ORIGINAL ARTICLE

“Limit work to here and now”—A focus group study on how emergency physicians view their work in relation to patients’ drug treatment

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Abstract

Patients come to the emergency department (ED) with complex medication and some patients present symptoms of adverse drug effects. Drug treatment is a complex process for physicians to handle. The aim of this study was to explore how a group of ED physicians view their work in relation to patients’ drug treatment. Three semi-structured focus group discussions with 12 physicians in an ED in Sweden were conducted and analysed thematically. The core theme was “limit work to here and now”. Three descriptive themes were identified in relation to the main theme; (1) focussing to cope with work; (2) decision making on limited patient-specific information; and (3) actively seeking learning moments. The findings show that the physicians actively seek learning moments in work. Signing their own notes in the computerized medical record is a way of getting feedback on the treatment they have initiated and it was seen as a large part of their clinical education. If we want to support the physicians with new technology for safer drug treatment, such as a computerized drug prescribing support system, the support system should be adapted to the different learning styles and needs.

Key words: Emergency care, focus group discussions, learning moments, drug treatment, computerized physician order entry system

Introduction

Drug treatment is an important tool in modern health care, but if not used properly drugs can be harmful and cause new symptoms or produce suboptimal effects. Many patients come to the emergency department (ED) with complex and extensive medication regimens. Indeed, some present symptoms and signs caused by adverse drug effects or by drug-drug interactions (Prybys, 2004). Elderly patients in particular run a high risk of medication errors that require hospitalisation (Spinewine et al., 2005). The ED also represents a treatment area where drug-related problems can easily be caused because new drugs are frequently prescribed (Gaddis, Holt & Woods, 2002). The ED represents a high-pressure environment where few emergency physicians have the time and training to systematically screen every patient’s drug list for potential drug-related problems (Gaddis et al., 2002).

In Sweden, as in many other western countries, patient hospitalization caused by adverse drug effects or medication errors are common unfortunately (Mjörndal et al., 2002; von Euler, Eliasson, Öhlen & Bergman, 2006). Many of these errors are preventable if patients are prescribed the right drug, in an optimal dose and with appropriate information and instructions. One suggested approach to prevent medication errors is to use...
computerized drug prescribing support systems. However, computer-assisted prescribing represents a new tool in the practice of emergency medicine and it is not well understood and has not been evaluated yet (Bizovi et al., 2002).

In a recent study, we found that a group of emergency physicians, in Stockholm Sweden, expressed a need for more pharmacological training and support in their work with patients’ drug treatment (Bastholm Rahmner et al., 2004). Therefore, we installed a computerized drug prescribing support system for physician order entry with decision support (Eliasson et al., 2006). The physicians were trained in the software systems use. Initially they were eager to test the system but later they did not use it in practice. Two major problems were detected, which delayed the work and discouraged the physicians from using and benefiting from the drug prescribing support system:

1. There was no complete list of drugs prescribed for a patient by all the patient’s health care providers, other than the one created by asking the patient.
2. No previous or current patient drug list was available to be automatically transferred from the medical record system to the prescribing system, even for previous visits to the same department or hospital. The physicians had to enter into the prescribing system all the current drugs for each patient, which was seen as an impossible task in terms of time.

It is well understood that the implementation process of a software system takes time because the system requires a change of both working routines and practices (Haines & Donald, 1998; Berwick, 2003). To develop a high-quality system for drug prescribing requires a deep knowledge of the specific working condition, but this only is not enough. Research has shown that technical errors, such as prescribing the wrong dose, account for only a small fraction of physicians’ incorrect diagnoses and treatments: instead, most errors are mistakes in thinking (Croskerry, 2003; Groopman, 2007). The clinical thinking differs among specialities because physicians represent different views and priorities in diagnosing and treating the patient. Moreover, the clinical thinking can even differ within the same discipline; if the patient’s symptoms are of a wide variety of clinical problems, the physicians are more likely to differ in their diagnosis and competence (Groopman, 2007).

