# Workplace assimilation and professional jurisdiction: How nurses learn to blur the nursing-medical boundary


## Abstract

In theorising 'the system of professions', Andrew Abbott emphasised how jurisdictional boundaries in the workplace are far fuzzier than those specified in law. A key reason for this fuzziness is the process he characterised as 'workplace assimilation', involving on the job learning of a craft version of another profession's knowledge system. However, despite its centrality, workplace assimilation remains poorly elaborated in the scholarly literature. To address this shortcoming, this study explores the workplace assimilation of nurses in a Norwegian emergency primary care clinic. Using an ethnographic approach, the study shows how nurses learned to blur the nursing-medical boundary by (1) doing physician-like work; (2) interacting with their colleagues; (3) comparing their own clinical assessments to those of physicians (as codified in the patient record) and (4) using medical reference works to guide their clinical decision making. In detailing these aspects of workplace assimilation, the study illuminates how and why workers come to blur jurisdictional boundaries in the workplace.


*Word count (full manuscript): 8503*


Keywords: Norway; boundaries; discretion; guidelines; jurisdiction; knowledge; learning; workplace assimilation

## Introduction

In his seminal work *The System of Professions*, Andrew Abbott (1988) theorised how professions compete for *jurisdiction*—that is, for control over particular tasks. This form of competition occurs mainly in the judicial system, the public sphere and the workplace; however, as Abbott noted, "There is a profound contradiction between the two somewhat formal arenas of jurisdictional claims, legal and public, and the informal arena, the workplace" (Abbott, 1988, p. 66). While the formal arenas specify clear jurisdictional boundaries between professionals, the workplace is a site where "formal lines of demarcation frequently break down" (Allen, 2001, p. 79).

A key reason for this breakdown is the process that Abbott characterised as *workplace assimilation*, defined as a "form of knowledge transfer" in which "[s]ubordinate professionals, nonprofessionals, and members of related, equal professions learn on the job a craft version of given professions' knowledge systems" (Abbott, 1988, p. 65). Although not comparable to the training required for full membership in a profession, workplace assimilation nevertheless enables members of one profession to carry out at least some of the tasks of another (Abbott, 1988, pp. 65–6).

The latter point has been richly described in studies of professionals' 'boundary-blurring work' (Allen, 1997), i.e. work that obscures formal jurisdictional boundaries. Most such studies have centred on healthcare organisations, with particular emphasis on 'the nursing-medical boundary' (Allen, 1997; Annandale et al., 1999; Apesoa-Varano, 2013; Butler et al., 2009; Carmel, 2006a; Hughes, 1988; Liberati, 2017; Porter, 1991; Prowse and Allen, 2002; Salhani and Coulter, 2009; Snelgrove and Hughes, 2000; Stein, 1967; Stein et al., 1990; Svensson, 1996; Tjora, 2000; Walby and Greenwell, 1994). For instance, Hughes (1988) did participant observation in a casualty clinic and discovered that nurses frequently found themselves "moving close to areas of judgment for which the doctor takes legal

responsibility" (Hughes, 1988, p. 5). Similarly, in a hospital ethnography, Allen (1997) found that ward-based nurses often had difficulty in reaching physicians working across wards, leading them to violate organisational policy to address pressing medical concerns when physicians were unavailable.

There is also evidence that nurses become more likely to blur boundaries as they gain work experience (cf. Allen, 1997; Hughes, 1988; O'Cathain et al., 2004; Xyrichis et al., 2017); consistent with the predictions of workplace assimilation, this suggests that nurses somehow learn to blur boundaries in the workplace. However, nurses' workplace learning has not been granted particular analytical interest; existing studies have largely been confined to the content and rationale of nurses' boundary-blurring work, with little attention to how nurses learn to blur the nursing-medical boundary in the first place. Tjora's (2000) study of emergency medical communication centres is a partial exception, as he mentions "how new knowledge is socially developed" through nurses' "discussion and evaluation of [their] own and others' practice" (Tjora, 2000, p. 734). Beyond this, however, little has been written about how workplace assimilation enables nurses to blur professional boundaries.

This deficit reflects a more general neglect of workplace assimilation in the scholarly literature. Abbott himself provided only a brief theoretical description of the concept (spread across 1988, pp. 64–8), and subsequent studies have noted only that workplace assimilation occurs in their given field, without exploring the actual learning mechanisms involved (cf. Evans and Honold, 2007; Kirkpatrick, 1999; O'Connor, 2009). This is unfortunate; in treating it as a unified whole, we risk overlooking salient variations in how, why and to what extent workplace assimilation occurs. These are questions of great significance in judging the soundness of boundary-blurring work, and in understanding the 'fuzziness' of workplace jurisdiction more generally. A fuller understanding of professional boundaries in the workplace therefore demands further investigation of the processes of workplace assimilation.

To that end, this ethnographic study explores workplace assimilation among nurses and physicians at a Norwegian emergency primary care clinic (EPCC; '*legevakt*' in Norwegian). As frontline institutions dealing with high volumes of undifferentiated patients, some of whom may be critically ill, large-scale EPCCs like the one under study resemble emergency departments in other countries (Vassy, 2014). Although clearly not representative of all healthcare organisations, the inter-professional composition of the EPCC workforce and the significant overlap in work tasks makes this an ideal setting for exploring workplace assimilation.

The present article focuses in particular on how nurses learn to blur boundaries in the frontline role of face-to-face triage, where they assess the urgency of patients' complaints. While triage was demarcated by guidelines that distinguished clearly between nurses' assessments and physicians' consultations, nurses were found to routinely blur this boundary by performing triage assessments in ways that approximated the discretionary diagnostic and prescriptive work of physicians. The central research question, then, is how nurses learned to blur boundaries in this way. By delving deeply into this case of triage nursing, the aim is to extend our understanding of workplace assimilation, thus improving our knowledge of how and why formal divisions of professional labour become blurred in the workplace.

I continue by describing the study's theoretical perspective and its data and methods. In the subsequent findings section, I briefly describe the jurisdictional boundary separating triage nurses from physicians, and how nurses blurred this boundary when assessing patients. This is followed by a detailed analysis of the learning mechanisms underpinning nurses' boundary-blurring work, before I discuss the broader implications of the study's findings.

