosser et al., 2016; Ussher et al., 2016). At the same time, the thesis did not treat MSM as a homogeneous category. The qualitative and interpretive orientation allowed attention to variation in sexual identity, practices, relationships, and meanings, while queer methodological perspectives supported critical consideration of the categories through which sexuality was studied (Browne & Nash, 2010; Ghaziani & Brim, 2019).

The theoretical integration of the theory of caritative caring, queer epistemology, and Actor-Network Theory constitutes another strength. These perspectives enabled the thesis to examine sexuality simultaneously as embodied and relational lived experience and as shaped by normative and sociomaterial conditions. Their integration was not intended to produce a unified meta-theory; the theory of caritative caring retained its role as the primary ontological and ethical foundation, while queer epistemology and Actor-Network Theory provided complementary analytical resources. This positioning enabled the thesis to examine both what sexuality means within lived experience and the conditions under which it becomes intelligible, recognizable, and supportable.

The cross-study synthesis is both a strength and a methodological limitation. Bringing the findings of two different studies into relation enabled the development of the processes of reconfiguration, recognition, and support, and subsequently QSAM. This synthesis generated an analytical understanding that neither study was designed to provide independently. At the same time, the synthesis involved an additional level of interpretation and was developed ret-

rospectively after completion of the individual studies. The relationships represented in QSAM are therefore theoretically informed interpretations grounded in the study findings rather than independently validated empirical relationships. The model should consequently be regarded as a conceptual proposition requiring further theoretical and empirical examination.

Several limitations concern the empirical scope of Study I. The study included four participants, all of whom had undergone radical prostatectomy, and was conducted within a Swedish healthcare and sociocultural context. The material therefore represents a limited range of experiences and cannot capture the heterogeneity of MSM across different prostate cancer treatment trajectories. Recruitment through community-based networks may also have favored participants who were relatively comfortable discussing sexuality or connected to gay or LGBTQ networks. Experiences among men who are less open about their sexuality, less connected to such networks, or differently positioned socially and culturally may therefore be underrepresented. These limitations restrict the empirical scope of the findings, although they do not preclude consideration of their analytical relevance in relation to other research and contexts.

The contextual questionnaire used in Study I also introduces a limitation. Although it provided useful information on treatment-related sexual changes, the Swedish translation had not undergone formal forward-backward translation or psychometric validation. Its responses were therefore used descriptively and cannot be interpreted as standardized measurement outcomes. The questionnaire contributed contextual information to the qualitative interpretation but does not provide independent quantitative evidence.

Study II has a distinct set of limitations. Its empirical material consisted of researcher-generated interactions based on a standardized mock-patient perspective rather than accounts of patients' actual use of GenAI. The findings therefore concern interactional possibilities observed under specific research conditions and cannot establish acceptability, usefulness, effectiveness, or patient experience. The study also did not evaluate clinical accuracy, completeness, or safety, so communicative qualities identified in the interactions should not be interpreted as evidence of clinically appropriate advice.

The rapid development of GenAI further limits the temporal stability of Study II. The systems examined were specific model versions accessed between February and March 2025, and subsequent changes to models, interfaces, system instructions, safety mechanisms, or other platform conditions may produce different interactions. The findings therefore represent a situated technological moment rather than stable characteristics of the four platforms. This temporal limitation is inherent to research involving rapidly evolving technologies and reinforces the importance of interpreting the findings at the level of interactional patterns and methodological insight rather than as enduring evaluations of particular products.

A broader limitation of the thesis concerns the relationship between its theoretical ambition and the relatively circumscribed empirical material on which the synthesis rests. QSAM and the distinction between ontological encompassment and epistemological availability were developed through two studies addressing a specific population and clinical context, with Study I based on a particularly small sample. The theoretical propositions may be relevant beyond MSM following prostate cancer treatment, but the present thesis has not empirically established such relevance. Claims concerning other populations, illnesses, or caring contexts should therefore be regarded as hypotheses for further inquiry rather than as demonstrated transferability.

Finally, the interpretive character of the thesis constitutes both a methodological resource and a limitation. The researcher's professional, experiential, and theoretical familiarity enabled sustained engagement with sexuality, sexual minority health, and caring science, but it also shaped the questions asked, the material generated, and the interpretations developed. Reflexive practices and supervisory dialogue strengthened transparency and provided opportunities to question assumptions, but they cannot eliminate the situated character of interpretation. The thesis therefore offers one theoretically and methodologically grounded interpretation of sexual health, recognition, and support rather than a definitive account of these phenomena.

Taken together, these strengths and limitations delimit the claims that can be made from the thesis. Its principal contribution is an empirically grounded, theoretically integrated interpretation of how sexual health among MSM following prostate cancer treatment is reconfigured, becomes differentially recognizable, and is supported across relational and sociotechnical contexts. The findings and QSAM offer analytical propositions for caring science, sexual health research, and supportive cancer care, but their transferability and conceptual usefulness beyond the contexts studied require further empirical examination.

11 Implications for caring science, clinical practice, and future research

11.1 Implications for caring science

The findings have implications for how sexuality is conceptualized and studied within caring science. Rather than adding sexuality as a separate domain to holistic understandings of the person, caring science may benefit from greater attention to how sexuality becomes explicitly available within caring knowledge and practice. The distinction developed in this thesis between ontological encompassment and epistemological availability suggests that an ethical commitment to the whole person needs to be accompanied by concepts, language, and practices that make sexuality intelligible and open to caring response.

This also directs attention to confirmation within caring relationships. If confirmation involves encountering and affirming the person as a whole, caring science needs to consider the conditions under which dimensions of lived experience become sufficiently recognizable to enter that encounter (Eriksson, 2002, 2018). Sexuality offers a particularly visible example of this problem, but the underlying question may be relevant to other dimensions of human experience that are ontologically encompassed within holistic care yet remain weakly articulated in caring knowledge and practice.

The findings further suggest that caring science needs conceptual resources for examining contemporary contexts in which support extends beyond professional caring. Natural caring, peer and community relationships, and digitally mediated resources may all contribute differently to how people navigate health-related concerns, without constituting equivalent forms of caring. Maintaining distinctions among caring, support, and care-like interaction may enable caring science to engage with increasingly sociotechnical healthcare environments without dispersing the ethical responsibility associated with professional caring (Christiansen & Wettergren, 2026; Eriksson, 2018; Latour, 2005).

QSAM may provide one analytical resource for such inquiry by directing attention to the interrelations among reconfiguration, recognition, and support. Its usefulness within caring science beyond the context of MSM following prostate cancer treatment remains to be examined empirically.

11.2 Implications for clinical practice

Supportive care following prostate cancer treatment should address sexual health beyond erectile function and restoration of penetrative capacity. Biomedical assessment and rehabilitation remain important, but should be accompanied by opportunities to discuss pleasure, intimacy, relationships, changing sexual practices, and what treatment-related changes mean for the

individual patient (Perz et al., 2013; Pratt-Chapman et al., 2021; Reese & Bober, 2026). Such conversations should not presume which practices, relationships, or forms of sexual recovery are relevant on the basis of sexual orientation alone.

Sexual health support should also be revisited over time. Study I indicates that sexual concerns may change as physical recovery progresses and as bodily capacities shift in sexual and relational life. Information provided before or immediately after treatment cannot therefore be assumed to address concerns that emerge later. Opportunities to discuss sexual health should remain available throughout survivorship, with timing guided by the patient's changing needs and priorities. Inclusive practice requires more than asking about sexual orientation or partner gender. Disclosure should create an opportunity for clinically meaningful follow-up rather than function as an endpoint. Healthcare professionals need to ask sufficiently open questions to understand which sexual practices, relationships, bodily changes, and concerns matter to the individual patient, and to allow this information to shape subsequent advice and support (Nagington, 2025; Neenan & Chatzi, 2025; Roman Laporte & De Santis, 2023). This requires LGBTQ competence without assuming that MSM constitute a homogeneous group.

Clinical practice should also recognize that patients may use peer networks, online resources, and GenAI alongside professional healthcare. Rather than treating these resources as either substitutes for professional care or irrelevant to it, healthcare professionals can ask which sources patients use, discuss the information they encounter, and support critical evaluation where appropriate. Professional responsibility for clinically reliable assessment and treatment remains unchanged, while awareness of patients' broader support networks may help connect experiential, digital, and professional forms of knowledge (Christiansen & Wettergren, 2026; Lisy et al., 2018; Wynn & Garwood-Cross, 2024).

11.3 Implications for education

Healthcare education should prepare professionals to address sexual health as part of ordinary caring practice rather than as a specialist concern raised only when patients explicitly request support. This is particularly important given evidence that SRHR content remains unevenly represented across Swedish professional education programs (Areskoug-Josefsson et al., 2019). Nursing and cancer care education should combine knowledge of treatment-related sexual changes with opportunities to develop communication skills for discussing sexuality, pleasure, intimacy, relationships, and changing sexual practices (Laursen et al., 2026; Papadopoulou et al., 2019).

Education concerning sexual and gender minority health is an important component of such preparation, but competence should not be reduced to terminology, identity categories, or assumptions about population-specific prac-

tices. Students and practicing professionals need opportunities to examine how heteronormative assumptions can enter clinical questions, assessment practices, educational materials, and expectations about relationships and sexual recovery. They also need to learn how to inquire about sexual practices and concerns without inferring them from identity labels (Nagington, 2025; Roman Laporte & De Santis, 2023).