Modern research on what constitutes competence at work has shown that the way the professional understands and experiences work is related to performance at work (Sandberg, 2000). Competence is not only theoretical knowledge and practical skills, it is the way the professional conceives the work that make up, form and organize knowledge and skill into competence. Workers with a broader understanding of their work are able to perform better (Sandberg, 2000). This interpretation might well correspond with an observation that specialists in anaesthesiology view their work in qualitatively different ways and act accordingly (Larsson, 2004). Other researchers have demonstrated that general practitioners can hold qualitatively different views about asthma treatment (Stålsby-Lundborg, Wahlström & Dall’Alba, 1999) just as diabetes care professionals do about the core of diabetes care (Holmström, Halford & Rosenqvist, 2003). These different ways of understanding one’s work as a health care professional are, as stated above, related to different ways of acting in the patient encounter.

Furthermore, drug treatment is a complex process for physicians to deal with. To improve rational drug use, it is important to study the behaviour of prescribers as well as their thoughts and experiences (Sterky, Tomson, Diwan & Sachs, 1991; Pont, Denig, van der Molen, van der Veen & Haaijer-Ruskamp, 2004). One prerequisite of developing functional work tools, for safer drug prescribing and improved patient safety, is that the development is carried out in close collaboration with physicians, based on their needs, experience and understanding (Haines & Donald, 1998; Berwick, 2003). Hence, in this study we wanted to go beyond the drug prescribing support system and explore how a group of emergency physicians view their work with patients’ drug treatment.

Method
Study design
In this study, we explored how a group of ED physician view their work with patients’ drug treatment. Focus was on the nature of the common rules and the collective thinking at the department, rather than comparing views and perceptions of different groups of participants. Therefore, we chose focus group discussion (FGD) as data collection method because FGDs are valuable in examining how people think and how ideas operate within a given cultural context (Kitzinger, 1995; Dahlgren, Emmelin & Winkvist, 2004).

Setting and participants
The study was carried out in an adult ED in a major emergency hospital in Stockholm, Sweden. An initiative was taken in 2000 by the ED in question, aimed at educating physicians in emergency specialist
competence. This was a new medical speciality in Sweden. The trainee emergency physicians were supported by three tutors who were senior colleagues.

All 21 physicians (including the three tutors) working at the ED were invited to participate in the FGD. The physicians were informed of the aim of the study and that participation was voluntary and could be discontinued at any time. Twelve physicians agreed to participate, five men (including one tutor) and seven women (including two tutors). The physicians were divided in three groups with four participants in each group. The first group included one tutor, the second group included two tutors and the last group had consequently no tutor. In FGDs, creating homogeneous groups to stimulate reflection among the participating group members is often recommended (Dahlgren et al., 2004). When creating these groups we had to consider the work schedules of physicians. FGD participants had worked as registered physicians between two months and 12 years (mean = four years). Physicians had worked at the ED between two months and 2 years (mean = nine months). Age, length of service as registered physician and working time of FGD participants did not differ from those of the group of physicians as a whole (Table I).

Data collection

During the autumn of 2003, the physicians participated in the FGD. The FGDs were carried out at the physicians’ workplace and lasted for about one-and-a-half to two hours. Two researchers were present during FGDs one as a moderator (UR) and one taking notes (PBR). This is in line with recommendations for FGDs (Dahlgren et al., 2004). Both researchers were trained and well experienced in qualitative interviewing. In addition, UR as a physician could communicate with the participants as a colleague, which enhanced the possibility of getting rich data and understanding medical jargon (Larsson, 2004). PBR, in turn, as a behavioural scientist could, while taking notes, study how the group members interacted and communicated and identify whether and how power games were played.

To reach different aspects about how this group of emergency physicians view their work in relation to patients’ drug treatment, we started the discussion with three broad open-ended questions:

1. What does it mean to work as a physician at the ED?
2. Is there any follow-up for patients getting drug treatment? If so, what does the follow-up look like?
3. How do you limit your work?

The aim of using this type of broad questioning was to gain information about their work in general at the department. In the follow-up questions, the moderator focussed on the patient’s drug treatment by asking the participating physicians to reflect specifically on elderly patients with multi-drug therapy.

The interviews were tape-recorded and transcribed verbatim. The identities of the informants were removed in the transcripts to guarantee confidentiality. According to the Swedish law (SFS 2003: 460), approval from a human research ethics committee was not needed. Informed consent was obtained from the head physician at the ED as well as oral consent from every participating physician.