## Theoretical approach

Before exploring nurses' workplace assimilation, it is important to clarify some key concepts. As mentioned, Abbott (1988, p. 65) viewed workplace assimilation as a form of "knowledge

transfer", enabling members of one profession or occupational group to perform certain tasks that belong formally to another. In this, Abbott seems to understand knowledge in pragmatic terms as involving "a form of mastery that is expressed in the capacity to carry out a social and material activity" (Nicolini, 2012, p. 5). For present purposes, the knowledge of interest is commonly referred to as *medical* or *clinical*, relating to the practical tasks of identifying and treating medical conditions. This includes both the *tacit* skills underpinning clinical interpretation and reasoning, and more abstract *explicit* knowledge of medical topics (Polanyi, 1967). The question addressed here is how nurses develop sufficient clinical knowledge to blur the nursing-medical boundary. As suggested above, the bulk of this 'blur-enabling' knowledge is likely to be developed in the workplace.

Following Tÿnjälä (2008, p. 140), we can distinguish three basic modes of workplace learning: (1) incidental and informal learning that occurs as a 'side effect' of work, (2) intentional, non-formal learning related to work, such as the intentional practising of certain skills or tools; and (3) formal, on- and off-the-job training. This study focuses predominantly on the first type—informal workplace learning—which is most relevant for understanding the largely informal process of workplace assimilation. Following Eraut (2004), the distinction between informal and formal learning can be seen as a continuum, in which the informal end is characterised by unstructured learning in the absence of an official teacher. Such learning "may occur without the awareness or intention to learn (implicit learning), or it may involve a more or less deliberate effort to learn" (Ellström, 2011, p. 106).

The present analysis places particular emphasis on the situated nature of nurses' workplace learning—in other words, on "the relationship between learning and the social situation in which it occurs" (Lave and Wenger, 1991, p. 14). As such, learning is approached as "an external interaction process between the learner and his or her social, cultural and material environment" (Illeris, 2011, p. 35). Accordingly, the object of analysis here is nurses' learning

environment and their interactions within it. On this view, learning is intimately connected with practice (i.e. the performance of work activities), both because practice itself involves learning and because it raises practical problems that nurses must solve (Ellström, 2011, pp. 105–6). Finally, the study also analyses learning through an ethnographic lens, which will be described in the following section.

## Data and methods

Ethnography—"the study of groups and people as they go about their everyday lives" (Emerson et al., 2011, p. 1)—offers an appropriate means of analysing the situated and interactive aspects of nurses' workplace assimilation, as it allows the researcher to study learning *in situ*, including those practices that informants might not necessarily identify as involving learning (Eraut, 2004). The study setting was a publicly funded Norwegian EPCC; located in the city centre, it performed more than 50,000 consultations per year, employed more than 100 nurses and physicians and was open for 24 hours on every day of the week. Like emergency departments in other countries (Vassy, 2014), it allowed patients to walk in at their own discretion. The clinic was intended to serve patients with medical rather than surgical complaints. Spatially, it was divided into a 'frontline' (comprising a reception area, waiting room and triage booths) and an 'inside' area (consisting of another waiting room, a work station shared by nurses and physicians and a series of examination rooms).

Between April and December 2015, 47 fieldwork sessions were conducted at this EPCC; the average duration of each session was approximately six hours. As discussed in more detail below, nurses in the EPCC rotated between several stratified roles, developing knowledge in all of them. All of these roles were covered in the 35 sessions in which I shadowed nurses throughout (most of) their working day. On average, the participants had worked in the EPCC for approximately three years, and all had a bachelor's degree in nursing (as is required for the

protected title of ‘nurse’ in Norway). Of the other twelve sessions, three were spent observing courses related to triage nursing and other topics, and nine were dedicated to shadowing physicians. I also conducted semi-structured interviews with seven nurses, two physicians and two managers, who were questioned, among other things, about roles and boundaries in the EPCC. Overall, studying both professional groups and stratifying my observations according to EPCC roles proved useful for exploring variations in workplace learning.

The interviews were transcribed verbatim. During fieldwork, I scribbled keywords and near-verbatim quotes on a notepad or laptop for later reference when writing more elaborate, low-inference field notes. Totalling approximately 1,270 single-spaced pages, all notes were written in Norwegian; in translating the extracts included in this article, I have made minor grammatical and aesthetic adjustments.

The study was approved by the Norwegian Social Scientific Data Services. Pseudonyms are used to secure informants’ internal and external confidentiality (Tolich, 2004), and no other identifying information is disclosed. I signed a non-disclosure agreement with the participating EPCC. Workers were informed about the project both orally and in writing, and all informants gave their verbal consent to participation. When interacting with patients, each EPCC worker I shadowed would ask the patient whether it was acceptable that I witnessed their interaction.

From an early stage of this fieldwork, the collected data were sorted into emergent broad-brush codes, using QSR NVivo 10. Prior to commencing fieldwork, I was interested in what and how nurses learn in the EPCC; however, my interest in workplace assimilation was significantly heightened after leaving the field, when I engaged in an abductive process (Timmermans and Tavory, 2012) of alternate reading of field notes and the literature related to workplace jurisdiction. In pursuing this interest, I inductively differentiated and iteratively

reviewed relevant broad-brush codes to explore how nurses develop blur-enabling knowledge. The results of this process are presented in the next section.

## Findings

In the following, I briefly describe the jurisdictional boundary between triage nursing and medicine in the research setting, and how nurses blurred this boundary in their everyday assessments. This is followed by a detailed analysis of how nurses learned to engage in this boundary-blurring work.

### Boundaries

As argued by Walby and Greenwell (1994, p. 86), triage challenges traditional boundaries between nursing and medicine by allowing nurses to engage in assessment work that resembles physicians' consultations. In this respect, triage reflects a broader trend within healthcare organisation, where an increasing number of tasks are being delegated from medicine to other professions (Nancarrow and Borthwick, 2005). However, as is typical for delegated work, the triage nurses I observed were restricted in ways that physicians were not. This was most clearly articulated in the main guideline governing triage assessments in this EPCC: the *Manchester Triage System* (MTS), which is the most widely used in Europe (Mackway-Jones et al., 2014).

