

On the transition from student to doctor

Yvonne Carlsson

School of Public Health and Community Medicine

Institute of Medicine

Sahlgrenska Academy, University of Gothenburg



UNIVERSITY OF GOTHENBURG

Gothenburg 2026

Cover illustration: Becky Kirsten Johnson

© Yvonne Carlsson 2026
yvonne.carlsson@gu.se

ISBN 978-91-8115-843-4 (PRINT)
ISBN 978-91-8115-844-1 (PDF)

Printed in Borås, Sweden 2026
Printed by Stema Specialtryck AB



Learning cannot be designed. Ultimately, it belongs to the realm of experience and practice. It follows the negotiation of meaning, it moves on its own terms.

It slips through the cracks; it creates its own cracks. Learning happens, design or no design. And yet there are few more urgent tasks than to design social infrastructures that foster learning.

(Wenger, 1998)

Abstract

The transition from student to doctor is a central and demanding phase in medical education. Despite increasing efforts to prepare students for clinical work, starting work as a doctor is still described as difficult. At the same time, transition periods may also be understood as intensive periods of learning and professional development. In Sweden, the medical internship has long provided a structured introduction to clinical work after graduation and before licensure, offering an established setting for examining the transition from student to doctor. To examine the transition across graduation, the thesis also studied a late undergraduate primary care placement.

The thesis comprises four qualitative studies. *Study I* explored junior doctors' experiences of the medical internship. *Studies II* and *III* used phenomenography to investigate how medical interns and internship programme directors understood the meaning of the internship. *Study IV* drew on ethnographic fieldwork and relational agency theory to explore how interactions between students and supervisors shaped students' opportunities to act in clinical work. *Studies I–III* showed that the medical internship was understood as a substantial and valued introduction to clinical work. Interns participated in patient care and gradually assumed greater responsibility, with access to support and a legitimate position as learners. However, sustained support for their development over time was less prominent. *Study IV* showed that students could take responsibility with support when they made sense of clinical situations together with supervisors or were allowed to act while supervisors remained available.

Together, the studies show that the transition from student to doctor is not only a matter of being sufficiently prepared for work before graduation, but also of how clinical work is organised for learning and how students and junior doctors are supported in practice. The thesis supports understanding the transition as a longer developmental trajectory, with learning continuing through participation in clinical work before and after graduation. This challenges an overly individualised view of becoming a doctor and redirects attention to the conditions that make such development possible.

Keywords: Transition, health professions education, medical internship, primary care, phenomenography, ethnography, relational agency

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Sammanfattning på svenska

Forskning har länge visat att övergången från läkarstudent till att börja arbeta som läkare kan vara svår. Nyutexaminerade läkare beskriver stress, osäkerhet, stort ansvar och en känsla av att inte vara tillräckligt förberedda för arbetet. Samtidigt kan övergången också förstås som en intensiv period av lärande och professionell utveckling. I Sverige har allmäntjänstgöringen (AT) under mer än femtio år fungerat som en strukturerad introduktion till läkaryrket efter examen och före läkarlegitimation. AT ger därför möjlighet att studera vad en etablerad introduktionstjänstgöring kan erbjuda under övergången till kliniskt arbete. Övergången börjar redan före examen, när läkarstudenter deltar alltmer aktivt i patientarbetet. Avhandlingen studerade därför två delar av denna längre process: AT och en klinisk placering i primärvård nära slutet av läkarutbildningen.

Avhandlingen består av fyra studier. *Delstudie I* undersökte AT-läkares erfarenheter av AT. *Delstudierna II* och *III* undersökte hur AT-läkare respektive AT-studierektorer uppfattade AT:s betydelse för läkares utveckling. *Delstudie IV* undersökte hur samspelet mellan läkarstudenter och handledare formade studenternas möjligheter att delta i kliniskt arbete under en primärvårdsplacering.

Sammantaget visade *Delstudierna I–III* att AT fungerade som en omfattande och uppskattad introduktion till kliniskt arbete. AT-läkarna deltog i patientarbetet och tog successivt ett större ansvar, samtidigt som de hade tillgång till stöd och kunde behålla en legitim position som läkare i utveckling. Det var accepterat att fråga, söka hjälp, läsa på och reflektera. Däremot framträdde det mindre kontinuitet i stödet till den enskilda läkarens lärande och utveckling över tid. I *Delstudie IV* framkom att studenternas möjligheter att agera i patientarbetet i hög grad formades av relationen till handledaren. När student och handledare tolkade kliniska situationer tillsammans, eller när handledaren lät studenten agera men fanns nära till hands, kunde studenten ta ansvar med stöd.

Avhandlingen visar att övergången från student till läkare kan förstås som en längre utvecklingsprocess där lärandet och blivandet sker genom deltagande i kliniskt arbete både före och efter examen. Att vara förberedd för arbete kan därför inte förstås som något som fullt ut kan uppnås vid examen. Avhandlingen stödjer tidigare forskning som pekar på att läkaryrket till stor del lärs i arbetet och genom arbetet. För att detta lärande ska bli möjligt behövs nära tillgång till stöd, både i det medicinska arbetet och från personer som kan följa läkarens utveckling över tid. Kliniska arbetsplatser har därför en fortsatt utbildningsuppgift även efter examen. När utbildningsvägen från läkarstudent till specialist nu förändras i Sverige blir det därför viktigt att värna om de strukturer där nya läkare kan bidra till patientvården samtidigt som de har en legitim rätt att fortsätta lära sig, ställa frågor och få stöd.

List of papers

This thesis is based on the following papers,
which are referred to in the text by their Roman numerals:

- I. **Carlsson, Y.**, Nilsdotter, A., Bergman, S., & Liljedahl, M. (2022). Junior doctors' experiences of the medical internship: A qualitative study. *International Journal of Medical Education*, 13, 66-73
- II. **Carlsson, Y.**, Bergman, S., Nilsdotter, A., & Liljedahl, M. (2023). The medical internship as a meaningful transition: A phenomenographic study. *Medical Education*, 57(12), 1230-1238
- III. **Carlsson, Y.**, Olow, F., Bergman, S., Nilsdotter, A., & Liljedahl, M. (2025). Learning to work and working to learn: A phenomenographic perspective on the transition from student to doctor. *Advances in Health Sciences Education*, 30(5), 1523-1539
- IV. **Carlsson, Y.**, O'Brien, B., Nilsdotter, A., & Liljedahl, M. Entering clinical work: A relational agency perspective on medical students in primary care. *Manuscript (submitted)*

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Definitions in short

The following definitions describe how these terms are used in Swedish medical education and may differ from their use in other contexts. When discussing international contexts, terminology follows the relevant literature where appropriate.

Medical intern	A medical graduate undertaking the Swedish medical internship (allmäntjänstgöring, AT), leading to licensure.
Junior doctor	An umbrella term for doctors who have graduated from medical school but have not yet entered specialist training (residency).
Resident/residency	A licensed doctor who has completed the medical internship and entered specialist training (residency).
Newly graduated doctor	A doctor in the early period after graduation from medical school. The term does not refer to a formally defined position or a fixed period of time.
Internship programme director	A physician with an overarching role in planning and coordinating the educational aspects of the Swedish medical internship and supporting interns and supervisors.
Undergraduate medical education	Formal medical education and training completed <i>before</i> graduation from medical school.
Postgraduate medical education	Formal medical education and training undertaken <i>after</i> graduation from medical school, including the medical internship and residency.

Prologue

When I started my PhD in health professions education research, I was a medical student and thought I would write a thesis on learning: how one learns to be a doctor. I imagined learning as something I could study by looking more closely at the learner, the teacher or supervisor, and the methods used to make learning happen. So, I did what seemed reasonable. I bought books on learning theories and read about accommodation, assimilation, experiential and transformative learning. Piaget, Kolb, and Mezirow. And if I were to study how one learns to be a doctor, then I surely also had to define, at least for myself, what a *good* doctor is. How else could I say anything about *what* should be learned? So, I bought books on that too.

But the more I read, the more elusive the concept of learning became. Learning seemed to happen all the time, everywhere, and to take different shapes from one person to another. Then, one day, I met a grey-haired professor in a very different context from the medical one, and shared my struggle to understand how my studies related to learning. He looked at me and asked, quite simply: “What is even learning?” He then added: “And by the way, you’re not studying learning. You’re studying a becoming. A socialisation into a profession.”

Over time, as I moved from medical student to medical intern, and later to a primary care physician, teacher, and supervisor, my understanding of the research problem evolved. What had initially felt like a question of how to improve learning gradually turned into a question of how to understand the process by which one becomes a doctor. My interest shifted to how this process was experienced and made sense of, and to problematising how we, as educators and researchers, conceptualise it. In that sense, this thesis is less about learning than I first imagined, and more about how one becomes a doctor in and through practice.

Background

Life is full of transitions. Starting school, moving to a new city, becoming a parent, falling ill. Transitions are likewise inherent in any career, such as moving from education to work and taking on new roles and positions. Across fields, transitions in both personal and professional life are often described as critical periods of change that may open possibilities for learning and development while also being unsettling and disorienting (Ecclestone et al., 2009).

This thesis examines one such transition: moving from medical student to junior doctor. The background chapter first outlines transitions in medical education as a research area, before focusing specifically on the transition from student to doctor. Next, it turns to workplace learning and student supervision, which provide a basis for introducing the notion of agency in workplace learning. The chapter also covers primary care as an educational setting where aspects of this transition can be studied. The chapter then situates the thesis within the Swedish medical education system, including the medical internship and the ongoing reform of Swedish medical education, which together provide a central context for studying the transition from student to doctor. The chapter ends by summarising the thesis's rationale.

Transitions in medical education

Medical education involves a series of transitions throughout training. Major transitions described in the literature include entering medical school, moving from pre-clinical to clinical studies, from undergraduate to postgraduate training, and later from residency to specialist practice (Westerman, 2013). This way of organising medical education is not accidental. Following Abraham Flexner's report (1910) on medical education in North America more than a century ago, many medical schools came to organise training as a sequence in which students first studied basic sciences, such as anatomy, biochemistry, and pathology, often in university-based settings, before moving into clinical training with patients in hospitals. This organisation rested on the idea that students must first gain medical knowledge and analytical skills before being exposed to real patients. In addition to the major transitions described above, medical education also includes "smaller" transitions as students and junior doctors rotate between specialities, workplaces and teams throughout their training. This pattern of repeated rotations has been described as contributing to a "Flexnerian curriculum", in which medical training has become increasingly fragmented (Holmboe et al., 2011; Wenrich et al., 2010). Petersdorf (1994) illustrated this by comparing the components of medical education to children's building blocks "piled one atop of another" (p. 49), forming a structure that appears coherent from a distance but fragmented on closer inspection.

Although the Flexnerian model remains influential, medical schools increasingly introduce early clinical experiences, bringing patients into classroom-based teaching, and integrating basic sciences into clinical training (Dornan & Bundy, 2004; Wenrich et al., 2010; Yardley et al., 2013). In Sweden, undergraduate medical education similarly includes early patient contact, in some programmes from the very first semester (von Below et al., 2008), making the boundary between preclinical studies and clinical training less sharply defined than in systems where clinical exposure begins later. By contrast, in Sweden, the transition from undergraduate to postgraduate education is more pronounced, marked by shifts in roles and responsibilities. Newly graduated doctors often work in temporary junior doctor posts with varying degrees of supervision before entering the mandatory postgraduate medical internship (SYLF, 2024), which involves extensive clinical work under professional responsibility (Socialstyrelsen, 1999).

Defining transitions

Whilst medical education is organised into distinct phases, and whilst the term transition might suggest a clear passage from one phase to another, the concept is not entirely straightforward. One may indeed be a medical student one day and a newly graduated doctor the next, but the process of transitioning to clinical work is less neatly bounded than the label implies. Transitions in medical education have been defined as “a period of change in which medical students or medical doctors experience some form of discontinuity in their professional life space, forcing them to respond by developing new behaviours or changing their professional life space in order to cope with the new situation” (Westerman & Teunissen, 2012, p. 372). Jindal-Snape (2018) adds that transition is a process of adaptation that unfolds over time and involves psychological, social, and educational dimensions as individuals encounter changes in context, relationships, and identity. Yardley et al. (2018) similarly define it as a continuum that offers “valuable opportunities for personal and professional development” (p. 8). Together, these definitions suggest that transition should not be treated as synonymous with the word “change”, nor as something that happens from one day to another, but as a process that unfolds across time, space, relationships, and changes in identity. Along these lines, the transition from student to doctor referred to in this thesis serves as an umbrella term for the process through which students prepare for, begin work as, and gradually become doctors, on both sides of graduation day.

The transition as a struggle

Some 15-20 years ago, transitions in medical education were a relatively underexplored research area, despite evidence from other scholarly fields suggesting that transitions can be associated with compromised performance and adverse outcomes (Kilminster et al., 2010; Morris & Blaney, 2014). Since then, research on transitions in medical education has grown considerably, making the literature

increasingly difficult to review. Within this body of work, the transition from undergraduate medical education to clinical practice as a newly graduated doctor - hereafter referred to as the transition from student to doctor - has attracted much attention, both as a practical challenge for those undergoing the transition and those responsible for supporting and organising it, and as a conceptual problem for those researching it.

International literature on the transition from student to doctor often portrays the period as one of struggle, with newly graduated doctors describing themselves as overwhelmed by the realities of clinical work (Chang et al., 2020). The transition has been described as intense and stressful (Bogg et al., 2001; Finucane & O'Dowd, 2005), with accounts of feeling “thrown in at the deep end” (Prince et al., 2004, p. 329) and of the first year as a doctor being a “survival exercise” (Brown et al., 2007, p. 653). Medical graduates have reported being insufficiently prepared for entering clinical practice (Lefroy et al., 2017; Monrouxe et al., 2017), particularly for responsibilities such as managing acutely ill patients, handling workload, prescribing medications, and being on call (Cave et al., 2007; Tallentire et al., 2011). Common difficulties relate to uncertainty about one's role as a junior doctor (Dineen et al., 2025) and navigating healthcare culture and professional relationships (Park et al., 2024).

These difficulties have been associated with high levels of anxiety and stress, as well as a loss of confidence and burnout (Brennan et al., 2010; Dyrbye & Shanafelt, 2016; Hurst et al., 2013; Pattinson et al., 2025; Sturman et al., 2017). The early months of residency have even been identified as a period of heightened risk for depression and suicide (Yaghmour et al., 2017). Residency programme directors have expressed concern that newly graduated doctors do not consistently perform the activities expected of them in early clinical work (Lypson et al., 2004; Lyss-Lerman et al., 2009), and the transition has been discussed in relation to patient safety, with some studies reporting negative patient outcomes during transition periods (Jen et al., 2009; Vaughan et al., 2011). Although studies specifically examining the transition from student to doctor in Sweden appear to be lacking, a national survey found that almost one-third of junior doctors considered leaving healthcare for another sector, citing high workload, stress, and poor working conditions among the reasons (Pettersson & Börjesson, 2019). These findings establish the transition from student to doctor as a serious concern for medical education, healthcare organisations, newly graduated doctors, and patients.

This emphasis on difficulty is also reflected in a scoping review of transitions in medical education (Atherley et al., 2019), which, although focused on the earlier transition from pre-clinical to clinical training, found that transitions are often described negatively, as difficult, stressful, or a struggle. Another review found that much of the research collected data shortly after graduation, focused on preparedness for the first period of work as junior doctors, and paid less attention to longer-term aspects of the transition (Monrouxe et al., 2017). These reviews suggest that

transition literature often centres on struggle and the early, perhaps most difficult, phase after graduation.

Solutions to the transition struggle

Preparing medical students for the demands of work as junior doctors is considered a key goal for education providers and has generated considerable scholarly interest in “work readiness” and “preparedness for practice” (Illing et al., 2013; Padley et al., 2021; Scicluna et al., 2014). Within this body of work, a common explanation for the struggle of entering clinical work is that students are insufficiently prepared for the realities awaiting them (Pattinson et al., 2025) and, in the same vein, that newly graduated doctors do not yet possess the knowledge, skills and abilities expected of them on the first day of work (George et al., 2023).