Educational approaches should develop the ability not only to initiate but also to sustain conversations about sexuality. Asking about sexual orientation or sexual concerns is of limited value if disclosure is not followed by meaningful engagement. Case-based learning, simulation, and reflective discussion may provide opportunities to practice responding to diverse accounts of sexuality and to consider how sexual health concerns change over the course of illness, treatment, and survivorship.

Digital health literacy is becoming an additional component of sexual health competence. Healthcare professionals are increasingly likely to encounter patients who use online communities, peer networks, and GenAI to seek information or explore concerns before, alongside, or after professional consultation. Education should therefore prepare professionals to discuss such resources critically, including distinctions among informational usefulness, interactional responsiveness, clinical accuracy, and professional responsibility (Christiansen & Wettergren, 2026; Wynn & Garwood-Cross, 2024).

11.4 Implications for future research

Further research is needed to examine sexual recovery as a longitudinal process. The present findings suggest that sexuality is reconfigured over time as bodily changes are encountered within sexual and relational life, but Study I provides retrospective accounts from a small group of men who had undergone radical prostatectomy. Longitudinal qualitative research could examine how sexual practices, meanings, relationships, and supportive care needs change from diagnosis through treatment and into longer-term survivorship. Research involving MSM following radiotherapy, hormonal treatment, and combined treatment trajectories is also needed to examine how different bodily changes shape sexual reconfiguration.

A second area concerns the conditions for recognition within professional care. Research should move beyond documenting whether healthcare professionals discuss sexuality to examine what happens after sexuality is disclosed or raised: which concerns become clinically intelligible, how professionals respond, and how organizational routines, assessment instruments, educational preparation, and professional knowledge enable or constrain subsequent engagement (Nagington, 2025; Neenan & Chatzi, 2025). Observational and interaction-focused studies of actual clinical encounters could complement retrospective accounts from patients and professionals.

A third area concerns distributed and digitally mediated support. Study II examined researcher-generated interactions rather than patients' everyday use of GenAI. Future research should therefore investigate how people affected by prostate cancer use GenAI, online communities, and other digital resources; how they evaluate and integrate information from these sources with peer and professional knowledge; and how these practices influence subsequent healthcare encounters. Clinical accuracy, safety, and potential harms require systematic evaluation alongside interactional qualities such as accessibility, inclusivity, and emotional responsiveness. Longitudinal research may also help determine whether GenAI remains a transient information source or becomes integrated into broader trajectories of supportive care.

The empirical diversity of future research also needs to increase. Studies involving larger, more diverse groups of MSM across treatment modalities, ages, relationship structures, socioeconomic positions, geographic locations, and sociocultural contexts could identify which findings are specific to particular circumstances and which have broader relevance (Pratt-Chapman et al., 2021; Stall et al., 2020). Aging deserves particular attention because sexuality after prostate cancer is negotiated in relation to both treatment-related bodily changes and the circumstances of later life. Among older MSM, these experiences may also intersect with generational histories of HIV/AIDS, evolving LGBTQ rights and visibility, and varying relationships to sexual communities (Christiansen, 2009; Sandberg & Larsdotter, 2022).

Finally, QSAM requires further theoretical and empirical examination. The model was developed through an interpretive synthesis of two studies concerning MSM following prostate cancer treatment and should not be assumed to transfer unchanged to other populations or care contexts. Future research could examine whether reconfiguration, recognition, and support provide useful analytical dimensions in other contexts involving cancer, chronic illness, disability, aging, treatment-related bodily change, or normative constraints on sexuality. Such work should test not only whether the three processes can be identified, but whether their proposed interrelations are analytically useful and whether additional or alternative processes are required.

Future research can thereby move from applying QSAM toward *critically testing, revising, or rejecting aspects of the model*. Such examination is necessary if QSAM is to develop beyond a conceptual proposition grounded in the present thesis.

12 Conclusions

This thesis examined sexual health among MSM following prostate cancer treatment across lived, clinical, relational, and digitally mediated contexts. The findings show that sexual recovery cannot be adequately understood as restoration of sexual function alone. Treatment-related bodily changes were consequential, but living sexually after treatment involved ongoing adaptation of sexual practices, intimacy, relationships, and meanings. The thesis conceptualizes this process as *reconfiguration*, emphasizing that sexual recovery may involve continuing to live sexually under changed conditions rather than returning to a pre-treatment state.

The cross-study synthesis suggests that sexuality is not equally available for engagement across contexts. Within professional healthcare, same-sex sexuality could be acknowledged without participants' sexual practices, relationships, and concerns becoming meaningfully integrated into subsequent supportive care. Peer relationships offered other possibilities for experiential knowledge, validation, and practical guidance, while AI-mediated interactions provided an additional context in which sexual health questions could be articulated and explored. These findings support an understanding of *recognition* as concerning the conditions under which sexuality becomes sufficiently intelligible and articulable to be understood and responded to.

Support for sexual health was similarly not confined to professional healthcare. Participants drew on professional and peer-based resources that provided different forms of knowledge and support, while Study II identified GenAI as a potential digital adjunct for sexual health information and exploration. These resources were neither equivalent nor interchangeable. Professional caring retains particular clinical and ethical responsibilities, while peer, community-based, and digitally mediated contexts may provide additional forms of experiential, informational, or interactional support.

The theoretical contribution of the thesis lies in bringing these findings into dialogue with the theory of caritative caring, queer epistemology, and Actor-Network Theory. Sexuality can be understood as *ontologically encompassed* within a caritative understanding of the person as embodied, relational, and meaning-oriented, while remaining *epistemologically conditioned* in caring practice. An ethical commitment to the whole person does not by itself ensure that sexuality becomes available as something that can be known, articulated, confirmed, and supported. Caring practice also depends on the normative, relational, communicative, and sociomaterial conditions through which sexuality becomes intelligible and actionable.

The cross-study synthesis brought these insights together through the interrelated processes of *reconfiguration*, *recognition*, and *support*, represented in the Queer Supportive Assemblage Model (QSAM). QSAM offers an interpretive conceptual model for examining how sexuality changes under altered bodily

and relational conditions, how these changing forms of sexuality become differentially recognizable, and how support becomes available across relational and sociotechnical contexts. Developed from studies concerning MSM following prostate cancer treatment, the model should be understood as a theoretically informed proposition whose usefulness beyond this context requires further empirical examination.

Taken together, the thesis suggests that responding to sexual health after prostate cancer requires more than restoring function or acknowledging sexual diversity. It requires sustained attention to how sexuality changes, whether those changes can become intelligible within caring encounters, and what forms of knowledge and support become available over time. For caring science, the challenge is therefore not simply to include sexuality within holistic care, but to ensure that what is ontologically encompassed can also become epistemologically available for caring response.

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Original publications

Study I

Christiansen, M., Eriksson, H., & Fagerström, L. (submitted). Supportive care and sexual recovery among men who have sex with men after prostate cancer: An interpretive description study.

Supportive Care And Sexual Recovery Among Men Who Have Sex With Men After Prostate Cancer: An Interpretive Description Study

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Abstract

Purpose

Men who have sex with men (MSM) treated for prostate cancer may experience sexual health concerns insufficiently addressed in standard supportive care. This study explored how MSM experience sexual health after treatment, the support they use, and how supportive cancer care responds to their needs.

Methods

An interpretive description design was used. Semi-structured interviews were conducted with four MSM, aged 62–74 years, who had undergone radical prostatectomy in Sweden.

Participants completed an MSM-specific sexual function questionnaire. Qualitative data were analyzed inductively to identify clinically relevant patterns.

Results

Three themes were identified: (1) Unscripted sexualities—sexual recovery was described as an adaptive process involving renegotiation of practices, intimacy, and meanings beyond penetrative norms; (2) Predominantly heteronormative care—sexual health discussions were limited in scope and rarely tailored to same-sex sexuality; and (3) Peer support as supportive care—informal networks functioned as an extension of care by providing experiential knowledge, emotional support, and practical guidance.

Taken together, these themes illustrate how sexual recovery emerges through the interplay between bodily change, care encounters, and peer-based support.

Conclusions

MSM experience gaps in supportive cancer care related to heteronormative assumptions and limited engagement with diverse sexual lives. Sexual recovery was an adaptive, relational process shaped by the interplay between bodily change, care encounters, and peer-based support. Supportive care attentive to lived experience, knowledgeable about same-sex sexuality, and open to peer-informed resources may better support sexual well-being among sexual minority prostate cancer survivors.

Keywords: Prostate cancer; Men who have sex with men; Sexual health; Supportive cancer care; Qualitative research

Introduction

Prostate cancer is the most common cancer among men worldwide, and its treatment is often associated with long-term effects on sexual function, intimacy, and self-image [1, 2]. Side effects such as erectile dysfunction, urinary incontinence, and changes in orgasm are well documented and may persist long after treatment. These changes often substantially affect quality of life and are therefore central concerns in supportive cancer care.

For men who have sex with men (MSM), sexual recovery after prostate cancer treatment occurs at the intersection of bodily change, sexual identity, and social context. Sexual practices, meanings of intimacy, and relationship structures may differ from those implicitly assumed in standard prostate cancer rehabilitation, which has historically been structured around heterosexual partnerships and penetrative vaginal intercourse. As a result, MSM have been described as underserved in prostate cancer care [3].