Like most triage systems, the MTS is a procedural standard (Timmermans and Epstein, 2010), specifying how urgency assessments are to be performed. EPCC nurses were thoroughly socialised into this system; before being allowed to practice triage, they were required to read the MTS handbook, to attend a full-day triage course and to rehearse the system for three full shifts under the supervision of a triage instructor. The system itself is designed as a paper-based manual, consisting of 53 flow charts that are organised by categories of complaint such as abdominal pain, allergy, ear problems and head injury. Nurses are required to assess

patients using one of the 53 charts, each specifying symptoms and signs that are of relevance for priority setting, ordered in a hierarchy of five colour-coded levels of urgency. The MTS instructs nurses to start from the top of the chart and to rule out symptoms and signs, one by one, until they find a positive match, which then determines the patient's triage code. The system also instructs nurses to assess patients "without making any assumptions about the [patient's] diagnosis" (Mackway-Jones et al., 2014, p. 11). In other words, the MTS specifies both what information nurses should collect about patients, how they should reason about this information, and what decisions should follow from these guideline-specified conclusions. In this way, the MTS imposes strict limitations on nurses' diagnostic and prescriptive decision-making.

It should be noted that the MTS handbook specifies that the system is meant to "inform" rather than fully determine the triage process (Mackway-Jones et al., 2014, p. xi). However, the handbook is less clear about the acceptable level of discretion. In the course that nurses were required to attend before practising triage, they were instructed to adhere closely to the system. Accordingly, nurses typically regarded the system as 'the norm' for patient assessment. As adopted in this clinic, then, the MTS articulated a clear formal boundary between triage nurses and physicians.

**Blurring**

As in previous triage studies (cf. Johannessen, 2016; Purc-Stephenson and Thrasher, 2010), the participating nurses were observed to deviate from the guidelines, and thus blur the MTS-articulated boundary in several ways. For instance, it was evident that nurses regularly considered diagnoses during their assessments. As discussed more extensively elsewhere (Johannessen, 2017), nurses were found to engage in differential diagnostic reasoning, hypothesising diagnoses of relevance to patients' presenting complaints. This often led nurses to adjust triage codes, thus overriding system recommendations. In some assessments, nurses

were observed to approximate physicians' diagnosis and treatment to an even greater extent. Consider the following field note extract of how a patient was assessed and handled in triage:

> Nurse Joachim receives an English-speaking mother and a child with spots on his face and body. He examines the child for a while before calling on the neighbouring triage nurse for a second opinion. She takes a close look before deciding, "It's chickenpox". Nurse Joachim replies "It is, isn't it?" The second nurse suggests that he should send the patient to the pharmacy to buy an ointment and some painkillers. "There's nothing we can do in any case", she concludes. He conveys this information to the patient's mother, who replies that she thought they could get a vaccine. He assures her that it will all be over in a week and that there is nothing they can do about it. The mother asks again whether he is certain that it is nothing dangerous, and he confirms this. Mother and child leave triage, and Nurse Joachim completes his documentation.

Both of the nurses in this example had worked in the EPCC for more than three years, thus indicating that boundary-blurring was correlated with experience in triage. Their decision making was clearly at odds with the MTS, which states that patients with these symptoms and signs should be registered to see a physician. Instead, the nurses engaged *de facto* in consultation with the patient, making a diagnosis (in all but the formal sense of communicating it in the triage note) and recommending treatment in the form of non-prescription painkillers and ointments. In so doing, their actions clearly traversed the triage nursing-medical boundary as articulated in this EPCC.

Nurses' main reason for engaging in this boundary-blurring work was to ensure more accurate prioritisation of patients. This was a particularly salient concern when the clinic was (over)crowded and they had to sort a large group of patients according to fine-grained clinical needs. If a critically ill patient was overlooked under these circumstances, s/he might have to wait for hours before seeing a physician; conversely, if too many patients were admitted or were assigned unduly urgent triage codes, nurses risked overlooking the most critically ill.

These considerations motivated nurses to assess patients in a more thorough and discretionary manner than prescribed by the MTS.

The EPCC's management was not wholly opposed to this practice. While they generally expected nurses to follow the MTS (treating it as 'the norm' for priority setting), nurses were allowed to deviate from the system if they had clinically sound reasons for doing so. Nurses were mainly granted discretion to *upgrade* patients, assigning a higher triage code than specified by the MTS. *Downgrading*, on the other hand, was mostly considered unacceptable. However, certain managers seemed to allow nurses some discretion in downgrading as well, especially if they considered the nurse to have sufficient experience. In other words, management accepted (and to some extent expected) some blurring of formal boundaries in triage. This is not to say that all managers expressed equal acceptance; rather, they seemed to draw different boundaries for different nurses in different contexts (thus demonstrating the *situated* nature of professional boundaries in the workplace). Nor does this mean that managers were fully aware of how and to what extent triage nurses blurred boundaries. As triage was spatially separated from the rest of the clinic, managers (and other staff) only learned about these nurses' work by reading their triage notes. As long as nurses' documentation and triage code allocation seemed reasonable to outside actors (especially the coordinators overseeing patient flow and the middle managers who occasionally audited triage notes), they had significant discretion in how they assessed patients.

Given this rough sketch of the content and rationale of nurses' boundary-blurring work, the question, then, is how nurses learned to blur the nursing-medical boundary in this discretionary, physician-like manner.

**Learning**

In the following, I will show how nurses learned to blur professional boundaries by (1) doing physician-like work; (2) interacting with their colleagues; (3) comparing their own clinical

assessments to those of the physician (as codified in the patient record) and (4) using medical reference works to guide their clinical-decision making. As will be made clear, these factors were mutually reinforcing, ensuring a strong blur-enabling potential.

***Learning by doing***

We begin by looking at some foundational aspects of nurses' workplace learning, which laid the groundwork for developing more extensive blur-enabling knowledge. This learning was intimately linked to the delegation of medically defined roles to nurses, in which they had to assess patients through a medical lens, oriented towards the identification and treatment of biomedical disease. While this work clearly fell within nurses' jurisdiction, it also afforded opportunities and incentives to increase their clinical knowledge, in turn enabling them to blur jurisdictional boundaries.