Data analysis

From the empirical material, an inductive thematic analysis with no predetermined themes was carried out. In this approach, the themes identified are strongly linked to the data themselves without trying to fit into a pre-existing theoretical frame (Patton, 1990). Thematic analysis is widely used in qualitative health care research, yet it is argued that the

| Physicians' characteristics | Physicians at emergency department | Participants in the focus group discussion |
|-----------------------------|------------------------------------|------------------------------------------|
| Total                       | 21                                 | 12                                       |
| Gender                      |                                    |                                           |
| Men                         | 10                                 | 5                                        |
| Women                       | 11                                 | 7                                        |
| Age in years                | Mean 37, Median 38, Interval 29-48 | Mean 39, Median 40, Interval 30-48       |
| Registered physician (years)| Mean 5, Median 3, Interval 0-12    | Mean 4, Median 2, Interval 0-12          |
| Working time (months)       | Mean 10, Median 9, Interval 2-36   | Mean 9, Median 9, Interval 2-36          |
characteristics of thematic analysis as an own research method is challenged (Braun & Clarke, 2006). The thematic analysis is not driven from a specific epistemological and ontological position in contrast to research approaches with distinctive features with roots in different disciplines and ideologies, as for example phenomenology, grounded theory and ethnography (Holloway & Todres, 2003). In one sense the thematic analysis can be seen as a tool to use across different research approaches as the strategies and skills are shared, such as interviewing, “thematizing meanings” and reporting data through themes or patterns, within and across data, by finding a balance between narrative and illustration (Holloway & Todres, 2003).

However, it is important to know what the researchers have done when analysing their data or what assumptions informed their analysis when they evaluated their research. Braun and Clarke (2006) state: “Any theoretical framework carries with it a number of assumptions about the nature of the data, what they represent in terms of the world, reality and so forth. A good thematic analysis will make this transparent”.

In this study, we used the thematic analysis as a pragmatic research tool when searching for the answer to the research question in the transcriptions and for structuring the data. Data were analysed by the first author (PBR) and the third author (UR) separately, while two of the authors (IH and GT) acted as co-readers. The main aim of this process was to compare the results to determine whether any theme was overlooked. All authors then took part in the analysis process of finding related patterns between the themes through a reciprocal reading between transcribed text and the themes. This is a way to increase the credibility in the analysis process (Hamberg, Johansson, Lindgren & Westman, 1994).

The phases of the thematic analysis method were as follows (Table II):

1. The transcripts were read several times to acquire a good grasp of the whole material.
2. Sections of text and key words in the transcripts, focussing on the research question, were marked. Marked sections with related topics were grouped into sub-themes.
3. The next step was to find related patterns within each sub-theme. Certain sub-themes were considered to have a common origin, were related or both. When opinions differed between research members, we returned to the transcriptions and discussed them until an agreement was reached (negotiated consensus).
4. Sub-themes were merged into three themes. These themes are interconnected and cannot be seen as isolated because they are closely related to the core theme.
5. Quotes were selected to illustrate each theme.

Thereafter, we presented the analysis to the head physician and a colleague at the ED to get their feedback on findings. The enquired physicians recognized the informants’ way of thinking in the question with the patients’ drug therapy and they had nothing to add to or remove from the findings. This was a way to test the validity of the findings further.

**Findings**

In the analysis of the data, we discovered one core theme of how this group of ED physicians viewed their work with their patients’ drug treatment. This core theme was labelled “limit work to here and now” and has a superior position due to its central role of the physicians’ work. The physicians tried to have a holistic view of the patients but due to the working situation, they had to make quick decisions, often based on limited information of the patient they are going to treat. These situations—with limited time and limited information—resulted in the physicians needing to focus on the patient’s acute condition and to leave non-acute symptoms, e.g. possible drug-related problems, to other health care providers. The main theme “limit work to here and now” should be seen as an enclosed concept to the underlying themes. These themes are described below and each theme will be illustrated by quotations from the transcriptions. The core theme “limit work to here and now” should be seen as a process influenced by the three themes:

1. **Focussing to cope with work**
2. **Decision making on limited patient-specific information**
3. **Actively seeking learning moments**

### 1. Focussing to cope with work

The trainee physicians had to learn how to sort out quickly what was most acute at that moment. The tutors instructed less experienced colleagues to focus on the patients’ acute condition because of the high workload and the demand for quick decision-making. The tutors said that the work is like a detective’s work. One needs to focus on the issue in question, and as quickly as possible locate the problem and find its solution—that is the challenge of the work.
The longer you have worked, the easier you see how to focus. What I once, as a young doctor, felt was an enormous amount of information to find out about each patient, I find easier today. It is never easy, but it is easier than it was before. Especially when I am tutoring, I try to focus—what is the patient seeking help for today—and this information I use when talking with the patient; it helps the patient to focus as well...