Previous research indicates that men who have sex with men may encounter heteronormative assumptions in healthcare settings, including limited provider knowledge of same-sex sexual practices and restricted engagement with diverse sexual concerns [3]. Although questions about sexual orientation are increasingly included in clinical intake procedures, disclosure alone does not ensure that care is relevant or supportive. When healthcare professionals lack applied knowledge or confidence in discussing same-sex sexuality, opportunities for meaningful sexual health support may be missed.

At the same time, studies suggest that men who have sex with men often engage in active adaptation after treatment, redefining sexual practices, pleasure, and intimacy in response to bodily changes [3-6]. These processes may include experimentation, renegotiation of sexual roles, and reliance on peer networks for practical advice and emotional support. However, this adaptive work is rarely foregrounded in supportive care research and seldom integrated into clinical rehabilitation models.

In this context, informal peer networks have been described as important sources of experiential knowledge and emotional support, particularly when formal care is perceived as insufficient or lacking relevance to same-sex sexuality [3].

Supportive cancer care aims to address the physical, emotional, social, and sexual consequences of cancer and its treatment. To fulfill this mandate for sexual minority patients, care must move beyond neutral inclusion toward practices that recognize diverse sexual lives and forms of intimacy as legitimate aspects of health. Qualitative research grounded in patients' lived experiences can generate clinically relevant insights into how supportive care may be better aligned with the needs of MSM after prostate cancer treatment. Understanding how sexual recovery is experienced and supported in care encounters is therefore essential for the development of inclusive and person-centered supportive cancer care.

However, existing research has primarily focused on either functional outcomes or specific aspects of sexual adjustment, with limited attention to how sexual adaptation, care encounters, and support-seeking processes intersect in shaping sexual recovery.

The aim of this study was to explore how men who have sex with men experience sexual health and supportive care after prostate cancer treatment, including how they describe changes in sexuality, the support they access, and the care they receive.

Theoretical framework

This study was informed by sexual script theory, queer scholarship, and Nordic caring science as sensitizing frameworks rather than prescriptive analytic models. Together, these perspectives were used to interpret participants' narratives and illuminate how sexual norms, expectations, identities, and care practices shape experiences of illness, recovery, and supportive care.

Sexual script theory

Sexual script theory conceptualizes sexuality as socially learned and culturally structured, emphasizing how individuals draw on interpersonal, cultural, and intrapsychic scripts to make sense of sexual experiences [7-9]. In the context of prostate cancer, dominant sexual scripts often privilege penetrative sex, erectile performance, and ejaculation as markers of sexual function and masculinity. When bodily changes disrupt these scripts, individuals may experience loss or uncertainty, yet may also adapt and renegotiate sexual meanings and practices over time.

Queer perspectives on sexuality and care

Queer scholarship highlights how normative assumptions about sexuality and relationships are embedded in social institutions, including healthcare, shaping which practices, identities, and concerns are oriented toward recognition and support [10]. From this perspective, heteronormativity is understood not primarily as individual prejudice but as a structural condition within care that influences what is discussed, recognized, and supported in clinical encounters. For men who have sex with men, this may result in supportive care that is formally inclusive, yet practically limited, as non-normative sexual practices and relational forms remain marginal within institutional frameworks of normality [11].

A Nordic caring science perspective

In addition, the study draws on a Nordic caring science perspective, in which care is understood as a moral and relational practice aimed at safeguarding human dignity and alleviating suffering [12]. From this perspective, sexual health support is considered an integral part of care, involving attentiveness to the person as a whole and responsiveness to lived experience. When sexual health needs, identities, or concerns are left unacknowledged in care encounters, this may be understood not only as a lack of information or intervention,

but as a form of care-related suffering linked to the absence of individualized and affirming care.

From a caring science perspective, patients' needs may be understood not only as problems to be addressed but also as expressions of deeper existential dimensions, including needs, problems, and desires [13, 14]. In this sense, sexual health may be understood not merely as a functional domain, but as an expression of a fundamental human desire for intimacy, meaning, and connection within lived experience.

Integrating the frameworks

Rather than framing deviations from normative sexual function as failure, these combined perspectives support an understanding of post-treatment sexuality as dynamic, relational, and situated within care contexts. Alternative forms of intimacy, pleasure, and connection may emerge over time and constitute meaningful aspects of sexual well-being. In this study, sexual script theory and queer perspectives guided the analytic attention to processes of meaning-making and adaptation related to sexuality, while Nordic caring science provided a lens for interpreting how care encounters shaped experiences of dignity, recognition, and access to tailored support in supportive care practice. Together, these frameworks offer complementary lenses, with sexual script theory and queer perspectives informing the understanding of sexuality and meaning-making, and caring science guiding the interpretation of care encounters, dignity, and support.

Methods

Design

This qualitative study used an interpretive description approach to generate clinically relevant knowledge grounded in participants' experiential accounts. Interpretive description is well suited to applied health research because it emphasizes patterns and insights that inform clinical understanding without abstracting findings from practice contexts [15, 16]. The approach was chosen to produce practice-relevant knowledge that could inform supportive care for sexual minority prostate cancer survivors.

The study is reported in accordance with the Standards for Reporting Qualitative Research (SRQR) guidelines.

Researcher positionality

The first author identifies as a gay man and is a registered nurse with advanced training in sexology and extensive clinical and academic experience in men's sexual health. This positionality facilitated rapport and sensitivity in discussions of sexuality while also requiring reflexive attention to potential assumptions. The co-authors served as project supervisors; HE has expertise in qualitative research, and LF has expertise in analytic and interpretive methods. Reflexivity was supported through reflective journaling, regular supervisory discussions, and ongoing analytic dialogue among the authors.

Participants and recruitment

Inclusion criteria were men who have sex with men, completion of prostate cancer treatment at least six months before participation, and the ability to provide informed consent and participate in an interview conducted in Swedish. Participants were recruited through community-based networks.

Four MSM, aged 62–74 years, participated. All had undergone radical prostatectomy between 2010 and 2019 and were at least one year post-treatment at the time of the interview. Three participants identified as gay, and one as bisexual. Relationship statuses varied, including single, monogamous, and open relationships.

In interpretive description, sample size is guided by informational power rather than numerical saturation. The participants were information-rich and provided sufficient depth to identify clinically relevant patterns across cases. Informational power was supported by variation in participants' age, relationship status, and sexual contexts, enabling comparison across different post-treatment experiences.

Data collection

Data were collected from October 2021 to January 2023. Participants completed an MSM-specific sexual function questionnaire [17] prior to the interviews. The instrument was developed to assess sexual functioning and sexual quality of life among men who have sex with men after prostate cancer, including domains such as erectile function, orgasm, sexual satisfaction, and engagement in sexual activity. In this study, the questionnaire was used descriptively to provide contextual information on participants' sexual function and to support interpretation of the interview data, rather than for statistical analysis.

Semi-structured interviews were conducted to explore participants' experiences of sexual health, sexual changes after treatment, supportive care received, and unmet needs. An interview guide was used to ensure coverage of key topics while allowing participants to elaborate on issues of personal relevance. Example questions included: "How has your sexuality changed after prostate cancer treatment?", "How have these changes affected your sexual practices and relationships?", "What kind of support have you received from healthcare regarding sexual health?", and "What support have you found outside healthcare?". Follow-up questions were used to explore participants' experiences in depth.

Interviews were conducted via Zoom, which has been shown to be a feasible and acceptable mode for qualitative data collection, facilitating access and participant comfort [18, 19]. Interviews were audio-recorded and transcribed verbatim.

Data analysis

The analysis followed the principles of interpretive description [15, 16] and involved iterative processes of immersion, coding, comparison, and interpretive synthesis. Consistent with interpretive description, the analytic process focused on identifying patterns and relationships that could inform clinical understanding rather than generating formal theory. Questionnaire data were used descriptively to contextualize interview narratives.

Initial coding focused on participants' descriptions of sexual change, care encounters, and support-seeking. Codes were compared within and across cases to identify patterns and points of divergence. Through iterative analytic discussions among the authors, codes were grouped into higher-order categories that captured clinically relevant processes rather than descriptive topics. These categories were further refined into themes through constant comparison with the original data, ensuring that interpretations remained grounded in participants' accounts.

Analytic rigor was supported through reflexive memo-writing, repeated team discussions of emerging interpretations, and systematic return to the data to examine alternative explanations. Analytic attention was directed toward explaining patterns and processes relevant to supportive care rather than producing exhaustive thematic description.

Ethical considerations

Ethical approval was obtained from the Swedish Ethical Review Authority (Dnr. 2021-03722). Written informed consent was obtained from all participants.

Results

Participant profiles

To provide contextual grounding for the findings, brief profiles of the four participants are presented below. All names are pseudonyms.

Anders (early 60s) identified as gay and lived alone. He had undergone radical prostatectomy several years before participating and described himself as sexually active, though in ways that differed from his pre-treatment experiences. Anders emphasized experimentation and described sexual recovery as an ongoing process of learning and emotional adjustment.