To begin, it is useful to consider how nurses developed what they referred to as their 'clinical gaze' ('*klinisk blikk'*, a common Norwegian term used almost always without reference to Foucault). This was characterised as an intuitive, perceptual ability that allows nurses to make quick assessments of whether or not a patient is ill. These tacit judgments were based primarily on visual signs, such as pallor, sweating, freezing, abnormal gait or pain expressions. Despite their use of a metaphor that privileges vision, nurses' judgments also encompassed audible, olfactory and tactile cues, derived from listening to, smelling and touching the patient. All of this information was used to judge patients' 'general condition'—that is, their overall state of health.

Neophyte nurses were afforded opportunities to practise their clinical gaze as soon as they began working in the clinic, especially when assigned the role of receptionist. As the first member of staff to meet patients entering the EPCC, receptionists are responsible for moving the most urgent patients to the front of the queue to see the triage nurse. Receptionist nurses did this by making a swift perceptual judgment of the patient's general condition and asking

about their reason for attendance. The need to assess large numbers of patients with a broad range of complaints meant that their ‘training material’ was both voluminous and varied. Given the large number of patients attending the EPCC, receptionists rarely worked alone, and neophytes could therefore develop their gaze under the guidance of more experienced colleagues. Management recognised the importance of this guidance, as a well-developed clinical gaze was considered crucial for this and other roles in the EPCC. For instance, it was widely acknowledged that the ability to identify symptoms and signs described in the MTS required knowledge beyond that codified in the system itself; in fact, this was a key reason why nurses in the clinic were required to have at least one year of EPCC experience before practising triage.

However, beyond enabling them to *use* the MTS, a well-developed clinical gaze also enabled nurses to *deviate* from the guideline prescriptions. The nurses argued that their gaze allowed them to perceive nuances that escaped the MTS, either by explicitly noticing additional relevant signs (e.g. pallor, swelling) or by simply getting a ‘bad gut feeling’, alerting them to upgrade the patient’s triage code. By developing their clinical gaze, then, nurses could engage in more discretionary diagnostics than specified by the MTS. In other words, this type of learning allowed them to blur the formal boundary that separated their guideline-based assessments from the discretionary diagnostics of physicians.

Additional learning occurred in the role of triage nurse itself, which opened up further possibilities for engaging in physician-like work. During triage assessments, the nurse is required to record the patient’s medical history, as well as collect and assess vital parameters such as pulse, respiratory rate and temperature, and perform examinations such as simple neurological assessments. While most assessments lasted between 4 and 8 minutes, I observed nurses spending as much as 15 minutes on the most ambiguous cases. Triage assessments could therefore be remarkably similar to medical consultations; indeed, Nurse Jonas fittingly

referred to the triage nurse as a “physician light” (which he and many other nurses considered a positive label, contrary to those seeking to establish nursing as separate from but equal to medicine (cf. May and Fleming, 1997)).

The large throughput of patients also meant that nurses engaged repeatedly in this physician-like work. On busy days, nurses assessed 40–70 individual patients, familiarizing themselves with a broad array of medical conditions and ways of identifying these. Repeated assessments also helped nurses to internalise the MTS flowcharts, turning these into a stable reference point that they could build on, complement and adjust to the particular case being assessed. In this sense, the MTS served what one instructor referred to as a “competence-enhancing function”, illustrating how “procedural standards afford an increase in the overall complexity of health care providers’ work” (Timmermans and Berg, 2003, p. 64). In combination with the learning mechanisms described in below, this repeated engagement in physician-like work had significant blur-enabling potential.

***Collegial interaction – a community of practice***

Another way in which nurses learned to blur the nursing-medical boundary was by interacting with their colleagues. Different interactions were seen to entail different learning opportunities. In triage, for example, nurses occasionally telephoned the nurse or physician coordinator to confer about patients with ambiguous complaints, sometimes leading to discussions of medical topics such as the likelihood of a particular diagnosis. Triage nurses could also interact with each other; with the exception of night shifts, there were always two nurses performing triage in neighbouring booths. This enabled nurses to double-check their diagnostic suspicions, as in the introductory example above, when the two nurses concluded that the patient had chickenpox. Such interactions are likely to increase nurses’ diagnostic confidence, as “[a]pproval from colleagues helps to reinforce a sense of personal competence” (Tjora, 2000, p. 735). These episodes are also likely to enhance nurses’ diagnostic abilities;

for instance, the nurses in the introductory example would be more likely to identify chickenpox on next encountering a patient with similar symptoms. In this way, nurses can collaboratively foster their clinical gaze by helping each other develop "tacit, embodied knowledge of how to 'see' and 'what to look for'" (Atkinson, 1995, p. 68).

In other roles, nurses had further opportunities for interacting with colleagues, especially when working 'inside' the clinic, where 7–10 nurses and physicians would share a work station. This enabled ongoing informal exchange of clinical knowledge, as in the following example.

> Nurse Benedicte comes over to Nurse Kari and comments that one of the patients has neck stiffness. Kari asks whether she has neck stiffness or a stiff neck [a salient distinction in Norwegian medical jargon]. They discuss this for a while to determine the characteristics of the former. Benedicte mentions a training session in which they got to feel neck stiffness in a patient. Nurse Kari comments "How cool!" before I ask her what they might fear if a patient presented with neck stiffness. "Meningitis", she answers. Benedicte then walks over to a physician to ask about the defining characteristics of neck stiffness and discusses this for a while with the physician while Kari listens in. Kari then turns to me and says, "That's the best part of sitting here—being able to listen in when they confer with each other".

This example illustrates the fluid sharing of clinical knowledge between workers in the EPCC. First, the nurses tried to determine the characteristics of neck stiffness—a possible sign of meningitis—before conferring with the physician to settle the matter. Nurse Kari's remark also illustrates how she valued being able to listen in on clinical discussions. Several nurses identified this as a significant benefit of working in the same space as physicians, and especially in proximity to the physician coordinator, who conferred regularly with junior physicians.