A range of educational and organisational solutions to the transition issue have been proposed. Some argue for reducing uncertainty during the transition, for example, through induction or orientation programmes that familiarise graduate doctors with workplace environments and systems (Acharya et al., 2015; Dineen et al., 2025). Others advocate individualised coaching during the transition to improve the learner’s mindset and self-directed learning (Park et al., 2024; Winkel et al., 2023). A further approach is to improve continuity between undergraduate and postgraduate training through standardised educational handovers, in which performance data are passed on to enhance learner ability (Morgan et al., 2020). Across these approaches, a common ambition is to make the transition as seamless (Carraccio et al., 2016; Weiss Roberts, 2023) and smooth (Busing et al., 2018) as possible.

Yet, despite these developments, the literature continues to report difficulties in the transition from student to doctor (George et al., 2023; Pattinson et al., 2025), echoing earlier findings. Brennan et al.’s (2010) study of newly qualified doctors found that, despite extensive curriculum reforms, most participants still experienced the transition as stressful, with difficulties related to responsibility, uncertainty, teamwork, and a lack of support. Prior meaningful clinical experience during undergraduate education appeared to reduce some of this stress (*ibid*). This aligns with research suggesting that greater exposure to workplace-based learning during undergraduate medical education can strengthen students’ preparedness for practice (Morris & Blaney, 2014). Similarly, Cave et al. (2009) found that newly graduated doctors felt better prepared when their undergraduate training was relevant to their working lives, and when they could easily obtain help at work.

Beyond specific transition interventions, many medical education systems organise the early period of clinical work as a structured phase between medical school and specialist training. The form, timing, and terminology vary, but in many countries newly graduated doctors complete a one- to two-year period of supervised clinical

practice before entering specialist training (Wijnen-Meijer et al., 2013). In the UK, for example, medical graduates enter a two-year Foundation Programme before progressing to speciality training (Kellett et al., 2015). In South Africa, medical graduates similarly complete a two-year medical internship before entering compulsory community service (Sein & Tumbo, 2012), whereas in Denmark, a one-year clinical basic training programme (klinisk basisuddannelse, KBU) provides a broad introduction to the healthcare system before specialist training (Sundhedsstyrelsen, 2016). These examples illustrate that the transition from medical school to clinical work is often treated as requiring some form of structured introduction to practice. In Sweden, the medical internship has long served this function, and its organisation and historical development are described later in this chapter.

Calls to reframe research on transitions

As outlined above, much of the literature on preparedness and transition interventions assumes that difficulties newly graduated doctors experience can be addressed through better preparation. However, it has been questioned whether increasing preparedness before graduation can, on its own, solve the difficulties associated with the transition from student to doctor. The following sections outline three lines of critique: that clinical work may be too complex to be fully prepared for in advance; that proposed responses to transition difficulties remain focused on strengthening the individual learner; and that transition may also need to be understood as a developmental period.

The limits of preparing for clinical work

A common assumption in professional education is that education provides knowledge and skills that can later be applied in practice. That graduates should be able to apply what they have learned directly in practice is reflected in ambitions to produce “work-ready” or “job-ready” graduates (George et al., 2023; Woolley et al., 2019). However, the transfer of knowledge from one setting to another has been questioned as a model of learning. Hager and Hodkinson (2009) argue that learning should not be understood as the transfer of stable knowledge across contexts, especially for vocational learning, but as an ongoing process shaped and transformed through participation in new practices. Billett (2013) similarly cautions that expectations of transfer are unrealistic if transfer is understood as the straightforward application of what has been learned in one setting to another. Instead, he describes transfer as a socio-personal process of adaptable learning, in which individuals interpret new situations, relate them to what they already know, and construct responses shaped by both the situation and their prior experiences. This aligns with situated accounts of learning, where knowledge is inseparable from participation in social practice (Lave & Wenger, 1991).

This critique of knowledge transfer may be particularly relevant to clinical work. Aggarwal et al. (2023) argue that preparing for work as a doctor is difficult because healthcare needs constantly change, meaning what medical graduates need to know and do is never fixed. Mylopoulos et al. (2025) similarly point out that work in healthcare settings requires doctors to navigate uncertainty, adapt to new situations, and respond to problems for which existing knowledge may fall short, emphasising the need for on-the-job learning. This is also reflected in studies of those undergoing the transition, with new residents acknowledging that there is “no way really to be prepared” (Chang et al., 2020, p. 1424) and interns reporting that “no one could’ve prepared me for the transition from student to doctor” (Pattinson et al., 2026, p. 7).

Taken together, difficulties in entering clinical work need not necessarily indicate insufficient preparation but may instead reflect that education and work are different practices, with different purposes, expectations, responsibilities, and forms of participation. From this perspective, preparedness for clinical work becomes a limited framing when it assumes that what is learned in one setting, as a student, can simply be carried over and applied in another, as a doctor.

From individual preparedness to social and systemic conditions

Another recurring feature of the transition literature is that preparedness has often been conceptualised as something possessed by the individual (Chen et al., 2022). Even when proposed solutions are organisational in form, such as preparation programmes, coaching, or educational handovers, they often remain directed at improving the individual learner’s capacity to manage the transition. For example, proposed solutions include strengthening learners’ coping skills (Teunissen & Westerman, 2011), promoting metacognition (Cho et al., 2017), and fostering individual adaptability (Atherley et al., 2019; Suliman et al., 2023) and resilience (Dyrbye & Shanafelt, 2016).

Chen et al. (2022) challenge this predominantly individual conceptualisation by arguing that preparedness also has social, comparative, and contextual dimensions. New doctors enter workplaces where perceptions of preparedness are shaped by other people, institutional expectations, and the conditions of practice. They call for theoretical frameworks that can account for the multiple relationships involved in the transition and for greater attention to the responsibilities of medical schools, regulatory bodies, and workplaces. Brown et al. (2021) develop a related critique from the perspective of newly qualified doctors’ lived experience. Their phenomenological study of UK doctors suggests that fragmented rotations, limited interpersonal continuity, and insufficient support make the transition distressing, and they argue that attention should shift toward the systemic conditions of postgraduate training and healthcare work.

Transitions as developmental periods

A final line of critique concerns the tendency to treat transition primarily as a problem to be fixed. Kilminster et al. (2011) offered an early, now oft-cited proposal to reframe transitions as critically intensive learning periods (CILPs). Their study of doctors' transitions in postgraduate training suggested that doctors' performance and responsibility are situated and relational, emerging through the interaction between doctors and the practices, relationships, and learning culture of a particular workplace. Because these conditions form part of what doctors must learn to navigate, they cannot be fully prepared for a transition in advance. The authors therefore proposed understanding transition itself as an intensive period of learning, during which doctors engage with the particularities of the new setting and establish working relationships with colleagues (ibid).

O'Brien (2018) developed a related argument about the transition from medical school to residency in the US, describing three common framings of the transition to residency: as a *transaction* problem, concerning inefficient exchange of information between medical school and residency programmes; as a *transfer* problem, concerning learners' difficulties in applying knowledge and capabilities across clinical contexts; and as a *trajectory* problem, concerning how learners' progression through medical education is difficult to assess and support within a continuum marked by discontinuity. O'Brien argued that each framing has generated practical solutions, such as improved information transfer, strengthened preparation through boot camps and orientation courses, and greater continuity through longitudinal, performance-based assessment, including aligning Entrustable Professional Activities (EPAs) across medical school and residency. However, she also noted that none of these framings fully captures transition as a potentially *transformative* process, achieved through an appropriate balance between challenge and support during the transition.

Returning to Atherley et al.'s (2019) scoping review, they question the dominant focus on difficulty, as well as on knowledge and skill gaps, in transition research. Atherley (2021) later highlighted that relatively little research approaches transition from a social and developmental perspective, raising the question of what kinds of knowledge might emerge by looking beyond accounts of struggle. Read together with Kilminster and O'Brien, these points suggest a broader reframing of transition as a learning-intensive, developmental and potentially transformative period in which challenge and support are closely connected.

Learning in clinical workplaces

*To study the phenomena of disease without books is to sail an uncharted sea,
while to study books without patients is not to go to sea at all.*

(Osler, 1901)

The transition from student to doctor does not unfold in isolation but takes place in and through clinical work. Workplace learning, defined as learning situated in settings primarily designed for practice, that is, for work (Tynjälä, 2008) is therefore central for understanding the transition from student to doctor. Compared with university-based learning, workplace learning is embedded in real clinical situations and therefore closely tied to the context in which the knowledge and skills will later be used (Tynjälä, 2008). Studies have shown that learners highly value workplace-based learning because what they learn in this setting is directly applicable to their future professional practice (Billett, 2002).

Earlier theorisations of workplace learning often assumed predominantly cognitive discourses, focusing on what individual learners acquire in terms of knowledge and skills (Hager, 2011; van der Zwet et al., 2011). In medical education, this is reflected in a model of technical rationality, in which knowledge is assumed to reside in the learner's mind and to be "applied" in practice (Scott, 2007). Yet exactly how learning happens remains difficult to capture, and it is argued that learning cannot be reduced to technicalities or a matter of method (Säljö, 2014). Cognitive models of learning have been critiqued for treating learning as a product or "thing", assuming it is independent of context, and making the individual the unit of analysis for understanding learning (Hager, 2011).

A sociocultural perspective on learning offers a different starting point. Here, learning is understood as communicative and sociohistorically situated, with knowledge developing through interaction between people (Dysthe, 2003; Säljö, 2014). Drawing on Usher and Edwards' (2007) argument that learning is a socioculturally embedded set of practices, the same activity may be understood differently depending on how it is situated and interpreted. In clinical education, for example, when is a student more of an observer of clinical work, and when is the student learning the work? From this perspective, *practice* becomes a central concept for theorising learning, since we learn through participation in practices, and what we learn is inseparable from the social, material, and historical conditions that organise those practices (Usher & Edwards, 2007). This sociocultural understanding of learning informs how learning is approached in this thesis, directing attention to participation in clinical work and to the social and organisational conditions that shape how, when, and in what ways learners can act. What are they allowed to do? What is considered

appropriate in this particular setting, and what is not? How does a learner come to act as a doctor? These questions bring the notion of agency into view.

Agency in workplace learning

The term agency, although widely used in English-language literature, is conceptually elusive and has been defined differently across scholarly fields (Emirbayer & Mische, 1998). Philosophically, agency is connected to the notion of free will and voluntary action (Ecclestone et al., 2009) and has been defined as people's capacity to identify the goals toward which their actions are directed and to evaluate whether these goals have been achieved (Taylor, 1977), thereby emphasising agency as intentional and considering the consequences of one's actions. Theories of agency have been suggested as useful in health professions education (HPE) research when studying problems that are difficult to define, analyse, and resolve, referred to as "wicked problems" (Varpio, Aschenbrener, et al., 2017).

In workplace learning research, agency has been central to sociocultural accounts of how people learn through participation in work. Billett's work has been particularly influential in showing that workplace learning is shaped by the relationship between how workplaces invite individuals to participate in practice, referred to as affordances (2011), and how individuals choose to engage with these affordances, referred to as individual agency (2001). In a clinical placement, affordances might include being invited to see patients, discuss patient management, write notes or take responsibility under supervision. Individual agency, in turn, might include whether the student asks to participate, accept responsibility, or actively seek feedback. Billett's account of agency can be understood as relationally oriented, in the sense that individual agency is "conditioned by what possibilities of enacting their work affords them" (2008). Nevertheless, the concept of individual agency may direct attention towards what the learner is capable of, leaving less visible how this capability is enabled in relation to others.

Towards a relational understanding of agency

As with research on transitions in medical education, research on agency has been criticised for assuming an overly individualistic perspective (Crossley, 2022), and scholars increasingly advocate a more explicitly relational understanding of agency. Burkitt (2016), among others, argues that capacities can only be practised in joint action, and cautions that individualistic approaches to agency risk treating social relations as external conditions to which individuals simply respond, thereby downplaying the importance of human interaction. This view shifts attention from what an individual simply "has" to what becomes possible in interaction with others.

Recent HPE scholarship has raised similar concerns. Konopasky et al. (2025) maintain that agency should not be understood solely as an individual, internal, or stable capacity, leaving learners responsible for "[pulling] themselves up by their

bootstraps” (p. 1): that is, succeeding through individual effort alone. The authors instead propose organising agency into four dimensions beyond the individual: temporal, cultural, structural, and relational. In the relational dimension, agency is co-created through interaction with others (ibid).

Edwards’ theory of relational agency provides a more specific framework for examining how agency is co-created with others. Relational agency refers to the capacity to work with others to interpret problems of practice and respond by drawing on the resources others bring to the situation (Edwards, 2005, 2010). Rather than locating agency primarily in the individual learner’s engagement with workplace affordances, relational agency directs attention to how possibilities for action emerge *between* people as they work together. Relational agency, therefore, offers a way to examine agency without reducing it to the individual student’s effort or motivation to participate.

Primary care as a learning environment

Traditionally, clinical education has been centred in hospitals (Morris & Blaney, 2014). By the early 1990s, hospital-based medical education was increasingly criticised for not providing enough meaningful clinical experience as reduced bed numbers, shorter hospital stays, and increasing specialisation limited students’ access to patient encounters (Ilfie, 1992; Oswald, 1989), thereby affecting their learning opportunities (Morris & Blaney, 2014). Against this background, over the last few decades, an increasing proportion of undergraduate clinical training has shifted into primary care (Haffling, 2011; Hays, 2009).

As a clinical learning environment, primary care has been described as fertile and even powerful for students’ learning (Dornan et al., 2006; Gordon et al., 2000; van der Zwet et al., 2011), in part due to access to a broad range of common diseases (Gay, 2021; Hays, 2009). Compared with hospital-based education, learning in primary care means seeing patients in a context more closely connected to their everyday lives (Newbrunner et al., 2017) and often more than once, giving learners insight into how symptoms, decisions, and management unfold over time (Gay, 2021). Studies have shown that this setting supports students’ learning about chronic and minor conditions and their development of communication skills (van der Zwet et al., 2011). From the students’ perspective, learning in primary care is highly valued when they feel part of the team, are appropriately challenged, and have opportunities to practise with increasing independence (Davis et al., 2019). In addition, primary care has been argued to support medical students’ transition to clinical work in ways other settings may not by providing a safe learning environment in which students can learn from mistakes, gradually assume responsibility, and develop confidence and clinical judgement (Newbrunner et al., 2017). At the same time, primary care places particular demands on learners, as patients often present with complex and undifferentiated problems and incomplete histories,

which, combined with limited access to diagnostic testing, heightens uncertainty compared with other clinical settings (Vaughan, 2016).

Supervision in primary care

Clinical supervisors have been shown to shape students' learning opportunities across clinical settings (Dornan et al., 2014; Liljedahl, 2016; Wiese et al., 2018). In primary care specifically, students' opportunities for learning have been argued to largely *depend* on the student-supervisor relationship (Howe, 2001; Mattsson et al., 1991; Silverstone et al., 2001; van der Zwet et al., 2010), and the characteristics of the supervisor may even matter more for students' learning than the specific clinical setting itself (Riesenberg et al., 2001). One-to-one supervision, along with regular feedback, has been associated with increased feelings of competence and confidence among students in primary care (O'Sullivan et al., 2000). Previous studies suggest that supervisors can support learning by discussing difficult cases, making their approaches to clinical uncertainty explicit, and working through clinical problems jointly with learners (Haddock et al., 2023; Wearne et al., 2012). Students have reported feeling less pressure to impress a supervisor or conceal weaknesses in the primary care setting because of the close one-to-one relationship and the often more informal interpersonal climate (van der Zwet et al., 2011). The relationship with the supervisor thus appears central to what students learn and how they learn in primary care.

The Swedish medical education system

Although medical education and training to become a doctor might appear universal, as it concerns the human body and diseases broadly shared across the world, the pathway from medical student to junior doctor varies considerably across countries (Wijnen-Meijer et al., 2013). What many countries have in common, however, is some form of structured introductory period in clinical practice. In Sweden, this period has taken the form of a postgraduate medical internship.