Lars (mid-60s) identified as bisexual and was in a long-term monogamous relationship with a male partner. He described prostate cancer as disruptive yet as prompting changes toward more communicative and less performance-oriented sexual encounters within the relationship.

Johan (early 70s) identified as gay and was single at the time of the interview. He emphasized autonomy and self-reliance, describing how he sought information and support primarily from peers rather than from healthcare services. Sexual recovery was framed as a personal responsibility rather than a clinical process.

Mikael (mid-70s) identified as gay and was in an open relationship. He described extensive involvement in gay social networks and emphasized shared experience, humor, and openness as central to navigating sexual changes after treatment.

Across participants, erectile dysfunction and urinary leakage were commonly reported following treatment. However, none described themselves as sexually inactive. Instead, all

participants described processes of redefining sexuality, intimacy, and pleasure after prostate cancer treatment.

Contextual background data

Across participants, responses indicated persistent erectile difficulties and reduced ejaculatory function after treatment, along with variability in desire, satisfaction, and engagement in sexual activity. These patterns provided a contextual backdrop for the interview findings and aligned with participants' descriptions of adapting sexual practices and expectations after treatment.

Thematic results

Three main themes were identified: Unscripted sexualities, Predominantly heteronormative care, and Peer support as supportive care.

Unscripted sexualities: navigating loss, adaptation, and possibility

Participants described post-treatment sexuality as marked by an initial sense of loss, followed by gradual adaptation. Erectile dysfunction and urinary leakage were often described as confronting, particularly regarding sexual confidence and expectations of sexual performance.

"At first, I felt broken—like something essential was missing."

Early sexual encounters after treatment were described as uncertain and, at times, anxiety-provoking. Several participants expressed concern about bodily unpredictability, particularly in situations with new or casual partners.

"You don't really know what your body will do anymore, and that creates a lot of insecurity."

Over time, participants described a shift away from penetration-centered understandings of sex. Sexual pleasure and intimacy were increasingly linked to touch, closeness, and communication rather than erectile performance.

"I used to believe sex had to end with penetration. Now it's more about communication and play. There's less pressure, more honesty."

Participants described actively experimenting with alternative sexual practices, including oral sex, mutual stimulation, and tactile intimacy. For some, adapting sexual practices also included practical strategies for managing symptoms such as urinary leakage.

"I'm leaking urine, which is bothersome, but I've always preferred oral sex, so it's not really an issue in those situations."

Discovering that orgasm was still possible despite the absence of ejaculation was described as a significant turning point. Several participants described orgasms as intense or different rather than diminished, which contributed to renewed confidence and agency.

"When I realized I could still have an orgasm, it changed everything. I wasn't finished as a sexual person."

Adaptation was not described as effortless. Participants reported the need to let go of established sexual habits and expectations, which required emotional work and, at times, frustration. Nevertheless, these processes were also associated with curiosity and, for some, increased sexual satisfaction compared with pre-treatment experiences.

Predominantly heteronormative care: inclusion without tailored support

Participants generally appreciated being asked about relationship status or partner gender during healthcare encounters. However, disclosure of same-sex sexuality rarely led to sustained or meaningful discussions about sexual health in care encounters.

"They asked if my partner was a man or a woman. I said 'a man,' and then there was silence."

Sexual health discussions in healthcare settings were typically limited to erectile function and pharmaceutical treatments. Participants reported receiving prescriptions for erectile dysfunction medication without any accompanying dialogue about intimacy, pleasure, or sexual practices relevant to their lives.

"I got a prescription for Viagra—'to make the Mrs. happy.'"

Information provided before surgery was described as technical and focused primarily on physical outcomes. Although some participants found preoperative group sessions helpful in preparing them for possible side effects, emotional and relational aspects of sexuality were largely absent.

Follow-up care after treatment focused primarily on biomedical indicators, such as prostate-specific antigen levels, and practical issues, such as incontinence aids. Sexual health concerns were not proactively revisited once acute recovery had ended.

Several participants emphasized that sexual counseling would have been more relevant later in the recovery trajectory, when physical healing had stabilized and questions about desire, intimacy, and sexual identity were more salient.

"In the beginning you're just trying to recover. It's later that the questions about sex really start."

Participants did not primarily describe overt discrimination but rather a lack of competence, confidence, or follow-through in addressing same-sex sexuality in supportive care.

Peer support as supportive care: mobilizing lived experience

In the absence of tailored professional support within formal supportive care, peer networks emerged as a central source of sexual health information and emotional reassurance. Participants reported learning about coping strategies, sexual aids, and

practical adaptations through conversations with other gay men who had undergone similar treatments.

"The best advice came from a friend who had the same surgery."

Peer discussions provided concrete guidance on injection therapy, lubrication, positioning, and managing side effects during sexual activity. Participants described how this knowledge enabled them to actively request specific treatments or referrals from healthcare providers.

"I only knew what to ask for because someone else had already gone through it."

Beyond practical advice, peer support provided normalization and emotional validation. Being able to share experiences openly, often with humor, reduced feelings of isolation and shame.

"Talking to others who understand makes it easier. You can laugh about things that could otherwise feel depressing."

Peer interactions took place in informal settings, including social venues and online communities, and were described as spaces where sexuality after cancer could be discussed openly and without embarrassment. These peer networks functioned as informal yet meaningful sources of supportive care when professional care was perceived as insufficient.

Conceptual synthesis of adaptive sexual recovery and supportive care

The three themes describe interrelated processes of sexual adaptation, care encounters, and support-seeking. To synthesize these relationships at a higher level of abstraction, an interpretive conceptual model was developed (Figure 1).

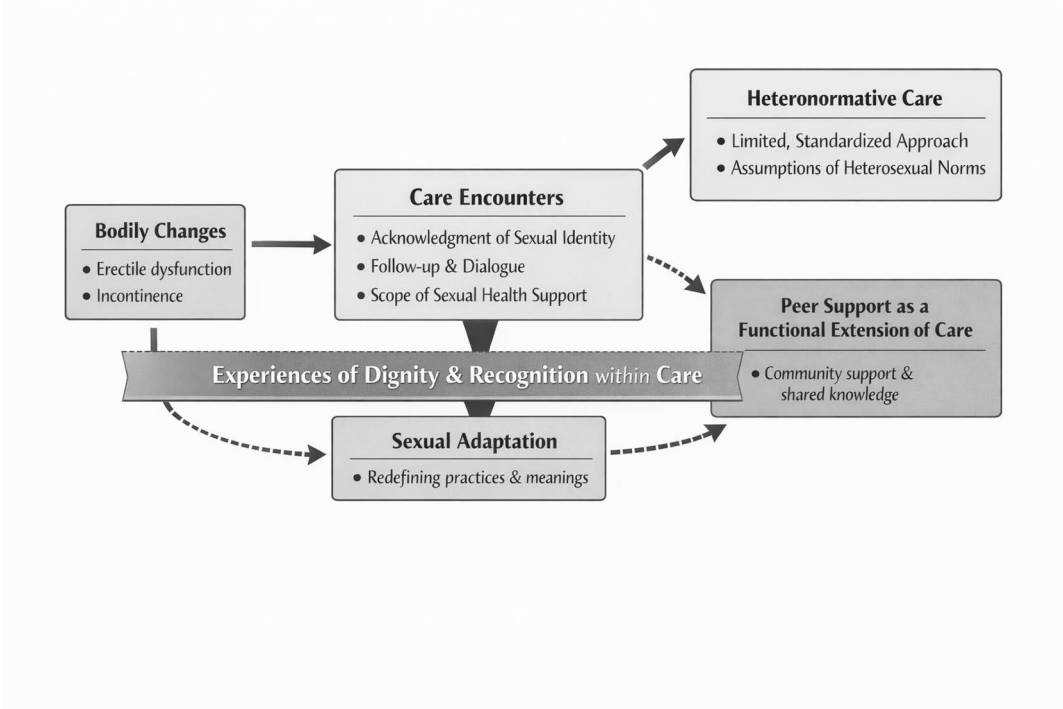

Figure 1 presents an analytic synthesis of the findings, illustrating how prostate cancer treatment–related bodily changes disrupt dominant sexual scripts, prompting processes of adaptive sexual recovery. This recovery unfolds through the renegotiation of sexual practices, intimacy, and meanings, as described in the theme Unscripted sexualities.

At the same time, encounters with supportive care shape how these processes are recognized and supported. As reflected in the theme Predominantly heteronormative care, limited engagement with same-sex sexuality constrains the scope of professional support and contributes to unmet needs related to intimacy, pleasure, and identity.

In this context, as described in Peer support as supportive care, peer-based resources function as an alternative and complementary source of support, providing experiential knowledge, emotional validation, and practical guidance that enable individuals to navigate sexual recovery and, in some cases, to more effectively engage with healthcare.

Together, these processes illustrate how sexual recovery is not solely an individual or biomedical process but emerges relationally through the interplay between bodily change, care encounters, and access to relevant forms of support.

Discussion

This study provides an interpretive account of sexual recovery among men who have sex with men after prostate cancer treatment, conceptualized as an adaptive and relational process shaped by bodily change, care encounters, and access to support. As synthesized in

Figure 1, these processes are not independent but dynamically interconnected, highlighting how sexual recovery unfolds through the interplay between disrupted sexual scripts, limited responsiveness in supportive care, and the mobilization of peer-based resources. These findings extend previous research and respond to the limited integration of these dimensions in previous research on sexual consequences and adaptation after prostate cancer among men who have sex with men [3, 5], as well as broader work highlighting the renegotiation of sexuality and intimacy following cancer [4].