Nurses were also well positioned to learn more practical skills when assisting in physicians' consultations—for instance, by exposing them to interview questions and examination methods that could be used during triage assessments. Similarly, when working in the

EPCC's medical communication centre, nurses reported that they learned interview questions by listening in on the calls they transferred to the ambulance services. In short, these practices illustrate how nurses could acquire clinical skills by mimicking their colleagues.

Additional learning opportunities open up as nurses ascend the EPCC's formal hierarchy. For example, a nurse coordinator supervises the clinic's patient flow in tandem with a physician coordinator, and the two frequently deliberate on the relative priority of patients who had been triaged, granting the nurse insights into (and engagement with) the physician's medical judgment.

These interactions illustrate how inter-professional cooperation facilitates the flow of blur-enabling knowledge between members of the respective professions. In theoretical terms, nurses and physicians are members of an inter-professional *community of practice* (Lave and Wenger, 1991)—a group of people "who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (Wenger et al., 2002, p. 4). Clearly, this was not an egalitarian community; the possibilities for legitimate participation were inter- and intra-professionally stratified, as is typical in complex healthcare organisations (Goodwin et al., 2005). Nevertheless, EPCC workers shared concerns in assessing and handling patients, and regular interactions deepened their knowledge of these tasks.

As we have seen, this community was predicated in part on the particular 'time-space geography' (Walby and Greenwell, 1994) of the clinic. Unlike many hospitals, this EPCC assigned nurses and physicians to the same physical space; and as these nurses and physicians were permanent employees, this entailed ongoing interaction over time among the same set of individuals. Among other things, this meant that experienced staff had a strong incentive to enhance the clinical competence of their less experienced colleagues, as this would enhance the performance of the unit as a whole. Thus, in contrast to other findings that inter-

professional relations are characterised by conflict and differing viewpoints (cf. Allen, 1997; Walby and Greenwell, 1994), I observed a more collaborative work setting, aligning with Carmel (2006b) and Liberati (2017). As members of this integrated community of practice, nurses could continue to develop their clinical knowledge, which in turn supported boundary-blurring work in triage and other nursing roles in the EPCC.

***Electronic patient records: Indirect feedback***

Workplace assimilation was also facilitated by triage nurses' use of the electronic patient records (EPRs) written by the EPCC's physicians. A typical patient record was approximately 100 words long and included a brief description of the patient's problem, examination and test results, background information of relevance and the physician's overall thoughts about diagnosis and treatment.

When shadowing nurses in triage, I regularly observed them reading patient records, especially towards the end of their shift—a practice made possible by how EPRs escape the temporal and spatial limitations of paper-based records. Nurses explained that they only accessed the records of patients they had themselves assessed. Their reasons for doing so are hinted at in the following field note excerpt.

> Nurse Sara opens the EPR of a female patient with a nut allergy that she assessed earlier and comments that she has been given a lot of medication. Sara explains that the patient looked pretty okay when she assessed her and that this shows how rapidly an allergy can develop. She adds that patients with nut allergies are the scariest, as they can deteriorate rapidly. She then opens the EPR of another of her patients, who presented with abdominal pains and whom the physician has diagnosed as a suspected cardiac infarction. She comments that she had a bad feeling about this one, which was confirmed by reading this record.

This excerpt illuminates how nurses accessed patient records to follow up on patients' development post-triage. This practice enabled nurses to learn how physicians assessed

patients they had themselves assessed. In the words of another nurse, Hilde, this allowed them to see "whether you've been thinking along the right lines, and whether you've missed something", which reveals both how nurses viewed their assessments as similar yet subordinate to those of physicians and, more importantly, how reading these records provided nurses with indirect feedback on their own triage assessments.

The assimilative potential of this feedback should not be underestimated. Other studies have noted how EPRs give nurses easier access to the physician's patient documentation as compared to paper-based records, and how this facilitates a less hierarchical relationship between nurses and physicians (Håland, 2012; Svenningsen, 2004). In light of nurses' physician-like work in triage, patient records have even greater potential for producing boundary-blurring effects. Access to EPRs enables nurses to compare their assessments to those of physicians, furthering their understanding of what information to collect, which examinations to perform and what diagnostic category and medications are relevant for patients they have just assessed. This type of feedback is an essential component in the development of expertise, as learning whether one was right or wrong is likely to improve the precision of one's future assessments (Hogarth, 2010; Shanteau, 1992). Furthermore, congruence between the assessments of nurses and physicians is likely to reassure the former, as in the above excerpt where Nurse Sara received 'confirmation' of her diagnostic suspicion. This indirect approval seemed to boost nurses' confidence and can be viewed as a form of "training for certainty" (Atkinson, 1984), encouraging nurses to trust and act on their own inclinations. By enabling a more discretionary approach to the MTS, this process could further facilitate the blurring of boundaries between triage nurses and physicians.

Before turning to the final learning factor, it is worth noting that nurses viewed their use of EPRs as a legal grey area, as the following extract suggests.

> Nurse Marit is reading patient records. I ask whether this is something she often does, and she replies: "I sneak in to see whether I've assessed them correctly. I don't know if it's legal, but I do it to get some sort of feedback". I express understanding. "But actually, it's a breach of confidentiality", she adds. I ask whether this is the case even if she assessed the patient herself. "No, that's my reasoning too. But if you just open the record of someone with vaginal haemorrhage or something, just to have a look, then it's not okay." She adds that in [another EPCC], you have to enter a reason before opening a patient record.

Nurse Marit's comments reveal how this practice was viewed as a potential threat to patients' right to privacy, although not substantial enough to prevent her from engaging in said practice. The commonly held view was that the benefits of learning outweigh privacy concerns, especially when a patient presents with problems that nurses find challenging to assess. Marit's final remark is also noteworthy, as it demonstrates how the potential for workplace learning can vary according to organisational policy and technical solutions.

***Referencing theory in practice***

A final source of blur-enabling knowledge was the plethora of medical reference works available to nurses in triage and elsewhere. Along with courses nurses had to attend at the clinic, where they were occasionally told about diagnostic markers and treatments for different conditions, these reference works were an institutional expression of nurses' need for medical knowledge in their work. As most reference works were in digitized form, they were easily available wherever nurses had access to a computer.