The Swedish medical internship

The medical internship, called *allmänfjäbstgöring* (AT), translated as *general service*, has long formed the mandatory route from graduation to licensure in Sweden. The internship lasts 18-21 months and includes rotations in internal medicine, surgery, psychiatry, and general practice specialities (SFS 2010:1369). Upon successful completion, interns become licensed physicians and can proceed to residency training (*specialistfjäbstgöring*, ST).

Introduced in 1969, the internship was designed both as a supervised introduction to clinical work for newly graduated doctors and as a labour-market measure, as interns were needed to contribute to healthcare production (Lindgren, 2013). The internship was also seen as a way of supporting recruitment to shortage specialities

such as general practice and psychiatry (Schollin, 2017). National regulations describe the internship as a clinical introduction to the medical profession, combining education and work with professional responsibility (Socialstyrelsen, 1999). The organisation of the internship has, however, changed over time. When introduced, its content was less regulated but gradually became more formalised with clearer structures for supervision, including the introduction of internship programme directors and heads of interns (Socialstyrelsen, 1999). Most publicly financed hospitals in Sweden offer internship posts through the county councils, and these posts are typically financed from central internship budgets. Interns are therefore generally not financially tied to the individual clinics through which they rotate. In summary, the internship has become an established organisational arrangement, through which generations of newly graduated doctors have been introduced to the medical profession in Sweden.

In this thesis, the Swedish medical internship serves as a setting for studying the transition from student to doctor. As the medical intern occupies a position “in between”, no longer a student but not yet a licensed physician, the internship offers an institutionalised setting in which aspects of the transition from student to doctor can be examined. Annual and nationwide surveys by the Swedish Junior Doctors’ Association show that Swedish medical interns consistently value the internship highly (SYLF, 2024). Although the internship has been central to the Swedish pathway into the profession for more than 50 years, it has remained underexplored as an educational setting in research.

The reform of the Swedish medical education system

In 2011, the Swedish government appointed a special inquiry to propose improvements to Swedish medical education and the subsequent medical internship (Utbildningsdepartementet, 2011). The inquiry found the pathway lengthy and fragmented, with responsibility for licensure divided between universities, which provide undergraduate medical education, and county councils, which employ and organise the medical internship. Based on this inquiry, a reform of Swedish medical education was later decided, intended to create a more integrated and internationally aligned educational continuum, harmonising with European models in which licensure is typically awarded directly after graduation (Lindgren, 2013).

In 2021, the first students began the new six-year medical programme leading directly to licensure. This means that after graduating from the new medical programme, students will obtain a licence to practise directly and will no longer complete the medical internship (AT); instead, they will proceed to a new introductory service called *bastjänstgöring* (BT), either integrated into or completed before residency. Compared with the medical internship, the new introductory service (BT) is more explicitly competency-based, includes required clinical service in primary and emergency care, and has a minimum duration of six months, although it is expected to take around one year (SLF, 2024). Figure 1 shows an overview of the two educational systems currently running in parallel.

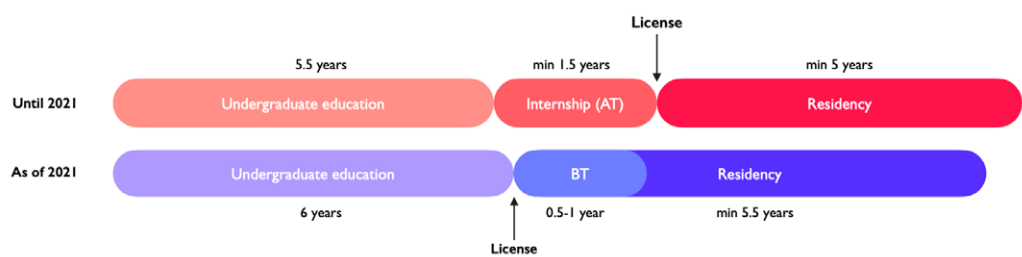


Figure 1. Overview of the two pathways from undergraduate education to residency currently running in parallel in Sweden. The last cohort from the 5.5-year medical programme graduated in June 2026.

This thesis was conducted during this period of reform and empirically examines the former pathway to licensure, which consisted of a 5.5-year undergraduate medical programme, including biomedical and medical theory and substantial clinical training, followed by the postgraduate medical internship.

Primary care in the new Swedish medical programme

Although the structure of the new medical programme varies between universities, general practice is expanding as a subject, and several medical schools have planned longer clinical placements in primary care (SAFU, 2023). Primary care will therefore likely assume a more prominent role as a clinical learning environment near graduation, where students are expected to develop and demonstrate the competencies required for licensure. It is also reasonable to assume that primary care will need to support forms of learning and responsibility for care that were previously developed, at least in part, during the medical internship.

Rationale

The struggles associated with the transition from student to doctor are well established in the literature, including stress, impaired well-being, potential risks to patient care and doubts about remaining in the profession. Much of this research has approached the transition through difficulties, knowledge and skills gaps, and concerns about graduates' preparedness for clinical work. Studies have also frequently collected data close to graduation (Monrouxe et al., 2017), providing less insight into how the transition develops over time. Scholars have therefore called for transitions to be examined as learning-intensive (Kilminster et al., 2011), developmental (Atherley et al., 2019), and transformative (O'Brien, 2018), and to use more deliberate conceptual frameworks to deepen understanding of how transitions unfold (Teunissen & Westerman, 2011).

However, the transition does not take place independently of the workplace. New doctors enter clinical practices in which they are expected to contribute to patient care while learning through that work. How clinical work is organised, what responsibility newcomers are given, and what support is available therefore shape how the transition is experienced. The Swedish medical internship provides a particularly informative setting for examining these conditions. For more than half a century, it has provided a structured and supervised period between undergraduate education and licensed practice. Its longstanding organisation and consistently high ratings offer an opportunity to examine conditions that may support the transition, complementing a literature that has largely documented its difficulties.

If the transition is understood as an extended process, attention is also needed to what happens before graduation. Late undergraduate clinical placements are settings in which students begin to participate more fully in doctors' work. Studying these settings makes it possible to examine how opportunities to act as a doctor begin to emerge before formal entry into the profession. Theories of agency provide conceptual tools for examining how interactions with others and workplace conditions enable and constrain these possibilities for action (Varpio, Aschenbrener, et al., 2017). Primary care is particularly relevant because of its expanding educational role in Sweden's new medical education system.

By examining structured periods of clinical work on both sides of graduation, this thesis addresses the transition as a developing process situated in clinical practice. It seeks to contribute knowledge about how the process of becoming a doctor can be supported, and to identify conditions that may be sustained or strengthened across the transition from student to doctor.

Aim

The overall aim of this thesis was to explore the transition from student to doctor. The four studies approached the overall aim from different vantage points: *Studies I and II* focused on medical interns undertaking the Swedish medical internship, *Study III* on programme directors responsible for the internship's educational organisation, and *Study IV* on student-supervisor interactions in a late undergraduate primary care placement.

The specific research question in each study was formulated as follows:

- I. How do medical interns experience the medical internship?
- II. How do medical interns perceive the meaning of the medical internship?
- III. How do internship programme directors perceive the meaning of the medical internship?
- IV. How is agency shaped in interactions between student and supervisor?

In research questions *II* and *III*, the word *meaning* (*betydelse* in Swedish) refers to the significance attributed to the internship in relation to interns' development as doctors.

Methodology

When your field of study is people, not molecules, there are many different versions of reality and many different ways of knowing.

(Kneebone, 2002)

Methodology refers to the overall research design, or logic, while methods are the specific tools used to generate and analyse data (Illing, 2014). In this thesis, different methodologies were used to address the research questions: qualitative description (*Study I*), phenomenography (*Studies II and III*), and ethnography (*Study IV*). Table 1 provides an overview of the four studies, including their methodologies, participants, data sets and analytical methods. In this chapter, I describe the overall approach to inquiry and the study contexts, participant selection, data generation, and data analysis, and conclude by addressing trustworthiness, reflexivity, and ethical considerations. Because methodology and methods should align with the philosophical assumptions underlying the research (Guba & Lincoln, 1994), the chapter begins by discussing the philosophical positioning underpinning the research.

Table 1. Overview of the four studies, including their respective methodology, participants, data sets and method of analysis.

	Study I	Study II	Study III	Study IV
Focus of inquiry	Experiences of the medical internship	Variation in understanding the meaning of the medical internship		Agency in student-supervisor interactions
Study setting	The medical internship			Primary care placement
Methodology	Qualitative description	Phenomenography		Ethnography
Participants	12 senior medical interns		12 internship programme directors	8 medical students and 4 supervisors
Data generation	Individual semi-structured interviews			Observations and interviews
Data analysis	Qualitative content analysis	Phenomenographic analysis		Reflexive thematic analysis

Paradigmatic positioning

This thesis is positioned within an interpretivist research tradition, meaning it rests on the assumption that reality is socially constructed, and that knowledge about that reality is likewise constructed between the researcher and the participant. Because this thesis is situated within medical science and may be read by researchers and clinicians working from different research traditions, this positioning warrants some explanation. A research paradigm can be understood as a set of basic assumptions that guide inquiry, including assumptions about the nature of reality (ontology) and how knowledge about that reality can be generated (epistemology) (Guba & Lincoln, 1994). These assumptions reflect a researcher’s *worldview* and shape how researchers ask questions, generate data, and interpret findings.

In medical research, knowledge has traditionally been viewed as something objective, revealing the *truth* about how things *are*. This worldview, called positivism, assumes a single reality composed of facts that exist independently of human perception and can be studied objectively (Park et al., 2020). The interpretivist, or constructivist, paradigm offers an alternative perspective, within which reality is understood as socially constructed (Illing, 2014). From this perspective, “there can be many truths coexisting” (Monrouxe et al., 2023, p. 125) and knowledge is seen as subjective, constructed through interpretation rather than as revealing a single truth (Guba & Lincoln, 1994).

While positivist paradigms dominate much of medical research and are well-suited for studying measurable outcomes, they become problematic when applied to human experiences and social practices, which are often complex, subjective, and context-dependent. Medical training emphasises a positivist and “scientific” approach to knowledge (Bunniss & Kelly, 2010; Kneebone, 2002), and this tradition largely shaped my undergraduate medical education. Although ideas about ontology and epistemology may seem abstract to those unfamiliar with the terminology, this “O&E stuff” (Malterud, 2016) matters for ensuring coherence between the research aim and its conduct (Carter & Little, 2007). If a researcher claims that reality is multiple and socially constructed (an interpretivist ontology) but treats interview data as representing objective facts about the world (a positivist epistemology), participants’ accounts risk being misinterpreted as direct representations of reality rather than as situated interpretations of their experiences.

This interpretivist positioning aligns with the sociocultural perspectives informing the thesis and its aim of understanding the transition from student to doctor as experienced and enacted in context.

Approach to inquiry

In line with the interpretivist paradigm, which focuses on human experience in research (Creswell, 2017), this thesis used a qualitative methodology throughout. A qualitative methodology allows exploration of phenomena such as people’s meanings, intentions, thoughts, and expectations, aiming to understand and describe them (Malterud, 2014).

Qualitative description

Study I explored interns’ experiences of the medical internship using a qualitative description approach. Sandelowski (2000) described qualitative description as an approach that provides a comprehensive account of events or experiences in everyday language, with the researcher staying close to the data and producing findings grounded in participants’ accounts. Qualitative description is therefore appropriate when the aim is to provide a rich yet straightforward description of a phenomenon,

expressed in terms close to the participants' own language (ibid). Given the limited body of research examining the Swedish medical internship, we wanted to explore the research question in an open, exploratory manner. Qualitative description enabled us to produce a straightforward and initial picture of how interns experienced the internship.

In qualitative descriptive studies, formal theoretical frameworks are typically not used, but this does not mean interpretation is absent (Sandelowski, 2010). Underlying theoretical assumptions are always present and influence the researcher's gaze (Sandelowski, 1993). Although not explicitly stated in the published article, *Study I* was broadly informed by a sociocultural perspective on workplace learning, in that interns' experiences were understood in relation to their participation in social contexts, including cultural norms and hierarchies (Kahlke et al., 2019).

Phenomenography

Studies II and *III* used a phenomenographic methodology to explore how medical interns and internship programme directors understand the meaning of the internship. At its core, phenomenography aims to describe the qualitatively different ways people perceive, view, or understand a phenomenon (Marton & Booth, 1997). Hereafter, the term understand is used throughout the thesis. Phenomenography has been argued to be particularly useful for informing and enhancing educational practice (Stenfors-Hayes et al., 2013), making it relevant in the context of ongoing changes in the Swedish medical education system.

The phenomenographic approach to understanding a phenomenon differs from studying phenomena themselves, as in the natural sciences, or from studying the individuals experiencing them, as in psychology (Larsson & Holmström, 2007). This is called taking a second-order perspective on the phenomenon, "striving to see it as others see it" (Booth & Hultén, 2003, p. 69). Although each person's experience is unique, phenomenography assumes that there are a limited number of qualitatively different ways in which a phenomenon can be understood. These shared ways of understanding can be derived from empirical data and categorised into categories of description. The categories do not represent individual participants' views, but the collective variation in understanding across the dataset (Collier-Reed et al., 2009). In addition to constructing categories of description, phenomenographic analysis examines how the categories relate to one another. These relationships can be described through dimensions of variation, which show what is discerned in one way of understanding but not another. Together, the categories and their relationships form the phenomenographic outcome space (Åkerlind, 2012).

Phenomenography rests on a non-dualist, or relational, ontology (Marton & Booth, 1997), in which the experienced world is understood as constituted by the relationship between the individual and the world (Åkerlind, 2025). This view differs

somewhat from the interpretivist or constructivist approach, which places greater emphasis on individuals' interpretations, or constructions, of reality. Even so, phenomenography is often situated within a broader interpretivist tradition, as it concerns how people experience and make sense of phenomena (Green, 2005).

Ethnography

During the final stages of *Study III*, interest arose in how the transition manifested beyond individuals' experiences. In the final study, an ethnographic approach was adopted to explore how the transition from student to doctor unfolds through clinical work at the end of undergraduate medical education.

Ethnography explores social practices and everyday activities, and assumes that social action is meaningful and best understood by examining how people act and interact in their ordinary lives, shaped by their cultural contexts (Atkinson & Pugsley, 2005; Jeffrey & Troman, 2004). Contemporary ethnography is often conducted in familiar settings and local subcultures (Creswell, 2017). Ethnographic fieldwork typically involves two closely connected activities, which also characterised *Study IV*. First, the researcher seeks to get close to the everyday activities and experiences of the people being studied by entering the field, participating in their daily routines, and observing what is going on. Second, the researcher systematically documents these observations in fieldnotes, which form the core of the empirical material (Emerson et al., 2011). While empirical observation is central to ethnography, theory plays an important role in guiding how observations are interpreted, moving beyond description and connecting to broader social and cultural processes (Trondman, 2008). In this study, the theory of relational agency guided the research process and informed the analysis of the empirical material.

Methods

This section provides an overview of the four studies, followed by a description of the context, participant selection, data generation, and data analysis across the studies.

Context of studies

The studies included in this thesis are situated at two points in the transition from student to doctor: at the end of undergraduate medical education, when students stand at the threshold of beginning work as doctors (*Study IV*), and during the medical internship (*Studies I-III*). These two specific contexts are described in further detail below.

Studies I-III

The first three studies were conducted in the context of the Swedish medical internship. During this period, interns work as junior doctors within clinical teams, participate in everyday patient care, receive regular supervision and attend educational activities. In each of the four mandatory rotations, interns are assessed through clinical assessments (“sit-ins”), in which specialist doctors observe them during patient encounters and provide structured feedback. Interns are also assessed through a nationwide written exam encompassing the four main rotations. The Swedish National Board of Health and Welfare regulates the internship nationally by defining its learning objectives and overall structure, while hospitals providing internship positions manage its specific organisation and educational content locally. The internship’s learning objectives encompass clinical competence across the four specialities, as well as professional, ethical, and organisational aspects of medical practice (Socialstyrelsen, 1999).