The tutors’ way of teaching the trainee physicians to narrow their scope to focus on the acute condition was not questioned during the FGDs. This was experienced as a group dynamic issue and was interpreted as a pedagogical tool for the tutors to facilitate the trainee physicians to cope with the work.

I try to narrow my task but, of course, I also try to get an overall view and based on that decide what the problem is, taking patient history and background in this regard but making it as narrow as possible, here and now.

After getting a general impression of the patient’s condition, the physicians define what can be treated at the ED and what can be left to other health care providers. The physicians also have to find out what kind of health care contacts the patient already had outside the hospital. They described their function as a coordinator who ensures that the patient gets the right care. Many patients coming to the ED are elderly and suffer from chronic or multiple diseases or both.

It was an elderly woman with a chronic obstructive pulmonary disease; she was discharged from the hospital a couple of days ago. She had a number of different sedative drugs. Last time she was here we withdrew some of the drugs but later they were replaced. I think she was at the elderly home for four days and then returned acute... So I just wrote down the drug list and sent her to a ward. This is a problem...with a lot of drugs with essentially the same effect, and you cannot solve it at the emergency department. This felt like a reasonable way of working, you can not withdraw drugs without observing the patient.

The physicians worked out a treatment plan for patients who were transferred to a ward. For patients who were discharged from the ED the trainee physician felt it was difficult to just send a letter of referral for review of the patient’s drug list to the primary health care centre. The physicians believe that the general practitioners are aware of the...
problem with patients with long drug lists but assume they, like the ED physicians, lack time. The physicians even thought this letter could be experienced as a decree from the hospital.

It will be some kind of decree from the hospital. I believe it will be understood like that, especially if the message came from a newly established group. I believe it will be welcome not just to send a referral of decontamination of the patient’s drug list. Everybody knows there is a problem with side-effects and that it hurts people, but I think the problem in primary care is that the patient has time booked for something else. It is seldom people get time in primary care for an overview of their drug list, because GPs do not have the time either. It is like our situation, the patient is here for something else and when you come to the drugs you have two minutes left, then you pass over the drug list . . . You need to be aware of this problem and have some plan for the patient’s drug list in addition to everything else. I do not believe there is time for this question in general practice either . . .

2. Decision making on limited patient-specific information

Working as a physician at the ED is complex; the physicians have to be up to date with a wide range of different diagnosis, conditions and treatments. They must handle many potent drugs and know their effects. The physicians only treat obvious and clinically relevant drug problems.

Certain medication you just have to act upon—the patient is bleeding and you withdraw the cardiovascular acetylsalicylic acid drug. It is so obvious, makes it such a concrete measure. Otherwise . . . seeing the patient only once, there’s no possibility to follow up, you cannot make so many changes then . . .

Patients coming to the ED are usually new to the physicians, and physicians therefore have an incomplete knowledge of the patient. Due to insufficient information about the patient’s complete drug list, the physicians describe how they have to make decisions on limited information. Decision-making is also complicated because it often involves more than one prescriber, as explained in the previous theme. Getting access to medical records of other physicians involved could facilitate the work at the ED:

I do not have complete information, nor does the patient; there is no final medical summary report from the different care providers so you cannot put together why the patient is on this or that combination of drugs. You do not have time to call the general practitioner . . .

The physicians are unwilling to interfere with treatment prescribed by a colleague because they do not know what the colleague thinks about the patient’s treatment. A withdrawal of a drug may lead to the patient getting worse. Withdrawing a treatment initiated by someone else is difficult, especially if the colleague is a specialist. It is particularly difficult when the physician does not know the indication of the drug, or the purpose of the treatment for the particular patient or both. The physicians are reluctant to change a treatment or start a new long-term treatment because they have limited possibilities of following up the patient’s treatment and condition. When the patient leaves the emergency ward, primary care or another hospital department takes over the care and responsibility for the patient.

The lack of a follow-up gives us the right to refuse shouldering the responsibility. You cannot make changes in the drug list of a patient you will never see again . . .