The assimilative potential of these reference works seemed greatest when used in tandem with practical assessments. When nurses performed triage, I occasionally observed them consulting these sources to read about symptoms, signs and treatments associated with particular diagnoses. For instance, consider Nurse Sofie's interaction with a patient who claimed to have shingles (an acute infectious disease that may cause a painful and blistered rash; also referred to as 'herpes zoster').

Patient: I think I've got shingles.

Sofie: Okay, what symptoms do you have?

Patient: I have a burning spot on the top of my head. So that's what I think it is. I'm starting to get a stiff neck too.

Sofie: Have you looked at … [the spot]?

Patient: No, but my children have.

Sofie goes over to look at the patient's scalp.

Sofie: How long have you been having this?

Patient: Just started today.

Sofie: Have you had it before?

Patient: No.

Sofie: Can you manage to put your chin down towards your chest?

Patient: Yes. (She puts her chin down.)

Sofie opens the browser on her computer and googles 'shingles'. She reads about the condition on *Norsk Helseinformatikk* [an official Norwegian webpage for healthcare professionals]. She then googles 'shingles treatment' and enters the webpage of a Norwegian pharmacy. In total, she spends three minutes reading about the condition.

[The rest of the interaction has been edited out. In short, Sofie asked the patient about additional symptoms and previous diseases, before turning to a colleague to ask for help. In total, the assessment took eight minutes.]

After the patient has left triage, Sofie explains: "I thought it was a bit strange because I've never triaged anyone with shingles before. In these cases, I occasionally check the treatment [of the condition]. Often, there's no treatment; you're just supposed to wait and let it heal itself, and then I don't bother to register them because there's no use letting them sit here and wait".

This example illustrates how nurses can acquire *theory in practice* by being probed about particular conditions and then referencing authoritative medical sources for propositional knowledge about these conditions. In this way, her use of the reference works was intimately linked to being delegated physician-like work.

This extract also demonstrates how nurses may incorporate newly acquired knowledge into their discretionary judgment. As Nurse Sofie said, had she discovered that there was no treatment for shingles, she would have been inclined not to register the patient because "then there's no use letting them sit here and wait"—even though, according to the MTS, the patient should be registered. As Sofie and other nurses saw it, knowledge of conditions and treatments might enable them to anticipate the physician's diagnostic and prescriptive conclusions, at least when dealing with relatively simple cases. In situations where they were convinced that their agency was similar to a physician's, nurses were likely to act *as if* they were the physician, especially when faced with problems deemed non-urgent and non-treatable. Through this kind of learning and subsequent practice, nurses could significantly blur the boundary between themselves and the EPCC physicians.

## Discussion and concluding remarks

In attempting to elaborate Abbott's (1988) concept of *workplace assimilation*, this article has explored how nurses learned to blur the nursing-medical boundary in a Norwegian EPCC. Nurses were found to develop blur-enabling knowledge by (1) doing physician-like work; (2) interacting with their colleagues; (3) comparing their own clinical assessments to physicians' assessments as codified in the patient record and (4) using medical reference works to guide their clinical-decision making. It is worth noting that several of these learning mechanisms have been documented as salient aspects of the training of medical interns; for instance, Kivle (2008) has shown how Norwegian interns learn by reading patient records written by senior

colleagues. Although far from exhaustive, these findings further our understanding of how workers can develop blur-enabling knowledge in the workplace, in turn facilitating a deeper understanding of the 'fuzziness' of workplace jurisdiction.

Generalising from the case in question, one may expect some degree of workplace assimilation in all settings where members of one occupational group find it relevant to acquire the available tacit or explicit knowledge commonly assumed to be the exclusive preserve of another group. More specifically, structural facilitators of workplace assimilation in this EPCC seemed to include the following. (1) Being delegated work tasks from a superordinate profession, which, together with (2) the turbulent nature of emergency work, incentivised nurses to increase their clinical knowledge; (3) assessing a large number of patients presenting with a broad array of complaints, which provided nurses with varied learning material; (4) having almost unrestricted digital access to EPRs and reference works, which provided nurses with relevant input and feedback on their assessments; (5) being part of an inter-professional community of practice, which facilitated the informal sharing of knowledge; and (6) working closely with physicians, which allowed nurses to access "restricted areas, opportunities and experiences" (Goodwin et al., 2005, p. 860), in which they are "exposed to the very skills, knowledge, and experience that physicians claim to hold exclusively" (Apesoa-Varano, 2013, p. 340). Furthermore, (7) most of this learning was allowed, and to a large extent encouraged, by the clinic's management; and (8) the identity of 'competent clinician' was clearly considered prestigious among clinical workers in the EPCC, further motivating them to increase their clinical proficiency. Although more research is needed to determine the relative weight, exhaustiveness and transferability of these factors, they serve as reference points for further inquiry into how, why and where workplace assimilation occurs.

These findings also help refine our understanding of the ‘assimilative’ aspect of workplace assimilation. First, nurses’ assimilation was not total, as their workplace learning reduced rather than eradicated epistemic differences between themselves and the physicians. This is consistent with Abbott’s (1988, p. 65) claim that workplace assimilation provides only a craft version of another profession’s knowledge system. However, the designation ‘craft’ may have some unfortunate connotations, especially if interpreted as antithetical to more theoretical forms of knowledge. As we have seen, workplace assimilation within the EPCC also included nurses acquiring clinical knowledge of the abstract, propositional kind. Abbott’s ‘craft’ qualifier should therefore be interpreted in a *pragmatic* sense (cf. Heritage, 1984, pp. 61–3), i.e. as an emphasis on workplace assimilation being intimately linked to the solving of practical problems, some of which require more in-depth theoretical knowledge.

Developing this ‘craft’ knowledge can significantly increase workers’ agency in the workplace, sometimes beyond that of (some of) their superordinates. As Abbott (1988, p. 66) argued, “the best of the subordinates often excel the worst of the superordinates; certain individuals in closely related professions end up knowing far more about a profession’s actual work than do a fair number of its own practitioners”. Although I can draw no firm conclusions about the relative proficiency of nurses and physicians in this EPCC, my fieldwork undoubtedly suggests that workplace assimilation was of crucial importance in increasing the accuracy of nurses’ triage assessments, allowing them to ‘correct’ the MTS and to facilitate patient flow during periods of (over)crowding (see also Nugus et al., 2013). This is not to say that all boundary-blurring work rested on an equally sound foundation, or that all nurses were equally competent to blur boundaries. The point is rather that workplace assimilation generally increased the quality of nurses’ work.