Internship programme directors have an overarching educational and organisational role in the internship, typically coordinating its planning, implementation, and follow-up across rotations (SLF, 2020). They thus have an overview of the internship as a whole and of interns’ progression through it. Although the role is considered important for the educational quality of the internship, it is not formally specified in the national regulations for the medical internship and its organisation varies locally (*ibid*). Most programme directors do not hold formal line-management responsibility for interns; this responsibility lies with designated heads of interns. The internship is intended to follow directly upon graduation from the undergraduate medical programme. In practice, however, limited internship positions have created a waiting period averaging ten months between graduation and internship entry (SYLF, 2024). During this period, many newly graduated doctors work as junior doctors on temporary contracts.

Study IV

Study IV was conducted during a primary care placement late in the former Swedish medical programme. During the fifth year at Gothenburg University, Sahlgrenska Academy, students completed a two-week placement at a primary care centre as part of the general practice course. After completing the semester in which this placement took place, students became eligible to work as non-licensed junior doctors under supervision in the Swedish healthcare system. The placement therefore occurred at a point when students remained in undergraduate education but were approaching a more independent clinical role and greater responsibility for patient care.

Students attended the placement individually, and each student was assigned a personal supervisor, typically a general practitioner (GP) specialist or a senior GP resident who had completed a supervisor training programme specific to this

placement. This arrangement differs from many other clinical rotations in the programme, where students are more commonly supervised in groups. During the placement, the student participated in day-to-day clinical work with close supervisory support, including conducting an average of 4-5 patient consultations a day, presenting cases to their supervisor, and completing documentation and follow-up tasks, such as referrals or calls to hospital specialists. The learning goals of the placement were threefold and focused on (1) seeing and assessing patients with common health conditions in an undifferentiated patient population, (2) developing consultation skills, and (3) reflecting on a meaningful clinical encounter. Students were assessed through a written examination prior to the placement, as well as a written and an oral reflection on a challenging clinical encounter during the placement.

Selection and data generation

In all four studies, participants were recruited using a combination of purposive and convenience sampling. Purposive sampling involves selecting participants who are believed to offer rich information relevant to the research inquiry (Creswell, 2017) whereas convenience sampling involves selecting participants who are easily accessible to the researcher (Patton, 2015). The sampling was purposive in that participants had to fulfil predefined inclusion criteria, and convenience-based in that individuals who met the criteria and first expressed interest in participating were included. This approach allowed inclusion of participants with relevant experience and a willingness to articulate and reflect on their experience, which was considered an important starting point for data generation. Additional sampling strategies, such as snowball, maximum variation, and multi-sited sampling, of which the latter two can be considered forms of purposive sampling (Polit & Beck, 2010), were used in specific studies and will be further outlined below.

Although some of the published papers included in this thesis use the term data collection, I use data generation throughout the thesis. This terminology reflects the interpretivist position adopted here, in which data are understood as generated or constructed through interactions between researchers and participants, rather than as something that exists “out there” waiting to be collected (Kvale et al., 2014).

Studies I and II

For *Studies I and II*, medical interns in their last six months of training were invited to participate, as they were assumed to have accumulated sufficient internship experience to reflect on it comprehensively. After approval from the heads of interns, invitations were sent via email to interns at two regional and one university hospital in western Sweden.

ML scheduled and conducted individual interviews in person, except for two conducted by telephone due to geographic distance. Using a semi-structured approach, the interviews followed an interview guide with predetermined questions while allowing the interviewer to explore emerging topics in greater depth (Kvale et al., 2014). The interview guide drew on areas of interest from the current literature on medical internships, workplace learning, and transitions (McGrath et al., 2019) and followed the principles of phenomenographic interviewing (Åkerlind, 2005). Questions progressed from more concrete questions, such as “What do you do as a medical intern?” to more abstract questions such as “What are the possibilities and constraints embedded in your role?”, “How do you understand the significance of being a medical intern?”. These questions provided a structure to the interview; however, probing questions (e.g., “What do you mean by that?”, “How does that relate to, or differ from, X?”) were considered even more important and used extensively to try to tease out the underlying meaning of what the participants expressed (Åkerlind, 2023). The study included twelve interns from two county hospitals and a university hospital. Five were women, and seven were men, aged 27 to 51 years, and two had completed their undergraduate training outside Sweden. We included participants until the data were deemed sufficiently rich to address the research question and additional interviews no longer yielded substantially new ways of understanding the phenomenon.

Study III

For *Study III*, internship programme directors were selected as participants because of their close involvement in the internship’s educational content and their regular contact with interns. Compared with internship heads, their role was more directly concerned with the internship’s educational organisation and development, making them particularly relevant to the study aim. We contacted programme directors based on three predefined criteria: holding their role for at least 1 year, not working at the same hospital as the research team, and being within the research team’s proximity to enable in-person interviews. Those who met these criteria were invited via email, and from those who expressed interest, a further purposive selection was made using a maximum variation sampling approach (Kullberg & Ingerman, 2022), aiming to include programme directors with varying levels of experience, from both university and regional hospitals, of different ages, and of both genders. In Sweden, internship programme directors can be appointed at different levels: as overall programme directors for the entire internship, for hospital versus primary care rotations, or for individual speciality rotations. We included only programme directors with responsibility for the internship as a whole or for its broader hospital-based or primary care parts, as these roles provided an overview beyond individual speciality rotations.

We developed an interview guide aligned with the phenomenographic approach as described for *Studies I and II*, and individual interviews were conducted by me.

Based on an a priori estimate of information power (Malterud et al., 2016) and the research group's experience with qualitative interviewing, we considered approximately 10-15 interviews both sufficient and feasible. In total, twelve programme directors were included in the study, of whom five were men and seven were women, with ages ranging from 31 to 67 years, from six different regions in Sweden, two university and ten county hospitals, with experience in the role ranging from 1-16 years (median four years), and from both primary and secondary care. While some advocate for larger sample sizes in phenomenographic research (Kullberg & Ingerman, 2022), the data generated by the final number of participants were considered sufficiently rich and varied. Given the rigorous and in-depth nature of qualitative analysis (Braun & Clarke, 2022), analytic quality was prioritised over a higher number of participants.

Study IV

Study IV involved ethnographic field studies with medical students undertaking a primary care placement and required consideration of how to gain access to the field. The ethnographic methodology also called for a more explicit account of the researcher's role in the research process, including my own presence in the field. Being welcomed into the setting was considered important, as this was likely to facilitate participation in students' daily work (Høyland et al., 2015). Course leaders were therefore involved early in the research process and supported the study. A few weeks before the start of the clinical placements, I presented the study and its scope to the students and invited them to contact the research team if they were interested in participating. Because only a few students initially expressed interest, we used snowball sampling: included students were asked to suggest classmates who might also be interested, who were subsequently contacted via email.

Once a student agreed to participate, I contacted the primary care centre to which they had been allocated to request permission from the clinic head and the student's supervisor to conduct the study. The student and I then agreed on a suitable day for shadowing, and I arrived well before the student, changed into clinical attire, and wore a name badge identifying me as a researcher. Each day, I followed the student for an entire shift and accompanied them in all activities, including patient encounters, supervisory interactions, clinical procedures, and informal activities such as coffee breaks and lunch. I introduced myself to staff and patients as a researcher, but generally maintained a low profile and remained in the background. Most students were shadowed for one day, except for two who were shadowed for two days. In total, eight students, an equal number of men and women, were shadowed over ten days, yielding approximately 67 hours of observation. The participants received a cinema voucher, a common form of compensation for research participation in the local context.

During observations, I made handwritten notes in a notebook small enough to keep in my pocket to protect participants' confidentiality. The jottings included more descriptive accounts of what I observed, along with reflections and emerging interpretations. Because writing while observing necessarily divided my attention, I prioritised noting sequences of talk and action. As soon as possible after each observation, I expanded the jottings into fuller fieldnotes in a Word document. Writing close to the events allowed me to elaborate on details not fully recorded in the moment, such as spatial arrangements, tone of voice, pace, pauses, and my experience of the room's atmosphere (Emerson et al., 2011).

An interview guide covered general aspects such as setting and supervision. The interviews, however, primarily invited students to reflect on their day and the situations they encountered. I followed up on situations that seemed particularly interesting to me, asking what students thought and felt in those moments. All interviews were audio-recorded, transcribed verbatim, and anonymised during this process. Throughout the study, it was emphasised that students' performance was not being assessed and that the aim was to explore primary care as a learning environment for medical students, particularly in light of ongoing reform of medical education in Sweden.

Data analysis

Although presented as separate phases in this thesis, data generation and analysis overlapped and informed each other, constituting an iterative process (Braun & Clarke, 2022). From an interpretivist perspective, data are not neutral from the outset, but "tainted with an analytical or interpretive cast in the very process of becoming data" (Wolcott, 1994, p. 16). Although I was responsible for advancing the analytical process across all studies, it was a collaborative effort within the research team.

Study I

Study I aimed to describe interns' experiences during the internship without drawing on a predefined theoretical framework, using qualitative content analysis, which aligned with the methodological aim of providing a straightforward description of interns' experiences (Sandelowski, 2000). Within qualitative content analysis, the degree of interpretation can vary, with manifest content referring to a less interpretative level of analysis, focusing on the visible and explicit content of the data, *what the data say*, often presented as categories (Graneheim & Lundman, 2004). Latent content, on the other hand, involves a higher degree of interpretation, focusing on the underlying meaning of the data, *what the data are talking about* (ibid). Although content analysis has origins in the quantitative approach, including the possibility of quantifying data (Krippendorff, 2018), this study did not pursue such quantification. Instead, in the contemporary, qualitative version of content analysis,

interpretation is seen as a co-creation between the researcher and the text, where the text and its many meaning units are assumed to imply more than one meaning (Sandelowski, 2011).

The analysis followed the process described by Elo and Kyngäs (2008). After an initial reading of the transcripts, meaning units, i.e., words or sentences relevant to the study aim, were sought and highlighted in the data. Condensed meaning units conveying similar content were grouped into categories at a more manifest level, and the data were revisited iteratively to refine these categories and explore additional latent patterns, allowing themes to develop (Graneheim et al., 2017). As the dataset used in *Studies I* and *II* included both more descriptive accounts of interns' experiences during the internship and reflections on their meaning, two analyses were conducted; the second is described below.

Studies II-III

Studies II and *III* adopted a phenomenographic approach to explore the variation in how interns and programme directors understood the meaning of the internship. The phenomenographic analysis followed, in general, the iterative steps commonly described in phenomenographic research (Dahlgren & Fallsberg, 1991; Stenfors-Hayes et al., 2013).

First, all interview transcripts were read to gain overall familiarity with the data. As I had also transcribed the audio-recorded interviews in both studies, I was already closely acquainted with the material. Text segments relevant to the research question were highlighted and pasted into an Excel sheet, and condensed while still preserving their core meaning. These condensed statements were compared across the dataset to find similarities and differences. Statements expressing similar ways of understanding were grouped, and the essential meaning of each group was articulated and labelled with a title, resulting in preliminary categories of description, and dimensions of variation in *Study III*. The research team repeatedly revised, merged, and refined these categories in dialogue. Throughout the analysis, all data were treated as a single set, a pool of meanings. The categories of description, therefore, reflect a collective way of understanding, rather than an individual participant's views (Marton & Booth, 1997).

Attention was also directed toward identifying how the categories related to each other, which is typically, but not necessarily, hierarchical. Without such a structure, phenomenographic findings constitute merely an outcome, not an outcome *space* (Åkerlind, 2024). In both *Studies II* and *III*, the outcome space was hierarchical. Categories positioned lower in the hierarchy represented less advanced, or less complex, ways of understanding the phenomenon, whereas higher-order categories represented more advanced understandings and encompassed lower-order categories.

Study IV

In *Study IV*, the theory of relational agency was used to explore how agency was shaped in interaction with supervisors during a primary care placement. As in interview studies, but perhaps even more so in ethnographic work, analysis is not separate from data generation. In this study, the analytical process began during, and even before, data generation. I entered the field with prior understandings shaped by my work in primary care, some experience supervising the placement's reflective assignment, and my own earlier experience of completing the placement as a medical student at the University of Gothenburg. In ethnographic terms, this can be understood as *foreshadowed problems*, or sensitising ideas about what might be analytically relevant (Emerson et al., 2011). Initially, these ideas related to students' challenges and dilemmas in practice, as we intended to use transformative learning theory as a theoretical lens. However, as the fieldwork progressed, I came to understand that such aspects were difficult to access through observation alone. Instead, the analysis focused on what could be empirically grounded in the fieldnotes.

Through engagement with the material and discussion with ethnographically informed scholars, I came to see how much of students' daily activity centred on interactions with their supervisor. These interactions appeared to shape, to a considerable extent, what the placement enabled students to do and how they could participate in clinical work. At this stage, the theory of relational agency was introduced, as it resonated with the empirical material and offered a way of focusing the analysis on how possibilities for action were relationally shaped. It also helped delimit the extensive field material. An iterative process followed, in which reading the theory informed reading the data.

Once I began a more systematic analysis, I conducted a reflexive thematic analysis (RTA) (Braun & Clarke, 2022). Although RTA is most commonly used on interview data, it is also an established method in ethnographic work (Delamont, 2016). Coding began by locating and labelling segments relevant to the research question, using relational agency as a sensitising theory to guide attention to interactions between students and supervisors and how these influenced their actions. Approximately 50 initial codes were generated, reflecting a relatively fine-grained coding approach aimed at capturing nuances in the data and between the codes. Many excerpts were assigned multiple codes, indicating more than one analytical pattern. Analytic memos were written throughout to document interpretations, alternative readings, and emerging ideas of what the observations might constitute a case of (Veen, 2021). A reflexive journal was also maintained to capture thoughts and reflections on the analytic process, and it was shared and discussed within the research team.

In collaboration with members of the research team, codes were grouped into broader patterns, further developed into themes organised around a central organising concept (Braun & Clarke, 2022), and visualised as mind maps to show

relationships between preliminary themes. Some themes merged, were renamed, or discarded, and at times, excerpts did not fully align with the themes they had initially been coded into, prompting a return to the data to reconsider both the coding and thematic development and ensure that they remained grounded in the empirical material.

Trustworthiness

Having outlined how the studies were conducted, I now turn to how this work may be assessed. Issues of rigour in research have attracted much attention and caused debate, and scholars have long sought to define criteria for evaluating research quality. In medical research, where positivist traditions still dominate (Malterud, 2016), qualitative studies risk being evaluated using criteria developed for quantitative research, such as generalisability (Varpio et al., 2021). However, interpretivist inquiry does not seek to produce universally generalisable findings, but to develop in-depth, contextually grounded understandings of particular phenomena, and, at times, to reconstruct these understandings (Lincoln et al., 2011). In qualitative inquiry, the concept of trustworthiness has been proposed as a more suitable way to discuss research quality (Guba & Lincoln, 2005; Lincoln & Guba, 1985). One aspect of trustworthiness concerns *transferability*, that is, the relevance of qualitative research beyond the immediate study context. Transferability has been described as a multidimensional construct, encompassing *applicability* (the relevance of the findings to other contexts), *theoretical engagement* (how findings connect to or contribute to theory), and *resonance* (the extent to which findings evoke a sense of familiarity) (Stalmeijer et al., 2024).

Regarding applicability, while the Swedish medical internship (*Studies I-III*) and the primary care placement (*Study IV*) are context-specific educational structures, the broader issues under study – transitioning to clinical work and learning through practice – are likely to be of relevance beyond the immediate setting. As the transferability of findings is ultimately for the reader to judge, efforts were made to provide sufficient contextual detail regarding settings, participants, and sampling strategies to support such judgments. Regarding theoretical engagement, the phenomenographic methodology and agency theory used in *Studies II-IV* positioned the findings at a more conceptual level, enabling them to connect with, and potentially contribute to, broader theoretical discussions beyond the local context. Regarding resonance, we presented preliminary findings on many occasions and in different settings, not only at research conferences but also to people involved in the contexts studied: heads of interns, internship programme directors, student supervisors, the Swedish Medical Association, the National Board of Health and Welfare, and interns themselves. These presentations seemed to elicit a sense of recognition, with audiences describing the findings as familiar and worth engaging with. At the same time, international reviewers sometimes reacted to our descriptions of the Swedish internship as somewhat idealised or idyllic, suggesting that the findings stood out

relative to the more struggle-oriented international literature. Some interns, in turn, pushed back against what they perceived as overly positive portrayals of the internship, reminding us that the internship can be tough and that interns are often the ones who get the job done in daily clinical work. In this sense, these discussions went beyond mere resonance; they introduced alternative perspectives that prompted us to revisit and refine our interpretations.