When the physicians suspect that the patient’s symptom depends on adverse drug effects, they cannot involve themselves in the problem at the ED because of the lack of patient-specific information. Instead, they have to hospitalize the patient for a dose adjustment or send a letter of referral to the primary health care centre.

You are often surprised to see the number of drugs for certain patients, whose only diagnosis is old age. They have an incredible amount of drugs. You do wonder who takes responsibility for such a drug list, who initiates all this? It cannot be our responsibility at the emergency department to make all decisions but you do hope that someone has the courage to withdraw drugs before the patient gets discharged and leaves the hospital.

3. Actively seeking learning moments

When asking the group about the follow-up of their patients, several physicians instead started talking about their own possibility of getting feedback on their patients. The group expressed a huge interest in knowing the results of the treatment they had
initiated. The physicians explained that they obtained this information mainly during three learning moments:

a. Workplace meetings for physicians at the ED: once a week the physicians have the opportunity to discuss interesting or difficult patient cases.

b. Contact with the physician currently responsible for the patient in question: in some special patient cases, the physicians contact the ward physician or the GP that has taken over the responsibility for the patient.

c. Signing notes in the computerized medical record system: the physician waits to sign her or his own notes to be able to see the treatment result of the patient.

In the two first examples of learning moments, at workplace meetings and in contacting related physicians, the physicians learn from each other in the interaction with colleagues; the physicians share knowledge and information actively. The third learning moment, signing their own notes, is not intended to be an opportunity for the physicians to learn. This moment is self detected and based on the physicians’ need for further education. When the physicians sign their own notes in the medical record system, they get knowledge and information in a passive way from more experienced colleagues about the patient’s treatment. By getting this information, they increase their knowledge, which can then be used for future patients. This is described as one of the best opportunities for the trainee physicians to learn more.

Signing the records is part of your own education, to learn how work is performed at the emergency department. To sign your own records is not just signing but learning as well, because you have to read the final medical summary report and find out what happened. It is a lesson, indeed. I would say that 50% of learning is based on signing my records. Sometimes I do not sign the records just to be able to get more information later on.

To create better care for certain patients, the physicians suggest starting an observation unit at the department to provide the possibility of treating these patients and thus influence the treatment and get feedback. This would reduce the workload of sorting patients and instead increase the physicians’ responsibility for each patient in addition to possibilities to learn more from each patient.

If we were allowed to observe patients at the emergency department, we would get a completely different feedback and be able to influence the drug treatment as well; it would make work much more fun.

Discussion

The most striking findings of the present study were the emergency physicians’ strong focus on ways to limit their work to here and now. This was also the fact for handling drug-related problems. In their work, the physicians discover many drug-related problems, e.g. elderly patients with long drug lists risking drug-drug interactions or adverse drug effects. Despite this, they did not perceive that dealing with the patient drug lists by making changes in ongoing treatment was part of their work. They made no changes or dose adjustments in a patient’s drug lists unless a symptom was directly and clearly drug related, apparently due to the ED physicians’ inability to follow-up the patients’ treatment and their lack of information as to what the previous prescribing physicians had been thinking and what kind of plans they had for the patients’ treatment. The present result agrees with a study on emergency physicians in Belgium (Spinewine et al., 2005) which found that physicians were reluctant to interfere with treatment prescribed by a colleague. Physicians would probably be able to handle such problems better if they had access to the patient’s complete list of drugs currently prescribed by all health care providers together with information about the indication of the drug (Schiff & Rucker, 1998; Bizovi et al., 2002; Gustafsson et al., 2003).

The physicians who are trained to work in the ED are coached to narrow their view and focus on the emergency situation of the patient. This strategy should help them handle difficult situations in a stressful work with pressure to make decisions with limited available information. The tutors’ way of teaching the trainee physicians was not questioned in the FGDs but was interpreted as a pedagogic tool for the tutors in managing and coping with work. A similar situation was described by young physicians training to become specialists in anaesthesiology (Larsson, 2004). In addition, the trainee anaesthesiologists often felt too challenged and wanted to have access to a tutor at close hand in critical situations. They needed the exposure and challenge but their learning was blocked by too much stress.