Sexual recovery as adaptation rather than restoration

The findings extend existing research by emphasizing sexual recovery as an ongoing process of adaptation rather than a return to pre-treatment function. While prior studies have documented changes in sexual practices after prostate cancer, this study highlights how such changes involve an active renegotiation of meaning, intimacy, and relational engagement [4, 6]

Interpreted through sexual script theory, these findings illustrate how dominant scripts centered on penetration and erectile performance are not only disrupted but reworked, allowing alternative forms of sexual expression to emerge as meaningful rather than compensatory [7-9]. This reframing is clinically significant, as it challenges rehabilitation models that implicitly equate recovery with functional restoration.

From a caring science perspective, the findings further suggest that sexual well-being cannot be reduced to physiological outcomes but must be understood in relation to patients' existential dimensions of desire, connection, and recognition [12-14]. When these dimensions remain unaddressed, the gap in care may be experienced not only as unmet needs but as a form of suffering linked to lack of acknowledgment.

Heteronormativity as a clinical limitation in supportive care

The findings indicate that limitations in supportive care were less a matter of overt exclusion and more a function of restricted clinical engagement with sexual diversity. Consistent with previous research, heteronormativity in healthcare may operate through assumptions and limited engagement with sexual diversity rather than through explicit discrimination [20, 21].

This distinction has important clinical implications. The issue is not primarily willingness to be inclusive but the absence of applied knowledge and communicative competence in addressing same-sex sexuality. As a result, disclosure of sexual orientation does not translate into tailored care, despite increasing recognition of men who have sex with men as an underserved group in prostate cancer care [3].

The temporal mismatch identified in the findings further complicates this limitation. Sexual concerns became more salient later in the recovery trajectory, at a point when follow-up care was no longer oriented toward sexual health. This suggests a structural gap in supportive care, where timing, content, and relevance of interventions are insufficiently aligned with patients' lived experiences.

Peer support as a functional extension of supportive care

The findings also highlight the role of peer support as a functional extension of supportive care. Previous research suggests that men who have sex with men may engage with community-based and experiential sources of knowledge following prostate cancer treatment [3, 5]. This study further demonstrates how experiential knowledge operates as a form of practical competence that enables individuals to navigate sexual recovery and engage more effectively with healthcare.

Rather than positioning peer support as supplementary, the findings suggest that it compensates for identifiable gaps in professional care. This reframing has implications for how supportive cancer services are conceptualized, pointing toward the value of integrating or acknowledging peer-based resources as part of a broader care ecology.

Clinical and conceptual implications

Taken together, the findings call for a reconceptualization of sexual health support in prostate cancer care that moves beyond a narrow focus on function toward a more relational and experience-oriented approach.

Clinically, this includes recognizing diverse sexual practices and identities as legitimate starting points for care, addressing sexual health as an ongoing concern rather than a time-limited issue, and developing greater competence in discussing same-sex sexuality.

Conceptually, the study contributes a model that situates sexual recovery within the interplay of bodily change, care structures, and social resources, thereby extending existing frameworks of supportive care [2]) to more fully account for sexual minority experiences.

Methodological considerations

Several methodological considerations should be noted when interpreting the findings. First, the study included a small, information-rich sample, all of whom were recruited through community-based networks. Although the sample was information-rich and provided sufficient depth to identify clinically relevant patterns, the findings are not intended for statistical generalization. Instead, the study offers interpretive insights that may inform understanding and practice in similar clinical contexts.

Second, all participants had undergone radical prostatectomy and were interviewed at least one year after treatment. Experiences of sexual recovery and supportive care may differ among individuals receiving other treatment modalities or at different stages of recovery. Longitudinal research could further illuminate how sexual adaptation and care needs evolve over time.

The first author's positionality as a gay man and nurse with expertise in sexual health may have facilitated openness in interviews and nuanced interpretation of the data. At the same time, reflexive practices, including analytic memo-writing and team-based discussion, were used to critically examine assumptions and strengthen analytic rigor.

Finally, the use of contextual questionnaire data was intended to support interpretation rather than to provide quantitative measurement. These data served as a descriptive backdrop for the qualitative findings and should be interpreted accordingly.

Conclusions

This study highlights how men who have sex with men experience sexual recovery after prostate cancer treatment as an adaptive, relational process rather than a return to pre-treatment sexual function. Participants actively renegotiated sexual practices, intimacy, and meanings in response to bodily changes, often moving beyond penetration-centered norms to sustain sexual well-being.

At the same time, supportive care was perceived as limited and insufficiently responsive to same-sex sexuality. Sexual health discussions in clinical encounters were often narrow in scope and rarely tailored to participants' lived sexual contexts, leaving needs related to intimacy, pleasure, and identity unmet. In this context, peer-based support emerged as a meaningful and functional extension of supportive care, providing experiential knowledge, emotional validation, and practical guidance.

Taken together, the findings underscore the importance of supportive cancer care that recognizes diverse sexual lives and integrates attention to sexuality as part of holistic care. Care practices that are attentive to lived experience, inclusive of same-sex sexuality, and open to peer-informed resources may better support sexual well-being among sexual minority prostate cancer survivors.

Statements & Declarations

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Conflicts of interests

The authors declare no conflicts of interest.

Ethics approval and consent to participate

Ethical approval for this study was granted by the Swedish Ethical Review Authority (Dnr. 2021-03722). All participants signed written informed consent before taking part.

Consent for publication

Not applicable

Availability of data and materials

The data that support the findings of this study are not openly available due to the sensitive nature of the topic, but are available from the corresponding author upon reasonable request. Data are stored in controlled-access data storage at Uppsala University.

Author Contributions

MC conceived and designed the study, conducted the interviews, performed the data analysis, and drafted the manuscript. HE and LF contributed to the study design, provided methodological and analytic guidance, and critically revised the manuscript for important intellectual content. All authors approved the final version of the manuscript.

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Study II

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Original Paper

Generative AI Chatbots as Digital Adjuncts for Sexual Health Information After Prostate Cancer in Men Who Have Sex With Men: Auto-Netnographic Study

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Abstract

Background: Sexual health concerns following prostate cancer treatment are common yet often insufficiently addressed in clinical practice, particularly among men who have sex with men. These individuals may face additional barriers stemming from heteronormative assumptions, limited disclosure, and a lack of culturally tailored information. As generative artificial intelligence (GenAI) chatbots become increasingly accessible, patients are using these systems to seek sensitive health information outside traditional care settings. While prior research has focused on the accuracy and safety of chatbot-generated health advice, less attention has been paid to how responses are framed and experienced in sexual minority contexts.

Objective: This study aimed to describe and compare how 4 GenAI chatbots respond to questions about sexual health following prostate cancer treatment, with a focus on the needs of a gay man, and to interpret these responses using netnographic and actor-network theory perspectives.

Methods: A qualitative exploratory study using auto-netnography was conducted. In February–March 2025, the first author interacted once with 4 widely used GenAI chatbots—ChatGPT (GPT-4o; Open AI), Claude (3.5 Sonnet; Anthropic), Copilot (GPT-4 Turbo; Microsoft), and Gemini (2.0 Flash; Google)—while assuming the role of a simulated "mock patient." Two standardized prompts were used verbatim across all platforms: an initial prompt addressing sexual health concerns after prostate cancer treatment and a supplementary prompt focusing on sexual minority–specific issues, including same-sex practices. Chatbot outputs were treated as system-generated data and analyzed qualitatively, integrating system-generated text with reflexive experiential engagement and attention to interactional framing, emotional attunement, specificity, and performative features. The analysis did not assess clinical effectiveness, safety, or generalizability.

Results: Across platforms, chatbot responses addressed treatment-related sexual health concerns using generally inclusive language, with variation in emotional tone, specificity, and cultural sensitivity. Interactional features included the scope and framing of clinical information, encouragement of dialogue, self-care advice, and explicit discussion of same-sex sexual practices. No obvious fabricated claims were identified; however, contextual inaccuracies were observed. Responses were mapped along 2 intersecting continua—logical-to-empathetic orientation and general-to-specific framing—yielding 4 interactional styles: structured overview, rational clarity, compassionate perspective, and compassionate precision. This 4-quadrant framework served as an interpretive heuristic and does not constitute an evaluation of quality or effectiveness.

Conclusions: The findings indicate that contemporary GenAI chatbots, when used as digital adjuncts, may enact communication styles that can be perceived as supportive, culturally sensitive, and LGBTQI+ (lesbian, gay, bisexual, transgender, queer, and intersex)-inclusive in specific sexual health interactions. Although these systems lack ethical consciousness and cannot

replace professional care, their performative responses may complement clinical practice by facilitating reflection and access to sensitive information. The study highlights how care-like meanings may emerge through sociomaterial interactions between users and artificial intelligence systems rather than demonstrating generalized performance or clinical reliability.