However, despite its enhancing effects on workers’ competence, workplace assimilation does not automatically result in formal jurisdictional change. Knowledge developed on the job is

typically still considered subordinate to professional schooling, and overly assimilated workplaces tend to be characterised as “shady” or “unethical” (Abbott, 1988, p. 67). Consequently, management has an interest in downplaying the blurring of professional boundaries, especially in communicating with outside actors. This is not to say that formal change never occurs; Abbott (1988, p. 68) cites the psychotherapeutic revolution in the US as a prime example of how assimilation can intrude into the formal jurisdictional system. There were also some signs of formal recognition in this EPCC, as management had recently extended triage nurses’ responsibilities to include questionnaire-based diagnosis of ‘simple’ urinary tract and eye infections and dispensing non-prescription medicines for pain and allergies. While the relationship between workplace assimilation and formal jurisdictional change is beyond the scope of the present investigation, future research should look more closely at this issue.

In closing, it might prove helpful to see how workplace assimilation extends beyond the relationship between nurses and physicians. Consider, for instance, the EPCC’s security guards, who were positioned next to receptionists in the registration area. As the longest-serving group in the clinic, the security guards had significant experience of informally assessing patients. Clinical staff often lauded them for their well-developed clinical gaze, and I occasionally observed guards rushing to help those they identified as being at risk. It was also apparent that the guards regularly contributed to the training of neophyte receptionist nurses, just as other studies have shown that nurses informally train physicians (cf. Xyrichis et al., 2017). This points to more complex networks of training that can fruitfully be explored in future studies of workplace assimilation. It would also be interesting to investigate boundaries, blurring and learning in different settings and across different occupational groups, and the many consequences such learning may have for occupational power relations

at micro, meso and macro levels. As such inquiries can provide deeper insights into the dynamics of workplace boundaries, they are highly encouraged.

## References


Abbott, A., 1988. The system of professions: an essay on the division of expert labor. University of Chicago Press, Chicago.

Allen, D., 2001. Narrating Nursing Jurisdiction: “Atrocity Stories” and “Boundary-Work”. Symb. Interact. 24, 75–103. https://doi.org/10.1525/si.2001.24.1.75

Allen, D., 1997. The nursing-medical boundary: a negotiated order? Sociol. Health Illn. 19, 498–520. https://doi.org/10.1111/j.1467-9566.1997.tb00415.x

Annandale, E., Clark, J., Allen, E., 1999. Interprofessional working: an ethnographic case study of emergency health care. J. Interprof. Care 13, 139–150. https://doi.org/10.3109/13561829909025546

Apesoa-Varano, E.C., 2013. Interprofessional conflict and repair: A study of boundary work in the hospital. Sociol. Perspect. 56, 327–349. https://doi.org/10.1525/sop.2013.56.3.327

Atkinson, P., 1995. Medical talk and medical work: the liturgy of the clinic. Sage, London.

Atkinson, P., 1984. Training for certainty. Soc. Sci. Med. 19, 949–956. https://doi.org/10.1016/0277-9536(84)90324-1

Butler, C.W., Danby, S., Emmison, M., Thorpe, K., 2009. Managing medical advice seeking in calls to Child Health Line. Sociol. Health Illn. 31, 817–834. https://doi.org/10.1111/j.1467-9566.2009.01179.x

Carmel, S., 2006a. Boundaries obscured and boundaries reinforced: incorporation as a strategy of occupational enhancement for intensive care. Sociol. Health Illn. 28, 154–177. https://doi.org/10.1111/j.1467-9566.2006.00486.x

Carmel, S., 2006b. Health care practices, professions and perspectives: A case study in intensive care. Soc. Sci. Med. 62, 2079–2090. https://doi.org/10.1016/j.socscimed.2005.08.062

Ellström, P.-E., 2011. Informal learning at work: Conditions, processes and logics, in: The SAGE Handbook of Workplace Learning. pp. 105–119.

Emerson, R.M., Fretz, R.I., Shaw, L.L., 2011. Writing ethnographic fieldnotes. University of Chicago Press, Chicago.

Eraut, M., 2004. Informal learning in the workplace. Stud. Contin. Educ. 26, 247–273. https://doi.org/10.1080/158037042000225245

Evans, L., Honold, K., 2007. The division of expert labour in the European audit market: The case of Germany. Crit. Perspect. Account. 18, 61–88. https://doi.org/10.1016/j.cpa.2005.03.011

Goodwin, D., Pope, C., Mort, M., Smith, A., 2005. Access, boundaries and their effects: legitimate participation in anaesthesia. Sociol. Health Illn. 27, 855–871. https://doi.org/10.1111/j.1467-9566.2005.00477.x

Håland, E., 2012. Introducing the electronic patient record (EPR) in a hospital setting: boundary work and shifting constructions of professional identities. Sociol. Health Illn. 34, 761–775. https://doi.org/10.1111/j.1467-9566.2011.01413.x

Heritage, J., 1984. Garfinkel and ethnomethodology. Polity Press, Cambridge.

Hogarth, R.M., 2010. Educating intuition. University Of Chicago Press, Chicago.

Hughes, D., 1988. When nurse knows best: some aspects of nurse/doctor interaction in a casualty department. Sociol. Health Illn. 10, 1–22. https://doi.org/10.1111/1467-9566.ep11340102

Illeris, K., 2011. Workplaces and learning, in: Malloch, M., Cairns, L., Evans, K., O'Connor, B.N. (Eds.), The SAGE Handbook of Workplace Learning. Sage, London, pp. 32–45.

Johannessen, L.E.F., 2017. Beyond guidelines: Discretionary practice in face-to-face triage nursing. Sociol. Health Illn. 39, 1180–1194. https://doi.org/10.1111/1467-9566.12578

Johannessen, L.E.F., 2016. How triage nurses use discretion: A literature review. Prof. Prof. 5. https://doi.org/10.7577/pp.1446

Kirkpatrick, I., 1999. Workplace assimilation and conflict in professional service organisations: the case of university libraries. Public Policy Adm. 14, 71–86. https://doi.org/10.1177/095207679901400406

Kivle, B.M.T., 2008. Å lære og å praktisere i sykehus – turnuslegen som student og lege. Sosiol. Tidsskr. 16, 107–126.