The diversity of perspectives within the research team enabled us to explore and challenge alternative interpretations (Cristancho et al., 2018). Differences in our interpretations surfaced during discussions, prompting further scrutiny of the data and their meanings. In addition, to capture multiple perspectives on the transition from student to doctor, not only from those in transit, but also from those overseeing it, internship programme directors were included in *Study III*. This broadened the empirical basis of the findings and added an organisational perspective that complemented interns' and students' accounts. In relation to *Study IV*, although ethnography has traditionally focused on unfamiliar cultures, sufficient familiarity with the context being studied can also serve as a resource to understand what participants' actions mean and what is at stake for them (Emerson et al., 2011). My experience in clinical practice and medical education in primary care helped me notice nuances in students' actions and interactions that might otherwise have been overlooked. At the same time, this familiarity required ongoing reflection to *make the familiar strange* (van Maanen, 1995) and to prevent familiar practices from passing unnoticed or being taken for granted. I therefore questioned practices and interactions that initially seemed self-evident to me, and considered how my familiarity with clinical practice shaped what I noticed and how I interpreted it. This reflexive work is discussed further in the following section.

Reflexivity

Reflexivity concerns the researcher's role in creating knowledge (Berger, 2015). It means "turning the lens back onto oneself" (p. 220) in order to recognise and take responsibility for one's situatedness within the research, and for how this may shape the setting and the people studied, the questions asked, the data generated, and their interpretation (ibid). In this sense, reflexivity challenges the idea of knowledge as objective and independent of the researcher, and instead views knowledge production as inherently interpretative and situated (Finlay, 2002), aligning with the epistemological stance taken in this thesis. Reflexivity is addressed to some extent across the chapters. In this section, I focus on some key aspects of my positionality – that is, how my personal background, values, and experiences shaped the research process and my interpretations (McLaughlin, 2024).

Personal positionality

When we conducted the internship studies (*Studies I-III*), I was a medical intern. Later, during the ethnographic study in primary care (*Study IV*), I had started

working as a primary care physician. I was thus deeply entrenched in the settings and worlds I was studying. This made the research both easier and more complicated. Easier, because much of what participants described resonated with me. I knew what it meant to be new at a workplace and how much it mattered to feel expected, welcomed, and given something real to do. As I was myself transitioning from student to doctor as a medical intern, I was close to the phenomenon I was studying, which made it natural to engage with the data from an intern's perspective. This was balanced through collaboration with the research team, who brought organisational and employer perspectives I lacked.

In *Study IV*, I worked as a teacher in the reflective seminar following the placement and, through this, gained additional insight into how students experienced it. I knew students highly regarded the placement and often described it as particularly meaningful in preparing them for clinical practice. I therefore entered the field with the expectation that this placement mattered, that something important was happening there. This shaped what I noticed as I followed the students through their daily clinical work and directed my attention towards understanding what seemed to make this placement work in the way it did. What proved more challenging, therefore, was not access but distance (Lincoln et al., 2011). It was sometimes difficult to step back from the data and see it with fresh eyes. Presenting preliminary findings in different contexts and discussing them with colleagues with diverse backgrounds, as described earlier in this chapter, helped challenge my own interpretations.

Interpersonal positionality

As a researcher, one occupies a power position relative to participants as the interpreter of their views and of what counts as valid information (Olmos-Vega et al., 2023). Data can therefore be understood as a product of the power relationship between researcher and participant (Finlay, 2002). I was attentive to how participants perceived me as a researcher and how this may have shaped what participants chose to share. In *Study III*, I initially suspected that internship programme directors might feel uncomfortable being interviewed by an intern - someone for whom they were, in a sense, responsible. However, when asked, most participants positioned me primarily as a researcher and expressed positive views about the study. This may have been facilitated by the interviews focusing on the internship as a meaningful educational structure.

In *Study IV*, I reflected on how my presence as an observer might influence students' behaviour. Although I mainly stayed in the background during observations, I considered it important to build a trusting relationship with the students (Atkinson et al., 2001). The day therefore often began with informal conversation, and familiarity developed gradually. This reflected an attempt to reduce the sense of being observed, in line with arguments that interpersonal relationships in the field help mitigate altered behaviour during observational research (Paradis & Sutkin,

2017). This familiarity also seemed to facilitate an open and reflective interview at the end of the day. To reduce the sense of being observed and, in particular, assessed, I emphasised that the study was not intended to evaluate students' performance, but to understand primary care as a learning environment. When students turned to me with questions in the absence of their supervisor, knowing I was a resident in primary care, I often responded by acknowledging uncertainty or deferring the question, signalling that I was not positioned to know the solution to their current struggle. This also helped me to maintain a non-participatory role during observations (Hammersley & Atkinson, 2007).

Research team positionality

The core research team brought different perspectives and experiences to the work. Matilda Liljedahl, my main supervisor, is an associate professor, medical education researcher and medical doctor with expertise in qualitative methodologies and sociocultural theory and played a central role in the overall research process. Stefan Bergman, my co-supervisor, is a professor and specialist in general practice, with experience in supervising students in primary care, and contributed with a clinically grounded perspective. Anna Nilsdotter, also my co-supervisor, is an associate professor and previously the head of the research and development department at the current university hospital, bringing an organisational and leadership perspective. Additionally, Anna is a former head of interns, and Stefan has supervised countless interns throughout his career, which proved valuable in the internship studies by complementing Matilda's and my more learner-oriented perspectives.

At the same time, all members of the core research team are medical doctors and have completed the Swedish medical internship. This may have contributed to certain aspects of the transition being taken for granted, but it also enabled a shared understanding of the clinical context, facilitated communication within the team, and supported nuanced interpretations of the data. We made efforts to counterbalance the lack of an outsider perspective. In *Study III*, a senior medical student with extensive teaching experience participated in the analysis. Because he had not yet started the internship, he brought a perspective that helped question assumptions others on the research team might have taken for granted. During *Study IV*, I completed a doctoral course in ethnography and received feedback from experienced ethnographers. I also collaborated with Bridget O'Brien, a professor of medical education with expertise in qualitative research and theories of agency. Together, these exchanges contributed to the developing analysis and to my reflexive and methodological development.

Ethical considerations

For all studies included in this thesis, applications for ethical review were submitted. For *Studies I and II*, applications were sent to the Regional Ethical Review Board in Gothenburg, and for *Study IV* to the Swedish Ethical Review Authority.

For *Study III*, an amendment to the initial application was submitted to include programme directors. The studies received advisory opinions (Dnr 285-17; Dnr 2021-03822), indicating that they did not fall under the scope of the Swedish Ethical Review Act, as they did not involve any physical intervention or procedures defined by the legislation. Such advisory opinions are common for qualitative studies within medical education research in Sweden. Nevertheless, ethical considerations were central throughout the research process. All studies were conducted in accordance with the Declaration of Helsinki (WMA, 2013), and key ethical issues are outlined below.

Participation in all studies was voluntary, and participants were informed of their right to withdraw at any time, including after the interview or observation, without providing a reason. Before participating, all participants received written and oral information about the study's aim and scope, data-collection procedures, and how personal data would be handled. All participants provided written informed consent, which was stored securely in a locked cabinet at the university. Participants were informed that all data would be anonymised during transcription. This involved removing names and identifiable locations, which were recorded in a separate document accessible only to the primary investigator in each study (ML for *Studies I* and *II*; YC for *Studies III* and *IV*). Data were stored on password-protected computers and not uploaded to cloud-based services. When presenting findings in manuscripts and presentations, we took care to protect participants' anonymity by avoiding details that could reveal their identities, especially given the relatively small and interconnected contexts in which the studies were conducted.

Study IV raised particular ethical considerations. During observations, it was at times difficult to determine to what extent individuals encountered by the students, such as patients, physicians other than their supervisor, and other healthcare staff, should be regarded as study participants. To address this, I consistently introduced myself as a researcher to everyone I met throughout the day. Patients, especially, were informed that I was observing the student, not them, and were given the opportunity to present their symptoms to the student without my presence in the room. In one instance, a patient requested that I not be present during a physical examination, so I left the room and returned once the student had completed the examination. Because observations took place during student-led patient encounters, the research team and I discussed in advance how I should respond if I judged that a patient might be at risk of harm. If necessary, I would intervene by raising the concern or supporting the student appropriately. During observation, I therefore remained attentive to how care was provided, while maintaining my role as a researcher. No situation requiring such intervention occurred.

Results

This thesis explored the transition from student to doctor, with this chapter summarising the findings. Figures and tables adapted from the included open-access articles are reproduced with appropriate attribution, with sources and modifications specified in the captions.

Study I

*There are actually very few professions where you've got that luxury,
to be allowed to work while receiving supervision.*

(Medical intern)

This study presented four themes through which the interns experienced the medical internship: as a welcomed means to *Finding one's feet* as a junior doctor, offering a position in which interns could be *A doctor with support*. Through the daily clinical work they took part in, they described gradually taking on more responsibility for patients, while still being allowed, and even expected, to seek help and confirmation. The internship structure, however, shaped their experience in an ambivalent way. The theme *Healthcare sightseeing* captured how rotating between and within the mandatory internship placements offered breadth and insight into different parts of the healthcare system, but at the cost of continuity, as interns repeatedly started fresh and learned local routines from scratch. Similarly, the experience of being *Stuck at the zoo* captured the paradox of being embedded in a safe and supportive system that also felt limiting, as interns remained in a temporary in-between position before more permanent employment and specialist training.

Overall, the findings portray the medical internship as a structured and supportive, yet fragmented and sometimes constraining, introduction to clinical work. In contrast to international studies on newly graduated doctors' experiences of entering clinical work, this study showed that the transition from student to doctor was not dominated by exhaustion and stress. A central tension cutting across the themes related to what has been described as the education-vs-service paradox. Interns experienced gaining important learning through their work yet also described certain tasks as lacking educational value. Despite feeling strongly supported in everyday hands-on clinical work, interns' individual learning needs were not systematically addressed. One conclusion was therefore that the internship has untapped potential to function not only as a structured introduction to clinical practice, but also as a more deliberately designed context for junior doctors to develop during the transition to licensed practice.

Study II

*I think [the internship] has been very important, I can see that now.
Compared to being a junior doctor before the internship... it's like, I get it now.*

(Medical intern)

In *Study II*, which examined how medical interns understood the meaning of the internship, the phenomenographic analysis produced four qualitatively distinct ways of understanding it: *as an in-service training, a space, a quality marker, and an eye-opener*. *In-service training* captured the combination of authentic clinical work with feedback, supervision and formal learning activities. *Space* captured the protected time and the permission to ask for help, work at a slower pace, and reflect on one’s practice. *Quality marker* captured the internship’s role in verifying a minimum level of competence and legitimising the transition to licensed practice. *Eye-opener* captured the new insights interns gained into the complexity of medical work and their own professional preferences and limitations. Together, these categories formed a hierarchical outcome space, where *in-service training* represented the least inclusive understanding, followed by the internship as a *space*, while *quality marker* and *eye-opener* occupied the same higher level as they were deemed to represent different but equally complex ways of understanding its meaning (Figure 2).

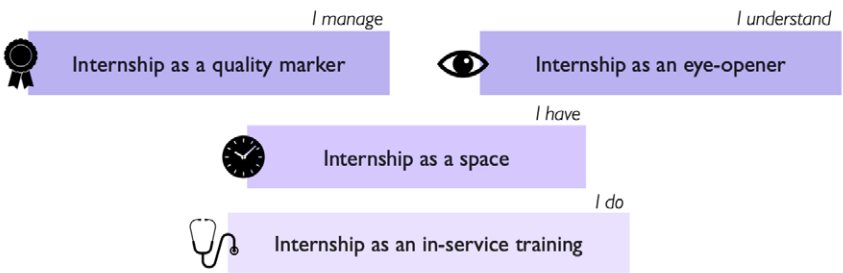


Figure 2. The hierarchical organisation of the four categories constituting the outcome space. Reproduced unchanged from Carlsson et al. (2023).

There was also variation within each category in how interns exercised agency, as shown in Table 2. At times, interns actively sought to make use of the learning opportunities available to them, aiming to “maximise their learning”. In other instances, they chose a more passive approach, taking “the path of least resistance”

rather than actively shaping their experience. Overall, *Study II* pointed to the medical internship as a meaningful phase in which interns could identify as learners within a warranted space. Through this space, they could practise as doctors, build confidence and competence, and gain insights about themselves and their world as doctors.

Table 2. The variation of agency, from low to high, in relation to each category. Adapted from Carlsson et al. (2023). Colours have been modified.

Intracategorical variation	The internship as..			
	an in-service training	a space	a quality marker	an eye-opener
Low agency	Being an intern means working and learning	The space allows me to work slower	Colleagues believe I'm good enough to receive a medical licence	Medicine is not as black and white as I first thought
High agency	What can I learn from this work?	I make use of the space to reflect and do my work properly	I acknowledge my competence and the 'weight' behind my licence	I realise I need to change how I work in order to manage in the future

Study III

The learning objectives [...] are always there, underpinning the internship throughout. But then... there is so much else, more of the “softer” side of it, such as growing as a person in the role of a doctor.

(Programme director)

Study III explored how internship programme directors understood the meaning of the medical internship. The phenomenographic analysis resulted in three qualitatively different ways of understanding the internship, visualised in Figure 3. The first category, *The internship as an education*, reflected the internship as a preparatory phase before licensed practice, focused on acquiring more medical knowledge and meeting the internship’s formal learning outcomes. The second category, *The internship as working as a doctor*, represented learning the craft of a doctor through active participation in healthcare work. The third and final category, *The internship as a space for learning through work*, encompassed a more integrated understanding in which learning and clinical work were seen as inseparable, and in which the internship was understood as a setting for both professional and personal development.

The internship as..

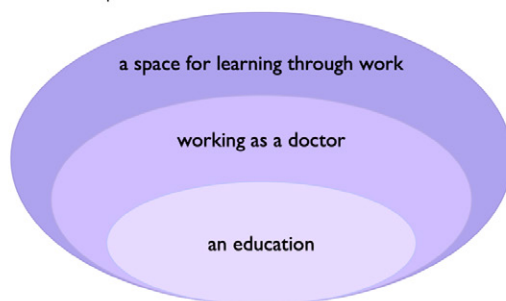


Figure 3. The outcome space organised hierarchically and inclusively. Adapted from Carlsson et al. (2025) under the terms of the CC BY 4.0 licence. Colours and font have been modified.

Critical aspects distinguishing the categories were expressed as dimensions of variation, shown in Table 3. Across these dimensions, the understanding of the internship shifted from a more bounded educational phase, to learning the work of a doctor, and finally towards a more integrated view of the intern as a *learning clinician*. The programme directors’ accounts added an organisational perspective on the transition from student to doctor, in which the meaning of the internship was most fully realised when clinical work itself was organised as a space for learning through work. This understanding resonates with the idea of a developmental space where learners were recognised as legitimate participants, allowed to take increasing responsibility. In the programme directors’ view, hands-on work and service demands were not obstacles to learning, but important sources of learning and development when embedded in a supportive educational environment.

Table 3. Hierarchical outcome space showing how PDs understand the meaning of the medical internship, including the dimensions of variation distinguishing the categories. Adapted from Carlsson et al. (2025) under the terms of the CC BY 4.0 licence. Colours and font have been modified.

Category			
Dimension of variation	1. The internship as an education	2. The internship as working as a doctor	3. The internship as a space for learning through work
Learning focus	Learning objectives	The craft	Growing into the role
Educator strategy	A knowledge provider	A clinical instructor	A learning facilitator
Internship mandate	To prioritise scheduled learning activities	To partially choose among clinical tasks	To work for the sake of learning
Learning driver	The organisation	The workplace	The intern
Degree of patient responsibility	Limited	Shared	Negotiated
Role of PD	To protect	To encourage	To empower
Internship structure significance	Providing overview and breadth	Providing continuity	Providing guidance

Study IV

*[My supervisor] had this combination of enough control for it to feel safe
[...] but at the same time enough confidence to loosen
the reins and let me handle things myself.*

(Medical student)

Study IV examined how agency was shaped in interactions between student and supervisor at a late stage of undergraduate medical education. The analysis generated four interactional patterns, organised as two broader analytical constructs: alignment in the clinical situation and locus of authority in the student-supervisor relationship.