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Keywords: artificial intelligence; auto-netnography; generative AI chatbots; netnography; prostate cancer; sexual minority men

Introduction

Sexual health concerns following prostate cancer treatment are common yet often insufficiently addressed in clinical practice, particularly among men who have sex with men. Sexual minority patients may face additional challenges stemming from heteronormative assumptions, limited disclosure to health care providers, and a lack of culturally tailored information and support [1-5]. As a result, men who have sex with men treated for prostate cancer may experience unmet informational and psychosocial needs related to intimacy, sexual practices, and identity-specific concerns.

Digital technologies have become increasingly prominent sources of health information, supplementing traditional clinical encounters. Alongside websites, forums, and telehealth services, generative artificial intelligence (GenAI) chatbots are now widely accessible to patients seeking health-related guidance. These conversational systems can generate responsive, personalized text and simulate dialogic engagement, making them particularly attractive for sensitive topics, such as sexual health. At the same time, concerns have been raised about the accuracy, bias, and reliability of chatbot-generated health information in both clinical and lay contexts [6-10].

Most existing research on GenAI in health contexts has focused on evaluating the correctness, safety, and technical performance of chatbot-generated outputs, often through expert benchmarking or comparison with established clinical guidelines [9,10]. While such studies are essential, they offer limited insight into how health-related responses are framed, enacted, and experienced in interaction, particularly in sensitive, identity-linked domains, such as sexual health. Less is known about how GenAI chatbots address sexuality, intimacy, and same-sex practices after prostate cancer treatment, or how interactional styles may vary across platforms when responding to identical prompts.

Qualitative and nursing-oriented research has emphasized that health communication involves not only the accuracy of information but also interactional framing, emotional attunement, and relational context [11-13]. From sociomaterial and actor–network perspectives, digital technologies can be understood as nonhuman actors that participate in enacting meanings and practices through interaction rather than merely transmitting information [14-17]. This perspective foregrounds how health-related meanings emerge relationally through specific configurations of users, technologies, and contexts.

In nursing science, particularly within the Nordic caritative caring tradition, caring is understood as an ethical and relational practice grounded in responsibility, dignity, and communion rather than solely in information provision or technical support [18,19]. This distinction offers an important reference point for interpreting artificial intelligence (AI)–mediated interactions that may resemble caring communication yet do not constitute care in a caritative sense. Building on this tradition, Andtfolk [20] has examined the possibilities and limitations of care technologies, emphasizing that digital and robotic systems may simulate aspects of caring interaction without ethical responsibility, consciousness, or the capacity for genuine caring communion.

Rather than evaluating whether GenAI chatbots provide accurate or safe medical advice, this study examines how responses from GenAI chatbots are framed, enacted, and experienced in a situated sexual health interaction with a gay man after prostate cancer treatment. By adopting an auto-netnographic approach, the study attends to both system-generated text and the researcher's reflexive, experiential engagement with the interaction [13,21]. This approach enables exploration of interactional features, such as emotional attunement, specificity, and inclusivity without making claims about clinical effectiveness or generalizability.

The aim of this study was to describe and compare how 4 GenAI chatbots respond to questions about sexual health following prostate cancer treatment, with a focus on the needs of a gay man, and to interpret these responses using netnographic and actor–network theory perspectives.

Methods

Study Design

This study used an auto-netnographic qualitative design to explore situated interactions with GenAI chatbots [15,17,21]. Auto-netnography was chosen to enable reflexive engagement with chatbot responses and to examine how interactional framing, tone, and performativity are enacted in a specific health-related inquiry. The study followed the iterative netnographic process described by Kozinets, including initiation, immersion and interaction, analytic integration, and reflexive interpretation [17]. The study was not designed to evaluate clinical effectiveness, safety, or generalizable performance of chatbots, but rather to explore how responses are produced and experienced in a particular interactional context.

This study was reported in accordance with Standards for reporting qualitative research (SRQR) and the Chatbot Health Advice Reporting Tool (CHART) reporting guideline [22,23].

Chatbot Selection and Study Context

Four widely used GenAI chatbots were included: ChatGPT (GPT-4o, free version; Open AI), Claude (Claude 3.5 Sonnet, free version; Anthropic), Copilot (GPT-4 Turbo, enterprise subscription; Microsoft), and Google Gemini (2.0 Flash, free version). These chatbots were selected for their public availability and relevance to contemporary health information-seeking. All interactions were conducted via the chatbots' web interfaces between February and March 2025, and no technical limitations were encountered during data collection.

Interactions were carried out using a simulated "mock patient" persona enacted by the first author, drawing on his lived and professional experience as a gay man and a specialist nurse. This methodological approach was used to elicit relevant chatbot responses and does not constitute data from a real patient. Accordingly, chatbot outputs were treated as system-generated data rather than human participant data.

Prompting and Interaction Procedure

Data collection began with a standardized initial prompt presented verbatim to all 4 chatbots (Textbox 1). The prompt described a gay man in his early fifties, recently diagnosed with prostate cancer, seeking information on how different treatment options might affect sexual health, including concerns about erections, orgasm, intimacy, and sex with a male partner.

Textbox 1. Standardized initial prompt.

I'm a 53-year-old gay man, and I've been diagnosed with prostate cancer. Will be treated with either radiotherapy or surgery, both would likely include hormonal therapy as well. I'm concerned about my sex life after treatment. Can you help me think this through?

Following the initial prompt, each chatbot generated a response and, in some cases, asked brief clarification questions (eg, about specific concerns or preferences). Follow-up replies were limited to brief clarifications (eg, one-sentence responses) and did not introduce new topics beyond the prompts. These follow-up exchanges were neither standardized nor the primary focus of the analysis.

After the initial interaction, a second standardized supplementary prompt was presented verbatim across all platforms (Textbox 2). This prompt explicitly addressed sexual minority–specific considerations, including anal sex, insertive and receptive roles, partner communication, and whether health care providers typically address these topics.

Textbox 2. Standardized supplementary prompt

Are there any specific things I need to consider as a gay man regarding my sex life after treatment for prostate cancer?

The standardized prompts used across all 4 chatbots are presented verbatim.

No modifications were made to the wording of either prompt across platforms. All interactions occurred in a single session per chatbot. Chatbot responses to both standardized prompts were captured verbatim and transferred to a spreadsheet for analysis. No responses were edited, filtered, or corrected prior to analysis. The analytic focus was on how responses were framed, enacted, and performed in this specific interactional context, rather than on response stability, reproducibility, or clinical correctness.

Positionality and Reflexivity

The first author identifies as a gay man and is a specialist nurse with longstanding clinical and research experience in sexual health and prostate cancer. The coauthors served as project supervisors; HE has expertise in netnographic and qualitative research, and LF has expertise in analytic and interpretive methods. This positionality informed the selection of prompts and the analytic focus. Reflexive field notes were recorded during and after interactions, capturing immediate impressions and evolving interpretations. Preliminary analyses were discussed among all authors to support reflexivity and analytic transparency.

Analytic Approach

The analysis was qualitative and interpretive. Consistent with auto-netnographic methodology, the first author's experiential engagement with the interaction was integral to the analytic material [21]. Rather than using a formal, predefined thematic coding framework or quantification, the analysis focused on how responses from GenAI chatbots were framed, how emotional attunement and specificity were enacted, and how interactional styles varied across platforms. The analysis was informed by netnographic principles and actor–network theory, emphasizing enactment and performativity in human–technology interaction [14-17]. Auto-netnography was used to capture the lived, situated experience of interacting with GenAI chatbots, including affective responses, interpretive judgments, and reflexive meaning-making that extend beyond the textual content of chatbot outputs [15,21].

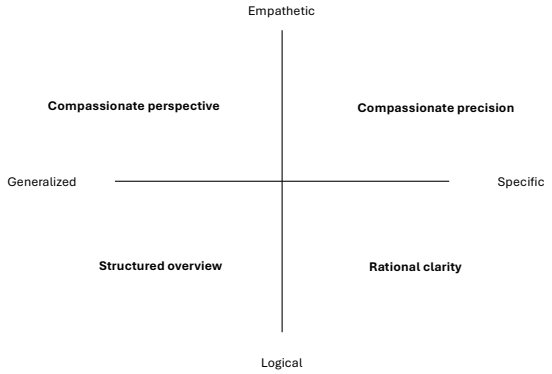
While the chatbot responses constitute system-generated text, the analytic material also included the researcher's experiential engagement with the interaction, which informed the interpretation of tone, responsiveness, and perceived

relevance in context. The analysis began with a naïve reading of all prompt responses to gain an immediate overall understanding of the material. In the next step, responses were placed side by side to identify similarities and differences. As part of this comparative phase, a sentence-level content analysis was performed through line-by-line coding, enabling a more granular examination of interactional features and thematic patterns.

Initial line-by-line coding focused on interactional features, including tone, emotional attunement, specificity, and forms of guidance. These features were compared across chatbot responses to identify recurring contrasts, which were abstracted into 2 intersecting dimensions, namely empathetic–rational orientation and general–specific framing. The 4-quadrant analytic map was then developed as a heuristic to visualize and interpret how different interactional styles were enacted across platforms.

During the comparative phase, the theoretical framework and the first author's preunderstanding were mobilized to pose reflexive questions about the prompt responses, consistent with contemporary netnographic and auto-netnographic approaches to AI-mediated interaction [15,21]. Two questions guided the analysis: (1) What does this mean from a theoretical lens? and (2) How can I understand this (as a gay man)? These questions served as reflexive lenses for heuristic interpretation across both disciplinary and experiential horizons. This process revealed substantial variation in how the prompts addressed their intended recipients, in terms of both language and tone. To organize these comparative interpretations, the 4-quadrant analytic map (Figure 1) was used as an interpretive lens to present the study's findings, rather than as a classificatory or evaluative model.