Lave, J., Wenger, E., 1991. Situated learning: legitimate peripheral participation. Cambridge University Press, Cambridge.

Liberati, E.G., 2017. Separating, replacing, intersecting: The influence of context on the construction of the medical-nursing boundary. Soc. Sci. Med. 172, 135–143. https://doi.org/10.1016/j.socscimed.2016.11.008

Mackway-Jones, K., Marsden, J., Windle, J., Manchester Triage Group, 2014. Emergency triage, 3rd ed. ed. Wiley, Chichester.

May, C., Fleming, C., 1997. The professional imagination: narrative and the symbolic boundaries between medicine and nursing. J. Adv. Nurs. 25, 1094–1100. https://doi.org/10.1046/j.1365-2648.1997.19970251094.x

Nancarrow, S.A., Borthwick, A.M., 2005. Dynamic professional boundaries in the healthcare workforce. Sociol. Health Illn. 27, 897–919. https://doi.org/10.1111/j.1467-9566.2005.00463.x

Nicolini, D., 2012. Practice theory, work, and organization: an introduction. Oxford University Press, Oxford.

Nugus, P., Forero, R., McCarthy, S., McDonnell, G., Travaglia, J., Hilman, K., Braithwaite, J., 2013. The emergency department "carousel": An ethnographically-derived model of the dynamics of patient flow. Int. Emerg. Nurs. https://doi.org/10.1016/j.ienj.2013.01.001

O'Cathain, A., Sampson, F.C., Munro, J.F., Thomas, K.J., Nicholl, J.P., 2004. Nurses' views of using computerized decision support software in NHS Direct. J. Adv. Nurs. 45, 280–286. https://doi.org/10.1046/j.1365-2648.2003.02894.x

O'Connor, L., 2009. Information literacy as professional legitimation: The quest for professional jurisdiction. Libr. Rev. 58, 272–289. https://doi.org/10.1108/00242530910952828

Polanyi, M., 1967. The tacit dimension. Doubleday, Garden City.

Porter, S., 1991. A participant observation study of power relations between nurses and doctors in a general hospital. J. Adv. Nurs. 16, 728–735. https://doi.org/10.1111/j.1365-2648.1991.tb01731.x

Prowse, M., Allen, D., 2002. "Routine" and "emergency" in the PACU: the shifting contexts of nurse-doctor interaction, in: Allen, D. (Ed.), Nursing and the Division of Labour in Healthcare. Palgrave Macmillan, Basingstoke.

Purc-Stephenson, R.J., Thrasher, C., 2010. Nurses' experiences with telephone triage and advice: a meta-ethnography. J. Adv. Nurs. 66, 482–494. https://doi.org/10.1111/j.1365-2648.2010.05275.x

Salhani, D., Coulter, I., 2009. The politics of interprofessional working and the struggle for professional autonomy in nursing. Soc. Sci. Med. 68, 1221–1228. https://doi.org/10.1016/j.socscimed.2009.01.041

Shanteau, J., 1992. Competence in experts: The role of task characteristics. Organ. Behav. Hum. Decis. Process., Experts and Expert Systems 53, 252–266. https://doi.org/10.1016/0749-5978(92)90064-E

Snelgrove, S., Hughes, D., 2000. Interprofessional relations between doctors and nurses: perspectives from South Wales. J. Adv. Nurs. 31, 661–667. https://doi.org/10.1046/j.1365-2648.2000.01321.x

Stein, L.I., 1967. The doctor-nurse game. Arch. Gen. Psychiatry 16, 699–703. https://doi.org/10.1001/archpsyc.1967.01730240055009

Stein, L.I., Watts, D.T., Howell, T., 1990. The doctor–nurse game revisited. N. Engl. J. Med. 322, 546–549. https://doi.org/10.1056/NEJM199002223220810

Svenningsen, S., 2004. Den elektroniske patientjournal og medicinsk arbejde. Handelshøjskolens forlag, Copenhagen.

Svensson, R., 1996. The interplay between doctors and nurses—a negotiated order perspective. Sociol. Health Illn. 18, 379–398. https://doi.org/10.1111/1467-9566.ep10934735

Timmermans, S., Berg, M., 2003. The gold standard: the challenge of evidence-based medicine and standardization in health care. Temple University Press, Philadelphia, Pa.

Timmermans, S., Epstein, S., 2010. A world of standards but not a standard world: Toward a sociology of standards and standardization. Annu. Rev. Sociol. 36, 69–89. https://doi.org/10.1146/annurev.soc.012809.102629

Timmermans, S., Tavory, I., 2012. Theory construction in qualitative research from grounded theory to abductive analysis. Sociol. Theory 30, 167–186. https://doi.org/10.1177/0735275112457914

Tjora, A., 2000. The technological mediation of the nursing-medical boundary. Sociol. Health Illn. 22, 721–741. https://doi.org/10.1111/1467-9566.00228

Tolich, M., 2004. Internal confidentiality: When confidentiality assurances fail relational informants. Qual. Sociol. 27, 101–106. https://doi.org/10.1023/B:QUAS.0000015546.20441.4a

Tynjälä, P., 2008. Perspectives into learning at the workplace. Educ. Res. Rev. 3, 130–154. https://doi.org/10.1016/j.edurev.2007.12.001

Vassy, C., 2014. Emergency departments, in: The Wiley Blackwell Encyclopedia of Health, Illness, Behavior, and Society. John Wiley & Sons.

Walby, S., Greenwell, J., 1994. Medicine and nursing: professions in a changing health service. Sage, London.

Wenger, E., McDermott, R., Snyder, W.M., 2002. Cultivating Communities of Practice. Harvard Business Review Press, Boston.

Xyrichis, A., Lowton, K., Rafferty, A.M., 2017. Accomplishing professional jurisdiction in intensive care: An ethnographic study of three units. Soc. Sci. Med. 181, 102–111. https://doi.org/10.1016/j.socscimed.2017.03.047