Alignment concerned whether the student and supervisor developed a shared orientation to what mattered in the clinical situation. In the theme *Making sense together*, alignment developed as the student and supervisor jointly interpreted the situation through dialogue, shared reasoning, and making uncertainty visible. By treating the student's perspective as relevant, the student and supervisor could develop a shared understanding of the situation and draw on both contributions to define and address it. In the theme *Left to navigate alone*, such alignment was limited. The student was given room to act but received limited guidance or meaningful engagement from the supervisor. Agency therefore became unanchored: work continued without sufficient shared understanding of what mattered or how to handle the situation. Although students sometimes experienced this as trust, observations showed them left to manage uncertainty and responsibility without sufficient support.

Locus of **authority** concerned how supervisors positioned themselves and how this enabled or constrained their joint handling of the clinical situation. In the theme *With the supervisor at one's back*, the student remained in the foreground of the encounter, while the supervisor provided close, calibrated support and stepped in only when needed. In this way, agency was extended as the supervisor "lent" their authority to the student who was trusted to carry out the work. In the theme *On the supervisor's terms*, by contrast, the supervisor largely set the terms of the encounter by defining what counted as relevant and which lines of reasoning were worth pursuing. Here, agency was constrained because the supervisor retained interpretive authority. The student could contribute only within the supervisor's framing, leaving limited scope for joint interpretation and action.

The findings suggest that the transition to clinical work may begin before it is formally marked by graduation, as students began to act within clinical work while supervisory guidance, shared understanding, and support remained in place.

Discussion

This thesis set out to explore the transition from student to doctor, with a particular focus on how the medical internship was experienced and understood as meaningful and how agency was shaped in a late undergraduate primary care placement for students standing on the threshold of clinical work. All four studies employed qualitative approaches embedded in an interpretivist tradition of inquiry. Together, the studies offer complementary perspectives on how the transition from student to doctor may be understood. In *Studies I-III*, empirical data from both interns and programme directors enabled analytically relevant contrasts between interns' accounts of how the internship was put into practice in everyday clinical work and programme directors' organisational perspectives. Bringing these perspectives into dialogue makes visible aspects of the transition that might have remained less apparent had either perspective been considered alone. Overall, this thesis has the potential to offer new insights into the nature of the transition and contribute to the international scholarly discourse on this topic.

The results chapter addressed the study-specific research questions. The purpose of this discussion is not to revisit each research question separately, but to consider the findings in relation to one another, to the overall aim of the thesis, and to the wider literature on the transition from student to doctor. Following initial interpretations of the findings, the discussion is organised around four cross-cutting tensions:

- What makes work educational?
- Becoming a doctor alone or with others?
- What purposes should medical education serve?
- What kind of problem is the transition?

Finally, I turn to methodological and theoretical considerations. The thesis then concludes with a final chapter outlining implications for practice and directions for future research.

Initial interpretations

*I'm grateful for the internship... for me, it means I'm
not just thrown straight into work after graduating,
but it's more of a gradual transition.*

(Medical intern, data set 1 and 2)

The studies brought forward several important findings. First, what stood out was that the internship was not primarily depicted as a source of anxiety or stress, which contrasts with much of the international transition literature. Both interns and programme directors described the internship as a structured and substantial introduction to clinical work. By the end of the internship, interns felt ready to move on to residency. The internship thus appeared to provide a valued and legitimate space for learning and for gradually developing capability as a doctor. This suggests that the transition need not be inherently distressing, but can be structured to support entry into clinical work. The contrast with previous research therefore strengthens the case for looking beyond the individual and examining the organisational and institutional conditions through which newly graduated doctors enter practice (Brown et al., 2021; Chen et al., 2022).

Second, support played a central role across the four studies, though characterised in different ways. Interns highly valued the internship's organisational safety net and access to help in everyday clinical work, consistent with previous research highlighting the importance of being able to obtain help at work (Cave et al., 2009). Programme directors balanced protection with exposure to manageable challenges. In the primary care placement, support was situated in the immediate relationship between student and supervisor, particularly when they interpreted clinical situations together and the supervisor enabled the student to act while remaining available. Across the studies, support was central to meaningful participation and increasing responsibility.

Third, both the internship and the primary care placement seemed to offer a legitimate position from which to learn within clinical work. Interns and students could participate in authentic patient care without being treated as fully independent practitioners. Uncertainty, questions, help-seeking, and the need for guidance remained acceptable within this position. The educational value of these settings thus appeared to lie in combining sufficiently demanding clinical participation with continued recognition of the learner's need for support, characterising what O'Brien (2018) described as the "sweet spot between challenge and support" (p. 683).

Nevertheless, important tensions also emerged. One prominent tension concerned the internship's many rotations. Repeatedly entering new clinical settings meant

that interns' attention was often absorbed by grasping local routines, administrative logistics, and new working relationships, before they could engage more fully in the clinical work and learning of each setting. This problem is recognised in the literature, where rotational models are increasingly questioned as they lead to frequent transitions between clinical settings, placing high demands on trainees' ability to adapt (Holmboe et al., 2011; Sturman et al., 2017). In sum, although the internship and primary care placement were largely described as supportive and valuable, the studies also revealed several tensions which provide the basis for the discussion that follows.

What makes work educational?

Clinical work has for centuries been viewed as a central source of learning for both students and junior doctors, yet the extent to which it is organised to support learning has been questioned (Billett, 2001; Dornan et al., 2014; Liljedahl, 2016). In *Study I*, interns acknowledged that they learned through work, with their knowledge deepening through seeing patients and “getting the job done”. They, however, also viewed some tasks as having limited educational value when understood as mainly administrative, as taking time away from other learning opportunities, or as offering little support for integrating the work into the intern's learning, as previous research has also shown (Kesselheim et al., 2014). This became particularly apparent in short placements, where no one really knew the intern or understood their role, leaving interns feeling like healthcare producers rather than recognised as doctors in training. This points to a broader tension between working and learning in clinical workplaces, where patient care and learning take place simultaneously (Cleland & Durning, 2019; Skipper et al., 2016). This tension has also been framed as a paradox, in that clinical work is recognised as a central source of learning, yet the time and demands of clinical work are often experienced as taking time away from learning (Nothnagle et al., 2011). For those transitioning into clinical practice, this tension is particularly relevant, as they are expected to contribute to patient care while still learning how to work as doctors (Teunissen & Westerman, 2011).

Study III added a different perspective on this tension. Like the interns, the programme directors recognised that the balance between work and learning needed monitoring and understood part of their role as protecting interns from excessive workload and from being “at the mercy of the clinic”. Yet, in the phenomenologically most advanced, or complete, understanding, *The internship as a space for learning through work*, programme directors understood work and learning as closely intertwined. They described a learning-driven practice as one in which interns were given tasks conducive to learning, constructive feedback, and opportunities for dialogue and reflection. This difference between interns' and programme directors' perceptions became even clearer when returning to the interview material for this thesis. Interns tended to describe routine tasks, such as writing discharge summaries (epicrisis), as mainly administrative and as time-consuming, taking time away

from learning. Programme directors, however, described the same task as a potential site for learning, offering opportunities to assess and develop clinical reasoning if it were introduced, followed up, and discussed. This aligns with previous work showing that trainees and educators view the balance between service and education differently, with trainees more likely to report an excess of service (Kesselheim et al., 2014).

How, then, can this tension be addressed? Research highlights the importance of supervisors in helping trainees recognise and make use of learning opportunities in clinical work (Yardley et al., 2018). In a recent study of residents' perceptions of the education-service tension, Kim et al. (2026) concluded that educators need to make the educational value of clinical tasks explicit to learners. They also found that meaningful individualised feedback, together with gradually increasing responsibility for patient care, could support learning from service-heavy tasks, a point also made in earlier work (Galvin & Buys, 2012; Kesselheim et al., 2014). Although a detailed discussion of feedback lies beyond the scope of this thesis, its central role in the education-service tension warrants consideration. It is well established that feedback is not a simple, straightforward transfer of information from one person to another. Feedback scholarship has increasingly moved beyond information-transmission models, emphasising feedback as a social, relational, and situated process in which trust and credibility matter (Ajjawi & Boud, 2017; Carless, 2020; Matthews et al., 2024). In medical education, research has highlighted the importance of a stable, continuous relationship between supervisor and learner for feedback to be effective, particularly when it comes from someone familiar with the learner's development and recognised by the student as a credible source (Bing-You et al., 2017; Hauer et al., 2014). Corbin et al. (2026) extend this by arguing that feedback becomes educationally powerful only once it occurs within relationships of *recognition*, that is, when it is offered within relationships in which learners feel seen as legitimate participants.

Van der Zwet et al. (2011), in turn, highlight the importance of longer placements needed to establish supervisory relationships and attune to learners' development over time to "truly learn from doing" (p. 372). This resonates with the findings of *Study III*, in which programme directors emphasised *continuity* as central to the internship structure. Longer rotations were understood as important because they allowed interns to settle into workplaces, build meaningful relationships with staff, patients, and supervisors, and gradually become legitimate members of the clinical team.

In sum, this suggests that supervisors play a central role in supporting learners to learn through work. To do this, supervisors need time and opportunities to get to know the learner and follow their development over time. Introductory postgraduate training with longer placements and fewer transitions may better provide such opportunities. These features are part of the new introductory service (BT) in

Sweden and are also found in the increasingly common longitudinal integrated clerkships (LICs), where students participate in clinical work and maintain learning relationships over an extended period (Konkin & Suddards, 2017). Although learning can never be fully designed (Wenger, 1998), this thesis and previous research suggest that authentic clinical work, meaningful feedback from supervisors who know the learner, and continuity in supervision can create better conditions for learning during the transition from student to doctor.

Becoming a doctor alone or with others?

The previous section highlighted the role of feedback and longer placements for work to support learning. Attending to what was absent or less visible in the accounts also formed part of the interpretive work (Alvesson, 2003). Alongside the substantial support interns described in their hands-on clinical work, their accounts offered little evidence of support from someone who followed them across rotations and placements and helped them make sense of their experiences and ongoing development. This is not to say such support never existed, but it was not a prominent feature of interns' accounts. Previous research has similarly noted a lack of sustained support for graduate doctors across the transition (Gordon et al., 2017; Jindal-Snape, 2018). In particular, Brown et al. (2021) found that UK foundation doctors had little-to-no interpersonal continuity in supervision, despite having assigned supervisors, and argued that this limited the supportive relationships needed during transition.

In contrast, programme directors emphasised individual support over time as a key feature of the internship. In their most complete understanding, *The internship as a space for learning through work*, they described how supervisors acted as learning facilitators who fostered supportive dialogue, guided interns and followed their progress. These findings again point to a mismatch between how the programme directors understood the internship and the interns' experiences of it. The programme directors' accounts may have been partly idealised, reflecting how they understood that the internship should function when working well. The two groups also spoke from different positions, with interns having hands-on experience of the internship and being able to describe it as put into practice. The mismatch may also relate to the internship's fragmented organisation, with multiple rotations and repeated transitions between workplace settings making it difficult to maintain continuity in supervision. However, it also reflects something about clinical education itself, that noticing learners, following their development, and helping them connect clinical tasks to their learning and professional growth is often treated as implicit (Eraut, 2004) and may therefore be less reliably built into everyday practice.

Although their accounts differed regarding support over time, both interns and programme directors attributed considerable importance to the intern's own responsibility for learning. Interns described the need to make the most of the

internship and maximise their learning opportunities, while programme directors emphasised interns' initiative and motivation to learn as important drivers of learning. This suggests that, across both groups, learning during the internship depended on the individual intern's capacity to recognise and use the opportunities afforded to them. This raises a broader question about how responsibility for learning and developing as a doctor is organised in clinical education, when support from someone who follows the learner over time is limited. Bleakley (2020) argues that medical education continues to privilege individual mastery, despite the fact that clinical work depends on collective and interprofessional practice. In his critique of "heroic individualism" (p. 1178) in medical education, he problematises the idea of becoming a doctor as an individual achievement. Ahn et al. (2025) make a related point, aptly summarising the issue: "learning is not a solo endeavour, and [care] is not delivered in isolation" (p. 951). Their review supports a shift from independence and individualism towards interdependence and collectivism as guiding paradigms for healthcare and HPE.

Competency-based medical education (CBME) and its implementation through Entrustable Professional Activities (EPAs) may be problematised in relation to this tension between work, which is inherently collaborative, and learning, which is often viewed as an individual responsibility. CBME and EPAs aim to make clinical competence observable and assessable (Ten Cate et al., 2020) and have been given a more systematic role in structuring clinical training, feedback, and assessment in the new Swedish medical programme (Pålsson et al., 2024). Although entrustment ultimately depends on establishing trust, and trust ultimately being relationally produced, attention may still centre primarily on the individual learner's performance and documented readiness, which, in turn, risks making relationships and workplace conditions less visible. CBME may inadvertently reinforce an individualised view of learning if students are expected to seek observations, request feedback, reflect on it, and translate it into learning largely on their own (Liljedahl et al., 2026). Recent scholarship (De Heer et al., 2026) on CBME has called for a more personalised approach, arguing that EPAs are important but "not the full story" (p. 530), advocating learning spaces without checklists, and cautioning against over-structuring feedback through assessments.

Recent work points to one way to counter this individualisation of learning by advocating sustained engagement with medical trainees to observe their development over time (Balmer et al., 2026; Brown et al., 2021), as well as longitudinal coaching relationships that support continuity across the transition (Winkel et al., 2023). *Study IV* adds to this by using a conceptual framework emphasising relations in clinical work. Although the primary care placement lasted only two weeks, compared with the longer internship, it involved sustained supervisory engagement, allowing the supervisor to witness the student's progress over time. Through shared engagement with clinical situations, the responsibility for the student's development was, in a sense, distributed between student and supervisor in the themes *Making*

sense together and *Having the supervisor at one's back*, where relational agency was prominent.

This thesis does not suggest that students or junior doctors should be devoid of responsibility for learning, or that individual capacities such as coping skills, self-regulated learning, resilience, and the ability to navigate uncertainty are unimportant. At its core, clinical workplace learning involves a negotiation between what the workplace offers and the individual's needs and aspirations (Billett, 2001; Watling et al., 2021). However, it becomes problematic when individual capacities are treated as the primary solution to transition difficulties (Liljedahl et al., 2022). The balance might have tilted too far towards individual responsibility, captured by the Latin proverb *faber est suae quisque fortunae*, or “each person is the maker of their own fortune”. This echoes Konopasky et al.'s (2025) critique of approaches that place responsibility for successful development primarily on the individual learner.

The findings of this thesis support the critique of individualistic solutions to transitions. Expecting students and junior doctors to become capable doctors largely through their own efforts may place an unreasonable burden on the individual and risks being counterproductive. Such an approach may affect patients and society at large, who depend on doctors who can work with others, seek support, and keep learning in practice. Just as Balmer et al. (2026) argue that HPE researchers must consider sustained engagement with medical trainees to see “the throughline of change, the ebbs and flows that roll quietly into transformation” (p. 2), we need to do the same for the supervisor-trainee relationship.

What purposes should medical education serve?

Difficulties in the transition from student to doctor are often met by calls for better individual preparedness for work (e.g. George et al., 2023; Scicluna et al., 2014), while the preparedness agenda has also been criticised for overestimating what undergraduate education can achieve (Aggarwal et al., 2023; Mylopoulos et al., 2025). This reveals another tension: the purpose of undergraduate medical education.