It is interesting, therefore, that the emergency physicians describe both different settings where they could learn and how they tried to optimize the learning process. Our findings about physicians’
learning moments contradict those from the Belgium study (Spinewine et al., 2005) where they found that emergency physicians’ learning strategies in drug prescribing issues were passive and teacher centred. Our results are the opposite and show that the studied emergency physicians actively seek learning moments in their work. The physicians’ learning moments most likely take place when they have time to review and reflect on their work. Signing their own notes in the computerized medical record, to get feedback on the treatment they have initiated, was a way of getting feedback and it was seen as a large part of their clinical education. In this case, the computerized medical record renders possible the learning moment for the physicians. The learning moments occurred separately from the acute handling of the patients in the ED and contained review and reflection.

In the multifaceted context, physicians are even susceptible to making diagnostic errors raised by cognitive mistakes in the decision-making process. These cognitive errors are associated with failures in perception, failed heuristics and biases (Croskerry, 2003). Most physicians are not aware of their cognitive mistakes and few studies have focussed on its relationship to physicians’ cognition in the decision-making process (Croskerry, 2003; Groopman, 2007). One strategy for reducing cognitive errors is metacognition. According to Croskerry (2003), this strategy represents a reflective approach to problem solving that involves stepping back from the immediate problem to examine and reflect on the thinking process. In this study, we showed how the ED physicians waited to sign their own notes in the computerized medical record to get feedback on the treatment they initiated. This can be seen as a way for the physicians to raise their awareness and learn more about their potential mistakes—by doing this they gain knowledge they could use in the meeting with future patients. This self-initiated learning moment often takes their starting point in an experienced problem at the workplace and it is seen as the best prerequisite for changing praxis (Brommels, 2006). To our knowledge, little effort has been made to support this natural learning process at the ED.

However, it is clear why the physicians expressed a need for pharmacological training and a support system, but could not use it (Bastholm Rahmner et al., 2004). In this setting, the computerized drug prescribing support system did not support the physicians’ way of working. Nevertheless, it needs to be integrated in their day-to-day workflow. The system we tested analysed the situation for a single patient’s medication. When drug-drug interactions or side effects were detected, the physicians had to act. To initiate such a correction the emergency physician would need to reach the physician in charge of the patient’s care or at least see the complete list of drugs together with the indication of each drug. These measures are both difficult to realize with the present organization and technology. If we want to support the physicians with new technology, we need to broaden the drug prescribing support system, not only supply a validated database, but also support the differences in the individual learning styles and needs.

**Methodological considerations**

Focus groups explicit use group interaction as part of the method. The idea behind the focus group method is that group processes can help participants to explore and clarify their views—ways that would be less easily accessible in the one-to-one interview (Kitzinger, 1995). Opinions vary on the optimum size of the focus group and depend on the research question. Kitzinger (1995) states that the ideal group size is between four and eight participants in each group. Smaller groups are more suitable when the participants are deeply involved in the topic and are expected to contribute a lot (Dahlgren et al., 2004), like in the present study.

The group dynamics raise ethical issues that should be considered. In this group, the participants were familiar with each other, which might have made them avoid talking about important issues that can negatively affect their relations (Dahlgren et al., 2004). However, we believed this familiarity was one of the strength of the FGDs in this setting. Another group dynamic issue to consider was letting the tutors participate in the discussions, which may have restricted what trainee physicians said. We experienced that sometimes the tutors’ taught the trainee physicians to narrow their scope of work. However, when reading through the notes and transcriptions again, with this question in mind, we could not find any differences between the group without a tutor and those with tutors.

We experienced that the physicians view their work in consensus, as explained in the FGDs. In the group of these 12 emergency physicians, this view of consensus might be explained by the context at the ED, where this group was a new speciality with young physicians training to become specialists in emergency care. Since this study is a qualitative study, the findings cannot be generalized. However, they might well be transferable to other contexts and settings. This research is also related to the “so what” factor, which is understood to be about how
the research can become useful in participants’ work (Holloway & Todres, 2007). The present findings can be used when developing computerized drug prescribing support systems, which in turn might reduce drug errors and improve patient safety.

Conclusions

Different contextual settings of health care organisations do affect the way physicians think and act in work. Knowledge of how ED physicians view their work in relation to patients’ drug treatment and how their learning strategies emerge can be effective information when developing tools, such as drug prescribing support systems, to support the physicians in work. Before implementing a support system we need to describe and analyse the context where the potential drug errors appear but equally important is to gain deeper understanding about how the physicians think and act in work. A well-designed drug prescribing support system would then make it possible for the physicians to develop competence at work with the patients’ drug treatments as well as improve patient safety.

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