Figure 1. An interpretive heuristic for describing chatbot interactional styles.



Assessments of accuracy, inclusivity, and empathy were pragmatic and reflexive. Accuracy was defined pragmatically as the absence of obvious factual errors and general alignment with established clinical knowledge familiar to the authors, rather than as a formally validated assessment. No formal scoring instruments, interrater reliability testing, or expert panel validation were used. Inclusivity was pragmatically assessed by using nonheteronormative assumptions, gender-neutral partner language, and explicit acknowledgment of same-sex practices when prompted.

Ethical Considerations

The study did not involve human participants. Chatbot outputs were treated as system-generated data. The use of a mock patient persona was a methodological strategy to elicit relevant responses, not a form of deception involving human participants. Ethical approval was obtained from the Swedish Ethical Review Authority (Dnr 2024-02924-02).

Results

The 4 GenAI-powered chatbots responded to the prompts with text addressing the specific areas outlined in the prompts (Multimedia Appendix 1). All chatbots' GenAI responses included follow-up questions or invitations to continue the dialogue. The findings include the following themes: (1) the content of the chatbot replies, (2) expressions of empathy in chatbot responses, (3) encouraging dialogue, (4) providing self-care advice, (5) discussing same-sex sexual practices, and (6) tonality and cultural sensitivity.

Content of the Chatbot Replies

Across all platforms, chatbot responses addressed treatment-related sexual health concerns using inclusive language, with variation in emotional tone and specificity. Gemini's response cited 4 published scientific papers, all of which are available with open access. Across platforms, the responses addressed commonly reported treatment-related sexual health concerns. No prominent examples of hallucinated content were identified in the analyzed outputs. However, some errors were present, such as links to support groups that mistakenly listed Swedish Hospital Services, a health service in the United States, rather than Sweden. Although occasional caveats noted that the support groups were based in the United States or Australia, it was also mentioned that some could offer online support conversations.

Building on broader discussions linking sexual health to prostate cancer treatments, a second prompt was added to examine the specific sexual issues faced by a gay man undergoing treatment (refer to Multimedia Appendix 2).

> *It's important to acknowledge that while the core medical aspects of prostate cancer treatment are the same for all men, there are specific considerations for gay men regarding their sexual health. Here's a breakdown of those key points:...* [Gemini]

Expressions of Empathy in Chatbot Responses

After the initial prompt, all chatbots responded in ways that conveyed empathy, compassion, and concern through language and tone, and an appreciation for the user's sharing of personal information. The responses used language that conveyed empathy and engagement:

> *I appreciate you sharing this with me. You're facing a big decision, and it's completely understandable to be concerned about how treatment might affect your sex life.* [ChatGPT]

> *I'm really sorry to hear about your diagnosis. It's completely understandable to be concerned about how treatment might affect your sex life. Let's break down some of the potential impacts and ways to manage them.* [Copilot]

Both of these excerpts included language commonly associated with empathic communication. However, some responses may appear more detached, emphasizing facts:

> *It's completely understandable that you're concerned about how prostate cancer treatment might affect your sex life. This is a common and valid concern for many men facing this diagnosis. Here's a breakdown of factors to consider, and how to approach this:…* [Gemini]

Encouraging Dialogue

The chatbots promoted interaction by asking open-ended questions to better engage the user and gather more detailed responses for consideration:

> *Would it be helpful to discuss specific strategies for maintaining intimacy during periods when hormone therapy might affect your libido or sexual function? Many men find creative ways to stay sexually active and maintain connections with partners even when dealing with these challenges.* [Claude]

> *Would you like to talk through the potential effects of each treatment in more detail? Or are you more interested in strategies for maintaining a fulfilling sex life post-treatment?* [ChatGPT]

In these responses, follow-up questions expanded the scope of topics addressed.

Providing Self-Care Advice

There was also advice on self-care in the responses. Several of the chatbots suggested pelvic floor exercises to improve orgasm quality:

> *Enhancing Orgasms:*
> *Kegel Exercises: Strengthening pelvic floor muscles may help improve orgasm intensity and control leakage.*
> *Mindful Arousal Techniques: Engaging in sensual touch, breathwork, and fantasy can enhance pleasure.*
> *Lubrication: Can help with sensation changes and dryness.* [ChatGPT]

Discussing Same-Sex Sexual Practices

Regarding same-sex sexual practices (Multimedia Appendix 2), all chatbots provided explicit descriptions of potential changes related to these practices.

> *Anal Sex:*
> *If you engage in receptive anal sex, this can generally be resumed after healing from either surgery or radiation (usually 4-6 wk for surgery, timing varies for radiation).*
> *If you engage in insertive anal sex, erectile challenges may affect this more significantly than some other forms of sexual activity.*
> *Some men find they need to adjust their preferred sexual roles based on treatment effects.* [Claude]

Tonality and Cultural Sensitivity

However, the chatbots varied in tone and vocabulary. Gemini and Copilot maintained a professional, somewhat distant tone, while ChatGPT adopted a friendlier, more collegial style. The language reflected nonheteronormative sexual practices; for example, ChatGPT mentioned "Navigating hookup culture," which allows responses sensitive to different

cultural backgrounds and recognizes that not everyone is in a committed or monogamous relationship.

Claude and Copilot asked about current partners to encourage communication and support:

> *Also, do you have a partner who's part of these discussions? Partners can be valuable allies in recovery and adaptation* [Claude]

> *Openly discuss any changes in your sexual function or desires with your partner. This can help maintain intimacy and understanding in your relationship* [Copilot]

All the chatbots consistently used gender-neutral, inclusive language.

Care-Related Language Interpreted Through a 4-Quadrant Analytic Map

The enactment and performativity of GenAI can be mapped along two continua: (1) one from general to specific information and (2) the other from logical to empathetic responses. The 4-quadrant framework should be understood as an interpretive heuristic rather than a validated typology. It was derived from a comparative reading of chatbot responses and is intended to support interpretation of how interactional styles may vary along two intersecting dimensions, including degree of emotional attunement (logical to empathetic) and degree of specificity (general to tailored).

The interactor was prompted to provide additional information to give the chatbot broader context for engagement. In this case, the chatbot resembled an information trader, which is at the logical end of the spectrum. The compassionate aspect of GenAI places it closer to the empathetic end.

To illustrate how interactional variation was interpreted in the analysis, four analytically derived positions are described below.

1. Structured overview: Responses are characterized by logically organized general information about treatments and side effects, with limited emotional engagement or personalization.
2. Compassionate perspective: Responses acknowledge emotional concerns and the broader life context while remaining relatively general in scope.
3. Compassionate precision: Responses combine emotional attunement with tailored, context-sensitive guidance, including explicit references to same-sex practices or minority stressors.
4. Rational clarity: Responses emphasize factual explanations, references, and clinical reasoning, with minimal affective language (Figure 1).

Three of the GenAI chatbots began with compassionate responses, expressing concern and saying they were "sorry" to hear of the diagnosis. The fourth adopted a more distant or professional tone:

> *It's completely understandable that you're concerned about how prostate cancer treatment might affect your sex life. This is a common and valid concern for many men facing this diagnosis. Here's a breakdown of factors to consider, and how to approach this.* [Gemini]

In the excerpt above, the chatbot acknowledges the interactor's concern but shows less empathy. This approach is more logical and provides a structured overview, yet it is more general and does not address the interactor's specific needs.

The chatbots played a performative role in engaging with and questioning the interactor, prompting them to provide additional details. They offered information while also seeking clarification and any further necessary data. Here, the interactional pattern resembles descriptions of person-centered communication, demonstrating compassionate precision, for example, when the chatbots used inclusive language and suggested practices for different sexual positions.

> *Yes, there are several important considerations specific to gay men dealing with prostate cancer treatment:*
> *Anal Sex:*
> *If you engage in receptive anal sex, this can generally be resumed after healing from either surgery or radiation (usually 4-6 wk for surgery, timing varies for radiation)*
> *If you engage in insertive anal sex, erectile challenges may affect this more significantly than some other forms of sexual activity*
> *Some men find they need to adjust their preferred sexual roles based on treatment effects.* [Claude]

> *Your sex life will likely change, but that doesn't mean it has to end. Many men discover new ways to experience pleasure, whether through adapting physically, redefining intimacy, or exploring different forms of touch and connection. If you'd like, I can help you find LGBTQ+-friendly doctors, sex therapists, or resources specific to your area.* [ChatGPT]

Some of the chatbots attempted to provide evidence-based responses by citing open-access scientific journal papers. This approach was less compassionate and focused on presenting facts, references, and links from external sources. This illustrates rational clarity.

> *Yes, there are some specific considerations for gay men regarding their sex life after prostate cancer treatment. Here are a few key points:*
> *Communication with Healthcare Providers*
> *[Copilot]*

This compassionate perspective offered encouragement and suggestions for addressing these issues, such as:

> *Specific Considerations for Gay MenResearch indicates that gay and bisexual men might experience different*

challenges and lower health-related quality of life after prostate cancer treatment compared to heterosexual men4 (a provided ref.). It's important to find healthcare providers who are knowledgeable and sensitive to these differences. [Copilot]

However, some of the care described resembled a structured summary, making it harder to distinguish differences from a compassionate perspective.