Lindberg (2012) raises this issue in relation to the Swedish medical programme, asking whether undergraduate medical education should be understood primarily as preparation for work, or whether such a view risks reducing university education to the production of employable graduates. From a *Bildung* perspective, higher education can instead be understood as fostering educated, critical, and free-thinking individuals (Lindberg, 2009). In Lindberg's view, an overly strong focus on education's direct usefulness narrows the university's educational purpose and, instead, he suggests that learning to work is best done at work. Hager and Hodgkinson (2009) make a related argument, suggesting that knowledge developed during undergraduate education can, at best, be understood as only one contributing factor in the transition from education to work. Hauer et al. (2023), in turn, caution that an

emphasis on work-readiness risks leading medical schools to prioritise competencies needed for postgraduate work, while giving less attention to other capabilities that remain important during undergraduate education. In a sense, these arguments give credibility to the findings in *Study III*. The programme directors did not assume that interns already knew how to work as doctors when they entered the internship, but rather understood it as a period in which junior doctors learned to work as doctors by “putting theory into practice”, and, by the end of the internship, “becoming employable” as licensed physicians.

If the purpose of medical education is not primarily to produce fully fledged graduates ready to start work, other questions about the purpose of undergraduate education become visible. Biesta (2015) proposes that education should serve three purposes: qualification, socialisation, and subjectification, with qualification referring to the acquisition of knowledge and skills qualifying someone to do something, socialisation to becoming part of the profession’s norms, values, practices, culture and traditions, and subjectification to becoming able to act as a subject of one’s own actions: to judge what knowledge and skills a situation calls for, how professional norms should be interpreted, and when rules may need to be questioned. In relation to medical education, Biesta & van Braak (2020) suggest a curriculum that lets students encounter the realities and uncertainties of practice, while giving them time and support to respond thoughtfully and responsibly. *Study IV* provides an empirical example of this, as students were supported in making judgements and acting in patient encounters characterised by uncertainty and multiple possible courses of action.

Varpio et al. (2025) likewise argue that medical education needs to go beyond qualification and socialisation, equipping individuals with agency to shape their qualifications and socialisation into something more. This perspective resonates with the findings of *Studies I-III*, suggesting that interns were not only being qualified (e.g. The internship as a quality marker, *Study II*) and socialised (e.g. The internship as learning to work, *Study III*) but also, as shown in *Study II*, afforded the capacity - the agency - to shape what the internship meant for their development. Some interns described using the internship to pursue personal interests, while others reflected on what they could learn from everyday patient care within the space the internship afforded. Others again described developing ways of working aligned with the values they formed during the internship, such as “leaving work at work” and recognising a need to work differently in the future. In this sense, the internship seemed to allow interns to shape how they wanted to practise as doctors, contributing, at least in part, to a subjectification in their becoming.

Preparing medical students for clinical practice thus appears to offer only a limited understanding of the purpose of undergraduate medical education. While it may be tempting to jump to the conclusion that medical education should therefore move away from preparation for work, this would be a misleading interpretation. After

all, medicine is a vocational education that leads to a regulated profession with specific responsibilities to patients, colleagues, and society; therefore, qualification for the job of a doctor is central to medical education (Biesta & Van Braak, 2020) and an important responsibility of medical school is to, at least in part, prepare students for postgraduate work (Elnicki et al., 2015; Pattinson et al., 2025, 2026). This concern is especially salient in Sweden's new medical programme, as in most European countries, where students are licensed upon graduation.

Reconciling the need for preparation with its inherent limits requires a transition that accommodates both. Hauer et al. (2023) argue that, across the undergraduate-to-postgraduate transition, educators must recognise newly graduated doctors as both contributing members of the workforce and as learners who require ample support, supervision and opportunities for continued learning as they gradually assume more independent roles. The internship appears to have combined these two positions, as interns contributed substantially to healthcare delivery while also providing an institutionalised space for supervision, learning, and a gradual increase in responsibility. Positioned between undergraduate education and licensed practice, it served as a buffer zone for supported entry into clinical work. Because interns remained unlicensed, they did not yet carry full formal responsibility for patient care, which likely strengthened their mandate to remain learners. Along with others (Hauer et al., 2023; Yardley et al., 2018), this thesis suggests that the transition into clinical practice should allow for a gradual increase in responsibility, supported by supervision and continued opportunities for learning.

Before graduation, students can prepare for work without assuming they are fully prepared at graduation. As outlined in the background chapter, meaningful clinical experiences before graduation that are relevant to future work have been linked to reduced transition stress (Brennan et al., 2010; Cave et al., 2009). *Study IV* adds detail on the kinds of meaningful and relevant clinical experiences that can occur before graduation. In the primary care placement, students engaged in authentic clinical work, made sense of patient encounters with their supervisors, and tried out forms of reasoning and patient responsibility akin to the work of doctors. Ideally, undergraduate medical education can foster educated, critical, and free-thinking individuals while also providing access to authentic and meaningful clinical work, not solely to reduce transition stress, but to enable students to begin learning to work as doctors while still being supported as learners.

What kind of problem is the transition?

Having engaged with the literature on transition throughout this thesis, it is worth returning to the concept's usefulness. The term transition is useful in medical education because it highlights a critical period when junior doctors risk burnout and unhealthy stress levels. It also captures something important about the move from student to doctor, as moments such as graduation, the first day at work and

receiving one's licence mark real shifts in responsibility and societal accountability. As one intern in *Study II* put it, receiving a licence also means receiving something you can lose.

At the same time, the word transition may carry a misleading sense of boundedness. Even when defined as an ongoing process, a definition that I have leaned towards in this thesis, transition still suggests movement from one state to another. This fits certain formal aspects of becoming a doctor, yet the process studied in this thesis extends across undergraduate education and postgraduate training, spanning years. In addition, some of the difficulties associated with entering work may not be specific to the transition alone but reflect more enduring conditions of medical work. Clinical practice is complex and demanding, and working as a doctor can also be difficult for those long in the profession (Schei et al., 2025). The first day at work is likely to remain challenging, as entering a new professional role involves uncertainty that cannot, and perhaps should not, be entirely removed (Carlsson & Liljedahl, 2025). When transition is conceptualised as a bounded event, and research focuses primarily on the immediate period after graduation (Monrouxe et al., 2017), it captures only a snapshot of the transition, likely narrated as difficult, stressful, and overwhelming, which in turn shapes what solutions seem reasonable. Induction and orientation programmes, boot camps, transition coaching, and improved handovers may all be useful, but are unlikely to be sufficient as stand-alone solutions to a problem that extends over time and, as argued in this thesis, is very much relational.

Balmer et al. (2026) argue that medical education has been “pathologised” (p. 1) when training is framed primarily in terms of struggle and learner deficits, and ask what is at stake for trainees when training is presented as a condition to be treated. Together with others (Pattinson et al., 2026), they call for a conceptual shift towards understanding transitions as ongoing and complex processes. Balmer's (2026) account in *The Long Arc of Training* illustrates what such a shift can make visible. Following six doctors from medical school to specialist practice, she shows how their interpretations of earlier experiences changed over time, as later experiences enabled them to reconsider and re-evaluate their trajectories.

Hager and Hodkinson (2009) offer a related way of reconsidering the transition from education to work as a process of becoming. They argue that the metaphor of learning transfer is particularly misleading in vocational education, as it suggests that knowledge and skills acquired in education can simply be carried into practice. In their account, it is the person, not the knowledge, who moves between contexts. They instead propose understanding learning as *becoming*: an ongoing process in which knowledge, skills, experience, and the person themselves are reconstructed through participation in practice. In medical education, the transition into work can thus be understood less as the successful application of a body of knowledge and more as part of the ongoing process of becoming a doctor. Because this process

has no clear endpoint, it also challenges the idea of transition as being fully prepared for work. This is consistent with research on lifelong learning and continuing professional development (CPD), that is, the learning and professional development that takes place after finishing specialisation, which has been described as the longest phase of a doctor's learning journey (Allen et al., 2024).

The findings and conceptual reasoning in this thesis suggest that the transition from student to doctor can be understood as a longer developmental *trajectory* (Lindberg, 2012), beginning during undergraduate education as students gradually participate more fully in clinical work and continuing well into postgraduate practice. The primary care placement in *Study IV* allowed students to begin approaching the work of doctors before graduation, while the internship studied in *Studies I-III* provided an institutionalised space where newly graduated doctors could work as doctors, with support and gradually increasing responsibility, while still being recognised as developing professionals. The conversation on transitions should perhaps be less concerned with “solving” the transition once and for all and more concerned with developing and sustaining the conditions that make clinical work possible to learn from. Removing uncertainty, difficulty, or challenge from the transition is probably not possible, as these are partly inherent in clinical work. The task is better considered as organising education and work so that students and doctors are accompanied through the uncertainty and supported in the difficult parts of becoming a doctor.

Methodological considerations

This section discusses methodological considerations relating to the individual studies and to the thesis as a whole, beginning with some general considerations.

Some of the published studies in this thesis describe the analysis as inductive, reflecting an intention to remain open to the empirical material rather than applying predefined categories or frameworks. In retrospect, however, the analyses may be better described as *abductive*, since they were shaped by prior knowledge, methodological commitments, and theoretical interests developed during the research process (Braun & Clarke, 2019; Sandelowski, 1993; Varpio, Ajjawi, et al., 2017). Abduction involves moving between empirical observations and theoretical ideas to arrive at possible interpretations of what is observed (Timmermans & Tavory, 2012), with Veen (2021) describing abduction as asking what something *might be a case of*, connecting concrete observations to more abstract concepts while remaining open to other interpretations. The findings of this thesis are therefore provisional in that they represent possible ways of understanding the empirical material, rather than definitive explanations.

The interns in *Studies I* and *II* were recruited from a single region in Sweden and, to our knowledge, worked in comparatively well-organised hospitals and internship settings. We also deliberately interviewed participants toward the end of their internships, as we anticipated that interns who had experienced all four rotations and could look back on the internship as a whole would provide more developed accounts of the meaning they attributed to it in the transition from student to doctor. Including participants from other regions, particularly settings with more limited access to supervision and clinical support, as well as interns earlier in their training, might have foregrounded more of the uncertainty and difficulties associated with the transition to work.

During the interviews in *Study III*, many programme directors spontaneously began by discussing the new introductory service (BT) and their concerns about its implementation before turning to the medical internship (AT). We interpreted this as reflecting a broader moment of uncertainty in the educational landscape, which may have led them to speak more positively about the internship. At the same time, the contrast may have helped them articulate features of the internship they considered particularly meaningful.

The scope of the findings should also be understood in light of the internship's long history. Since its introduction more than five decades ago, the internship has undergone many changes and been experienced by many generations of doctors. The interviews with twelve interns and twelve programme directors were not intended to provide a comprehensive account of what the internship has meant across periods and individual trajectories. The findings are situated accounts of

how these participants experienced and understood the internship in this context and at this particular moment in time. Instead, the studies contribute by documenting features of a long-standing Swedish system for introducing newly graduated doctors to clinical work and by using the internship as an analytically informative case through which we could examine broader questions about the transition from student to doctor.

Study IV was based on a limited period of fieldwork, comprising approximately 67 hours of observation across ten days. From a conventional ethnographic perspective, the relatively short field duration may limit the credibility of the findings, as prolonged, sustained observation could have supported a more nuanced understanding of local practices and what is taken for granted (Atkinson & Pugsley, 2005). However, priority was given to close analysis of the observations and interviews and to developing a theoretically anchored interpretation of the data, with the amount of data generated kept manageable for in-depth analysis (Braun & Clarke, 2022; Kvale & Brinkmann, 2009).

This thesis engaged exclusively with research on transitions in medical education. One reason was the field's extensive literature, which made it challenging to gain an overview even within this domain. I nevertheless recognise the absence of perspectives from adjacent fields as a limitation. Research on transitions in professions such as nursing and teaching could have provided useful contrasts. From a phenomenographic perspective, these contrasts might also have made additional aspects of the phenomenon discernible through variation. Future research could therefore look beyond medical education and draw on transition research from adjacent professions to make additional aspects of the transition in medicine visible.

Coherence between studies

This thesis comprises four studies that employ three different methodologies, datasets, and analytical methods. This methodological breadth may raise questions about coherence across the studies. In short, it reflects an attempt to let the research questions and empirical material guide the choice of approach rather than to apply a single predetermined methodology across all studies. This approach aligns with Malterud's (2016) argument that methods should serve the substance of qualitative inquiry rather than become objects of methodological fundamentalism, or *methodolatry* (Janesick, 1994). *Study I* began with a broad exploration of interns' experiences, and *Study II* shifted to understanding how the internship was perceived as meaningful and how agency was shaped in practice. This allowed the thesis to make a conceptual contribution to a field in which the transition from student to doctor is often framed primarily as a problem. The coherence between the studies in this thesis, therefore, lies in the thesis-level framing, which brings the studies together as workplace practices through which the transition from student to doctor can be

understood. Still, synthesising findings across studies requires greater caution in a thesis that draws on different methodologies, cases, and theoretical frameworks.

A related consideration concerns the coherence between the thesis's overarching aim and framing and the individual studies included. Although the thesis is framed as a study of transition, the term *transition* is not explicitly used in the research questions posed in the individual studies. This, as described in the previous section, also reflects how the research developed over time, where the transition framing emerged gradually as the studies came to be understood as examining different points along the trajectory from student to doctor. However, situating the studies within the transitions conversation was not straightforward. Throughout the doctoral project, I returned to where these studies' contribution would be most productively used. For example, framing the studies within research on workplace learning, with a close analytical focus on agency, would have been a viable option. So too would a focus on progressive independence throughout different stages of training, or positioning studies within the field of professional identity formation. I ultimately framed the thesis within transition research because the included settings provided a relevant basis for examining transition beyond its common portrayal as a difficult period. As the project progressed, the studies also came to resonate with the recent relational turn in transition research, a perspective that, to our knowledge, had largely been absent from discussions of how learners enter clinical work.

A further methodological decision concerned whether to continue examining the internship across all four studies, for example, by focusing on interns' supervision or mentorship, or to extend the inquiry to a different point in the transition. We chose the latter, prompted by a growing interest in how this transition might begin before formal graduation. In *Study IV*, we were initially interested in how the primary care placement could be understood as preparation for clinical work. As the study progressed, however, the analysis shifted, reflecting our understanding of undergraduate clinical education as more than preparation for later work. Another option would have been to study newly graduated doctors in temporary junior doctor posts before the internship. However, these posts vary considerably in duration, degree of patient responsibility and access to supervision. By contrast, the internship and the primary care placement in *Study IV* were more clearly specified workplace arrangements. Providing sufficient contextual detail was important to enable readers to judge the applicability of the findings to their own settings (Stalmeijer et al., 2024).

The internship as a case of transition

A further methodological issue concerns using the medical internship as a setting for studying the transition from student to doctor. For many participants, entering the internship was not their first experience working as a doctor, as they had

previously held temporary junior doctor posts. This limits the extent to which the findings reflect the “first” transition from education to work. Previous work experience may also have shaped their understanding of the internship. Temporary junior doctor posts are generally not regulated as educational positions and may offer less consistent access to supervision, mentorship, and protected educational time (Pettersson & Börjesson, 2019). The internship may therefore have appeared particularly safe, structured, and supportive. Because the interviews focused on the internship, these earlier work experiences were captured only indirectly through participants’ retrospective comparisons. At the same time, this prior experience also represented a methodological strength. From a phenomenographic perspective, previous clinical work may have provided a useful contrast, making the internship’s particular qualities more discernible. Previous temporary posts may therefore have made the educational structure, learner mandate, and support available during the internship more visible. Prior clinical work thus both complicated the internship as a case of transition and enriched accounts of what made it perceived as meaningful.

Phenomenographic considerations

In *Study II*, the analysis aimed to provide an inclusive account of how the internship was understood by identifying categories of description within an inclusive outcome space (Marton & Booth, 1997). However, the analysis did not explicitly articulate the critical aspects that distinguished these categories. This reflects my developing understanding of phenomenography at the time of the analysis, as well as the complexity of applying a methodology whose terminology and reporting practices have continued to evolve during the period when the studies were conducted (Åkerlind, 2025). More explicitly identifying what was discerned in the more inclusive categories would have strengthened the phenomenographic analysis and clarified how the categories differed and related. At the same time, stakeholders such as interns themselves, heads of interns, and programme directors received the outcome space well and found it valuable in relation to practice, suggesting that the analysis captured important variation in how the internship was understood. *Study II* also informed the later phenomenographic work in *Study III*, in which the dimensions of variation were explicitly articulated.

On a related point, the phenomenon examined in phenomenographic studies deserves consideration. In phenomenography, the object of inquiry is the different ways in which a phenomenon is experienced by someone. A phenomenon may be understood as something, conceptual or physical, that people are able to experience as a bounded entity and distinguish from something else (Åkerlind, 2025). From this perspective, the Swedish medical internship, an identifiable educational and workplace arrangement with a name, structure, regulations, and a shared social meaning, can clearly be treated as a phenomenon. In *Studies II* and *III*, however, the focus was not on the internship experience itself, but on its meaning, or significance, for junior doctors’ development. This may be seen as a less conventional

phenomenographic object. Yet, if the internship can be experienced as a phenomenon, its meaning could reasonably also be experienced as an aspect of that phenomenon. Focusing on the internship's meaning was important to the knowledge contribution sought in these studies, as it enabled the analysis to ask what this transitional arrangement could offer, rather than only what problems it created.

Theoretical considerations

Phenomenography and what it makes visible

Phenomenography shaped the findings of *Studies II-III* and provided a systematic way to reduce complex empirical material to a limited number of qualitatively different categories. The resulting outcome spaces also provided a clear, pedagogically accessible structure that, in my experience, made the findings easy to present and discuss. At the same time, since phenomenographic analysis focuses on variation across the group as a whole rather than within individual participants (Åkerlind, 2005), it gave less prominence to individual accounts and trajectories. I also found it difficult to accommodate contradictions in the data within a hierarchical outcome space. An alternative such as thematic analysis might have allowed contradictory or context-dependent meanings to remain analytically significant without requiring them to be incorporated into a structurally related set of categories. The hierarchical organisation of the outcome spaces also influenced how I approached the findings. Although the hierarchical representation of the categories reflects inclusiveness rather than value (Åkerlind, 2024), I found it difficult to avoid giving greater weight to the more inclusive, or complete, categories. This could make lower-hierarchy categories appear mainly as less comprehensive understandings, even when they raised questions that were interesting in their own right.

Agency as a theoretical concept

The use of the term *agency* across the thesis also requires some clarification, as it became more theoretically specified over the course of the project. In *Study II*, agency was used to describe variation in how interns approached their everyday work and learning during the internship, ranging from a more active approach, where interns tried to maximise their learning, seek opportunities, and make the most of a limited period of training, to a more passive approach, where interns allowed themselves to “just be interns”, keep a lower profile, and meet the minimum expectations of the role. These findings proved highly recognisable to interns when discussed with them. Meanwhile, through the work with *Study IV*, I came to see the result in *Study II* less as a matter of having more or less agency, and more as different ways interns exercised agency by adjusting their engagement to the situation. What differed was not necessarily the degree of agency, but the aspiration or ambition that interns chose to enact in a given situation. Nevertheless, the notion of agency became an important stepping-stone towards a more developed interest in how learners' possibilities for action were shaped, as examined in the last study.

Using relational agency as a theoretical framework

This thesis adopted a sociocultural perspective on learning, with relational agency used as a theoretical framework in *Study IV*. Relational agency offered a way of questioning assumptions about individual action, consistent with calls to use alternative theoretical perspectives to “make strange” familiar practices in medical education (Kuper et al., 2013). Engaging with theory can, however, be demanding, requiring extensive reading and a rigorous understanding of its specific concepts and propositions (Stalmeijer & Varpio, 2026). To my knowledge, relational agency remains rarely used in HPE, and I found little empirical work to guide my application of the theory. As a result, the study relied largely on my own reading of Edwards’ work, developed and discussed within the research team. Its limited use in the field may reflect the theory’s strong sociological roots and its connection to cultural-historical activity theory (CHAT). Although CHAT has been argued to offer a rigorous framework for understanding medical work, its demanding conceptual vocabulary may feel like “quicksand” for medical educators (Bleakley, 2018, p. 394). As a novice researcher with a medical background, I have sometimes found it difficult to navigate the qualitative and sociocultural traditions. This has likely shaped how I have interpreted and used the theory of relational agency, and traces of other epistemological traditions may still be visible throughout this thesis. At the same time, I have been fortunate to work with a supervisory team with extensive knowledge of sociocultural theories of learning, as well as with colleagues in adjacent fields where theories of agency are more commonly used.

As I worked with the observations and interviews in *Study IV*, it became clear that students’ ability to act in a doctor-like role depended on the people around them, especially their supervisors. Relational agency was helpful here as it directed attention to how this dependence was enacted. It helped me understand students’ participation as relationally shaped, rather than reducing it to their individual aspirations or ambitions. It also became clear that agency was shaped in part by how supervisors exercised authority, lending or limiting it in the clinical encounter. This suggests that authority may be an important relational condition for agency in supervised clinical education. In a modest, suitably relational-agency spirit, *Study IV* may therefore return something to the theory by showing how authority is part of what makes action possible.

Studying the primary care setting also raised broader issues about the use of theory in clinical research. Malterud (2016) describes general practice as a fertile field for qualitative research but notes that research in this setting has given limited attention to theoretical perspectives, a pattern that likely extends to other clinical settings. In general practice specifically, this may reflect the field’s pragmatic nature, where everyday clinical judgement, practical reasoning, and heuristic ways of working are needed to handle undifferentiated problems, limited information, and a fair amount of uncertainty. Malterud therefore also cautions that an overly theoretical focus

may reduce the practical relevance of the findings. In my experience, relational agency offered a theoretical perspective that could sharpen the analysis of students' participation in primary care, while remaining closely anchored in the everyday clinical situations. As such, the theory seemed to offer a balance between analytical depth and sensitivity to the practical realities of clinical work.

Conclusion

This thesis explored the transition from student to doctor through the Swedish medical internship and a late undergraduate placement in primary care. The findings and conceptual reasoning can be summarised as follows.

The transition from student to doctor can be understood as a longer developmental trajectory that begins before graduation and continues into postgraduate practice. *Study IV* showed that medical students could begin taking part in the work of doctors before graduation when they were given opportunities to participate in authentic clinical work within supportive supervisory interactions. *Studies I-III* showed how this development continued during the internship, as junior doctors participated in patient care with access to supervision and gradually increasing responsibility. Across the studies, learning to work as a doctor thus took place through participation in clinical work while remaining supported as a developing professional.

The findings also show that clinical work was not always experienced as supporting learning. This thesis suggests that work better supported learning when supervisors helped learners make sense of their experiences, made the learning potential in clinical tasks explicit, and followed learners' development over time. Support during transition therefore extends beyond immediate help with clinical tasks and includes continuity in learning relationships.

Taken together, the thesis suggests that the transition should not be approached mainly as a problem to solve through better individual preparedness. Students and newly graduated doctors need opportunities to participate in clinical work while remaining recognised as developing professionals. Supporting the transition is therefore less about removing uncertainty and difficulty than about organising education and work so that students and doctors are accompanied through them in the process of becoming doctors.

Implications for practice

Although some uncertainty and difficulty are likely to remain part of entering medical work, the findings of this thesis suggest that support is especially important as students and newly graduated doctors enter a clinical practice for which they cannot be fully prepared in advance. Attention should therefore be directed towards how medical education and healthcare organisations can create and sustain such support.

Studies I-III suggest that newly graduated doctors need a structured period in which they can contribute to patient care while continuing to develop as doctors. The internship supported this through several interconnected features: close clinical supervision, organisational support, gradually increasing responsibility for patient care, and a legitimate space to work at an appropriate pace, read, reflect, and seek help. Postgraduate workplaces need to protect the learner status of new doctors, whether or not they are licensed. Licensure should not be interpreted as evidence that a doctor no longer requires supervision or protected opportunities for learning. This is particularly important in the reformed Swedish system, where doctors enter postgraduate work as licensed practitioners and may therefore be more readily positioned as fully accountable service providers.

The findings of *Study IV* suggest that undergraduate clinical education should give students opportunities to participate in authentic clinical work, make judgements, and assume responsibilities suited to their level of experience, accompanied by accessible and sustained supervision. Longer clinical placements may be particularly valuable for both students and newly graduated doctors in training, as they allow supervisors to become familiar with learners' capabilities and enable responsibility to develop over time, which in turn could reduce the burden placed on the individual to identify their own learning needs.

Future perspectives

Given the substantial body of research on transitions in medical education, future studies should be carefully considered and aim for conceptual originality and innovative research designs to make a meaningful contribution. With this in mind, I offer a few ideas that emerged during this thesis.

As outlined in previous chapters, the transition from student to doctor exhibits many characteristics of a “wicked problem” (Varpio, Aschenbrener, et al., 2017), and further use of theories of agency may help illuminate its inherent complexity. Given the fragmented rotations and limited interpersonal continuity found in the internship studies, the structural dimension of agency (Konopasky et al., 2025) could provide insight into how organisational conditions shape trainees’ possibilities for action.

Another way of tackling the transition problem could be to extend the ethnographic approach. Bressers et al. (2020) describe ethnography as an opportunity to “slow down and think deeply” (p. 225), arguing that it is much needed in HPE research. Also, longitudinal designs are underused in transition research (Balmer et al., 2026). A longitudinal ethnographic study following individuals from the final years of medical school into their first years of clinical practice could provide insight into how this process changes over time and across settings. A critical ethnographic orientation could further examine the dominant assumptions shaping this process (Rashid & Goldszmidt, 2024). Applied to the transition from student to doctor, this could involve exploring how expectations of preparedness and individual responsibility for learning and development have become established, whose perspectives they privilege, what they make less visible, and how they shape newly graduated doctors’ access to support and learning.

The reform of Swedish medical education offers a concrete opportunity to study the transition when graduates enter practice as licensed doctors, as the in-between phase, or buffer zone, previously offered by the internship will disappear. How does starting work as a licensed doctor affect expectations of responsibility and patient accountability? Previous research has called for studies that move beyond participants’ retrospective perceptions of transition (Yardley et al., 2018). To address this, observational studies could examine how newly licensed doctors negotiate the balance between patient responsibility and support. Following cohorts graduating from the new medical programme could provide insight into whether, and how, the learner mandate previously associated with the internship is preserved or reconfigured in the new system. The structure of both the new undergraduate medical programme and introductory training (BT), with longer placements, also offers an opportunity to study supervisory continuity over time and whether some of the difficulties associated with fragmented rotations are reduced.

Epilogue

To this day, I remember one of those first days in medical school. It was a warm day in August. I had just moved back to Sweden to begin medical studies and still was not sure I had made the right decision. My new classmates and I had attended lectures all day, learning that the intestinal tract is not the inside of the body but, anatomically, the outside. At the end of the day, four doctors who had just finished their medical internships came to our lecture hall for a session called something like “Advice from former students”, where they shared their journeys and talked about what it had been like starting work.

One of them spoke about how, to his own surprise, he had decided to become a psychiatrist, and tried, somewhat jokingly, to convince his fellow doctors to join his speciality. Another spoke so warmly about working in primary care, about being able to follow her patients over time and to be more than “just” a doctor. I realise now that it may have been at that very moment that I, rather unconsciously, began to imagine becoming a primary care physician myself.

As I finish writing this thesis and reflect on those first impressions as a medical student, I find myself returning to a question that has followed the work throughout. Perhaps the transition from student to doctor does, in some sense, begin on the very first day of medical school.

Gothenburg, August 2026
Yvonne Carlsson

Use of Generative AI

I used ChatGPT Edu (OpenAI), accessed through Gothenburg University's protected institutional workspace, as a writing aid while preparing this thesis. The use included editing English language and style, translating or reformulating passages from Swedish into English, and improving the structure and coherence of sections. I critically reviewed and adapted AI-generated suggestions where used. Generative AI was not used to analyse empirical data. All analytical and conceptual decisions remained my own, together with the research team. As the author of this thesis, I take full responsibility for the content and its scientific accuracy.

Acknowledgements

Although writing a PhD thesis can be a lonely endeavour, to say the least, becoming a (filosofie) doctor doesn't happen in a vacuum. Many wonderful people have supported me along the way. First and foremost, I would like to thank all the **participants** - without you, no studies.

Matilda Liljedahl, my main supervisor. I didn't plan on doing a PhD - but you did, and for that I'm grateful. You're decisive yet thoughtful, frank but in the kindest way, and somehow, no matter how much you have going on, you *always* have time for me. Finishing my PhD means our close collaboration is coming to an end, which might be why I've stretched this for as long as I could. It's been fun!

Stefan Bergman, my co-supervisor, you have an impressive ability to see both the bigger picture and the details. Thank you for your wise, sharp input over the years. I also strongly suspect you've done things and lobbied for me behind the scenes without my noticing - thank you for that.

Anna Nilsdotter, my co-supervisor, thank you for working so hard to make sure this PhD project had the funding it needed. Although we inhabit different scientific worlds, you've always trusted my thinking - and that trust has meant more than you might think.

Mats Wahlqvist, you opened the door to HPE research when you connected me with Matilda. And thank you for calling me while I was grocery shopping one day in 2017 and asking: "Yvonne, you wanna go for AMEE? I pay!" Your endless supply of quotes and anecdotes is impressive - you have a reference for everything.

Professor **Susan van Schalkwyk** and the late **Alwyn Louw**, for introducing me to HPE research in South Africa and for taking such good care of me while I was there. In many ways, that's where this journey began.

Agnes Elmberger, thank you for letting me trail behind you over the past few years. You made the route considerably easier to find. More importantly, I'm so happy our PhDs brought us together as friends. Working with you is what made it all worth it.

Erik Myrberg, for laughter and great company, for always bringing havreflarn because you know I need fika. You, on the other hand, consumed approximately 120 litres of kvarg during our time working together. Considering how smart you are, I've started doing kvarg too, alongside havreflarn. We'll see where it takes me.

Kval-seminarie-gruppen at Sahlgrenska, and everyone in it, for generous input on my thesis draft and presentation, as well as all those late-afternoon discussions about how amazing qualitative research is.

Hanna Lernbrink, thank you for thoughtful comments on the last study. You are, together with **Malin Lagerberg**, the kind of primary care physician I hope to become one day - kind, wise and skilled. I hope I get to work with both of you!

Beatrice Joneken, Kerstin Rödström, Henrik Åhsberg, and colleagues in the Department of General Practice at Sahlgrenska Academy, for feedback on the final study and for many interesting reflections on what medical students experience in primary care, and ultimately on what makes a good primary care doctor.

To my clinical managers: **Christer Andersson**, for signing countless grant applications so that I could do even more research (and work even less clinically);

Karolina Larsson for kindly signing my PhD enrolment and ensuring my funding was secured, even when it was anything but; and **Olga Högstöm** for organising an office for me where I could finally finish this thesis.

Fanny and **Cecilia**, my PhD partners-in-crime. You two have a healthy balance between surfing and work, with surfing always receiving priority. Thank you for making me feel like one of you sociologists, even though I'm a sociology-wannabe at best. **Josefin** and **Eivind**, and our more-MER peer group. I loved it when we met. Let's meet soon! **Nina**, thank you Rogano for bringing us together! **Caroline, Josefin, Julia, Gabriela**, and other friends who have cheered me on, listened to me talk about this thesis perhaps more than was reasonable, and reminded me that there is a life outside it. **Becky**, for your grace with the cover. Und liebe **Leonie**, ohne dich sähe dieses Buch buchstäblich ganz anders aus.

Lars, Anne och **Martin** (och **farfar!**). Kanske är det i själva verket er förtjänst (eller fel?) att jag blev doktorand. Någon av er (Martin) började kalla mig forskar'n i en skidlifft på 90-talet. Oklart varför. Nu kan jag äntligen leva upp till titeln. Tack för att ni har läst allt, för det har ni, förutom när ni tröttnade, vilket ni till slut gjorde.

Sigge. Tack för att du varje dag påminner mig om vad som egentligen är viktigt. Forskning i all ära, men bus med dig är bäst.

Dominik. You're the most important person in this journey. First, I was "just" supposed to finish medical school, so you moved to Sweden. Then, I was "just" supposed to finish my internship, so we stayed a bit longer. Then, one day, I said, "It's actually pretty convenient to do research, it makes life more flexible". You said, "OK", though you didn't seem entirely convinced. You never asked for this version of me, being mentally absent at dinner, wondering "what is even agency?" Still, you supported me as my loving partner and as my coach-therapist-counsellor. Now I'm done. Let's go surfing!

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