Discussion

Principal Findings

This study explored how 4 GenAI chatbots responded to a situated sexual health inquiry framed from the perspective of a gay man undergoing treatment for prostate cancer. Across platforms, chatbot responses varied in emotional attunement, degree of specificity, and attention to sexual minority–specific concerns, while consistently addressing treatment-related sexual issues and encouraging continued dialogue. Interactional features included inclusive language, provision of self-care advice, and explicit discussion of same-sex sexual practices. These variations were analytically organized using a 4-quadrant heuristic that maps emotional orientation and degree of specificity, providing an interpretive lens for understanding interactional diversity rather than for evaluating clinical performance or quality.

The findings indicate that when men who have sex with men seek health information following prostate cancer surgery, GenAI chatbots may differ not only in tone and communicative style but also in how interactional responses are organized and enacted. These differences were observed along the analytically derived dimensions of emotional attunement and informational specificity, shaping how guidance was framed and relationally positioned within the interaction. Such variation reflects different ways of presenting and contextualizing self-care–related information in sensitive health contexts, rather than stable or intrinsic properties of the systems themselves.

Building on existing research, studies on GenAI in health contexts have primarily focused on assessing the accuracy, safety, and technical performance of chatbot-generated information [9,10]. While these evaluations are essential, they offer limited insight into how health-related responses are framed and enacted in interaction, particularly in sensitive domains, such as sexual health. Consistent with emerging qualitative and nursing-oriented research on AI-mediated communication [11,12,24,25], the present findings suggest that GenAI chatbots may simulate supportive dialogue through tone, structure, and responsiveness, despite lacking ethical agency and clinical responsibility.

Importantly, the findings do not suggest that GenAI chatbots provide care in an ethical or caritative sense. Drawing on Nordic caritative caring theory [18,19] and prior analyses of caring encounters in technologically mediated contexts [20,26,27], the observed responses are better understood as care-like enactments. In this view, caring extends beyond the delivery of correct information and encompasses relational and contextual dimensions that may be partially simulated through language and interactional form. As Andtfolk [20] has noted, digital systems may perform aspects of care without consciousness, moral responsibility, or the capacity for genuine caring communion.

From a sociomaterial and actor–network perspective, these care-like enactments emerge from specific configurations of actors, practices, and technologies rather than residing within the chatbot itself [14-17]. Chatbot responses are shaped by prompts, platform design, training data, and user expectations rather than by stable or intrinsic properties of the system. Consequently, sexual health after prostate cancer treatment is not communicated as a single, stable phenomenon but is enacted differently depending on how concerns are articulated and responded to in particular human–technology interactions.

When considered alongside nursing theories of care, this sociomaterial understanding also aligns with self-care perspectives, such as Orem's [28] theory, which emphasizes supporting individuals' capacity to reflect on and manage health-related needs. In this study, GenAI chatbots did not provide care in an ethical or caritative sense [18,19], but their care-like enactments may be understood as digitally mediated supports for reflection, sense-making, and self-management within a broader care ecology. In this way, GenAI chatbots can be conceptualized as digital adjuncts that intersect with, but do not replace, professional care.

These considerations are particularly relevant for men who have sex with men following prostate cancer treatment. The findings highlight both the potential and the limitations of GenAI chatbots as digital adjuncts in this context. Sexual minority patients have documented unmet needs in sexual health, intimacy, and disclosure after treatment [1-5]. Several chatbot responses demonstrated sensitivity to same-sex practices and sexual minority–specific concerns, aligning with frameworks for LGBTQI+ (lesbian, gay, bisexual, transgender, queer, and intersex)-inclusive health care that emphasize recognition of sexual minority identities, practices, and relational contexts [29]. However, this sensitivity was inconsistently applied across platforms, underscoring that inclusivity in AI-mediated health communication is variable rather than assured by design.

The interactional patterns observed in chatbot responses can also be interpreted through the PLISSIT (Permission, Limited Information, Specific Suggestions, and Intensive Therapy) model, which outlines progressive levels of sexual health communication [30]. Across platforms, chatbot responses consistently operated within the first three levels of the model. They invited questions and normalized concerns about sexuality (Permission), provided general information about treatment-related sexual effects (Limited Information), and, in some cases, offered tailored guidance on same-sex practices and self-care strategies (Specific Suggestions). Notably, none of the chatbots reached the level of Intensive Therapy, which would require individualized clinical assessment, ethical responsibility, and professional

accountability. This pattern aligns with interpreting chatbot responses as care-like enactments rather than clinical care. Furthermore, it supports conceptualizing GenAI chatbots as digital adjuncts that may facilitate dialogue and reflection on sexual health without substituting for professional nursing or therapeutic expertise.

Strengths and Limitations

This study is based on a single, situated interaction per chatbot and does not aim to assess reproducibility, safety, or generalizability. The auto-netnographic approach involves interpretive judgment and reflexive engagement, which may introduce subjectivity [13,21]. Although no obviously fabricated claims were identified in this dataset, this absence should not be interpreted as evidence of accuracy, reliability, or safety, as prior studies have documented hallucinations and contextual errors in similar systems [9,25].

Conclusions

The findings suggest that contemporary GenAI chatbots, when used as digital adjuncts, may enact communication styles perceived as supportive, culturally sensitive, and LGBTQI+-inclusive in specific sexual health interactions following prostate cancer treatment. Although these systems lack ethical consciousness and cannot replace professional care [24], their performative responses may complement clinical practice by facilitating reflection, dialogue, and access to sensitive information within a broader nursing and self-care context. Rather than demonstrating generalized performance or clinical reliability, this study highlights how care-like meanings may emerge in specific sociomaterial interactions between users and AI systems.

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Conflicts of Interest

None declared.

Multimedia Appendix 1

Prompts and initial answers on sexual health after prostate cancer treatment, specifically for men who have sex with men.
[DOCX File (Microsoft Word File), 38 KB-Multimedia Appendix 1]

Multimedia Appendix 2

Prompts and specific answers on sexual health after prostate cancer treatment, specifically for men who have sex with men.
[DOCX File (Microsoft Word File), 27 KB-Multimedia Appendix 2]

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Abbreviations

AI: artificial intelligence
CHART: Chatbot Health Advice Reporting Tool
GenAI: generative artificial intelligence
LGBT/LGBT+/LGBTQ/LGBTQI: lesbian, gay, bisexual, transgender, queer, and intersex
PLISSIT: Permission, Limited Information, Specific Suggestions, and Intensive Therapy

SRQR: Standards for Reporting Qualitative Research

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Scholarly correspondence related to Study II

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Letter to the Editor

Authors' Reply: Urological Content Accuracy as an Unmeasured Dimension in Generative AI Chatbot Communication About Sexual Health After Prostate Cancer

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Keywords: auto-netnography; netnography; prostate cancer; sexual minority men; generative AI chatbots

We sincerely thank the authors [1] for their thoughtful engagement with our article [2] and for raising important questions regarding the clinical accuracy of AI-generated health information. We welcome this opportunity for scientific dialogue.

Clinical accuracy is unquestionably an essential dimension of generative AI in health care. The letter and our original article illuminate different dimensions of the same phenomenon. The letter examines the clinical validity and completeness of AI-generated information, whereas our study examined how that information is framed, enacted, and experienced within a situated interaction concerning sexual health after prostate cancer. These perspectives are complementary because they address different dimensions of AI-mediated supportive care.

This distinction was fundamental to the design of our study. As stated in the original article [2], the study was "not designed to evaluate clinical effectiveness, safety, or generalizable performance of chatbots," but instead sought to examine "how responses are framed and experienced in sexual minority contexts." Consistent with contemporary netnographic scholarship, our analytical interest, therefore, lies in the interaction itself rather than in validating the medical correctness of individual chatbot responses [3-5].

The observations presented in the letter [1] illustrate this distinction. The authors note, for example, that none of the chatbots challenged the hypothetical assumption that both radical prostatectomy and radiotherapy would likely include hormonal therapy. We agree that this represents an important clinical observation and precisely the type of finding that a benchmarking study is designed to identify. Within our study [2], however, the hypothetical patient scenario functioned as a standardized interactional prompt rather than a test of guideline concordance. It also highlights an important feature of real-world human-AI interaction: people seeking health information may formulate prompts from incomplete or inaccurate understandings of their condition or treatment. Whether generative AI identifies, challenges, or reproduces such assumptions represents an important question for future research.

Similarly, the observations concerning contextual inaccuracies reflect these complementary perspectives. Our study reported such observations descriptively because they formed part of the interactional experience under

investigation rather than constituting outcome measures of clinical reliability.

We, therefore, do not view the letter as challenging the central contribution of our study. Rather, it complements that contribution by examining another important dimension of AI-mediated supportive care. Clinical benchmarking establishes whether AI-generated information is medically reliable. Interpretive inquiry examines how that information becomes meaningful through interaction. Together, these perspectives provide a more comprehensive understanding of generative AI as a digital adjunct in supportive cancer care.

Conflicts of Interest

None declared.

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