



Dis-integration of communication in healthcare education: Workplace learning challenges and opportunities



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ABSTRACT

The purpose of this paper, based on a 2016 Heidelberg International Conference on Communication in Healthcare (ICCH) plenary presentation, is to examine a key problem in communication skills training for health professional learners. Studies have pointed to a decline in medical students' communication skills and attitudes as they proceed through their education, particularly during their clinical workplace training experiences. This paper explores some of the key factors in this disintegration, drawing on selected literature and highlighting some curriculum efforts and research conducted at the University of Iowa Carver College of Medicine as a case study of these issues. Five key factors contributing to the disintegration of communication skills and attitudes are presented including: 1) lack of formal communication skills training during clinical clerkships; 2) informal workplace teaching failing to explicitly address learner clinical communication skills; 3) emphasizing content over process in relation to clinician-patient interactions; 4) the relationship between ideal communication models and the realities of clinical practice; and 5) clinical teachers' lack of knowledge and skills to effectively teach about communication in the clinical workplace. Within this discussion, potential practical responses by individual clinical teachers and broader curricular and faculty development efforts to address each of these factors are presented.

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1. Introduction

The education of future doctors is a prime example of how communication skills training (CST) has become progressively incorporated into the core curriculum of health professional training, with clinical communication becoming recognized as a core competency for effective clinicians [1–3]. In looking at the current state of CST in undergraduate medical education, a number of general trends can be identified [4,5]. These include that CST most often occurs within the pre-clinical curriculum (first 2–3 years) prior to students having significant involvement in workplace-based learning, and that communication skills are predominantly taught separately from other medical school courses or content. In addition, the majority of communication skills sessions are taught by generalists including general practitioners, or psychiatrists or non-physicians such as educators and behavioral scientists, rather than by other clinicians and particularly those in subspecialty medicine [5,6].

Despite the impressive amount of curriculum time being increasingly devoted to enhancing the clinical communication skills of learners, there still appears to be a major problem in medical education. Several studies have pointed to a decline in medical students' communication skills and attitudes as they proceed through their training [5,8–17]. When one looks closely at this data—based, for instance, on longitudinal, repeated objective structured clinical examinations (OSCEs) and attitude surveys—the main decline in student skills and attitudes appears to occur during the years when they participate in clinical training in the workplace.

The purpose of this paper, which is based on a plenary presentation given at the 2016 Heidelberg International Conference on Communication in Healthcare (ICCH) is to examine what is happening during clinical training that leads to this disintegration of communication skills and attitudes. The main premise of this exploration is that

Disintegration of communication skills and attitudes results from “dis-integration” (meaning “lack of integration”) of pre-clinical communication teaching with clinical workplace learning.

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This paper will explore some key factors in this disintegration and draw on selected literature. In addition, I will highlight some of the curricular efforts and research that my colleagues and I have conducted at the University of Iowa Carver College of Medicine (UICCOM) as a case study of these issues. In the sections below, I will explore reasons for disintegration of communication skills and attitudes (CS) and then some potential responses. My hope is that readers use this discussion as a litmus test for how CST is approached in their own training programs. Though the paper focuses on medical school education, the issues are relevant to all health care professions and all levels of learners from undergraduate through postgraduate and practicing clinicians.

2. Key factors in disintegration of learner CS

2.1. Lack of formal CST during clinical clerkships

An obvious explanation for the disintegration of CS during clinical years is the lack of formal CST during clinical training. Pre-clinical training in CS is important as it emphasizes CS as a core skill early in students' education and when there is a perception of more readily available curriculum time. However, if the curricular emphasis on CS stops when students enter the clinical arena, then this has the potential to give learners the message that CS are not important in actual clinical practice and/or that students have learned all they need to about CS already.

A logical response to this problem is that CST should occur longitudinally throughout the curriculum, including incorporating formal CST sessions during clinical clerkships (also referred to as rotations or attachments) [4,6]. This allows for the reinforcement of students' previous pre-clinical learning as well as addressing new and ongoing issues that arise through clinical experiences in a

"just in time" manner. Many and increasing examples of this type of teaching during clinical rotations are available [4,6,18–22]. In response to these arguments in the literature, at UICCOM we have incorporated formal CST sessions into most of the required clerkships; these sessions emphasize skills and issues that students are likely to face within the particular context of each clerkship (See Fig. 1). For example, we offer formal training in explanation and planning during the Internal Medicine Inpatient Clerkship because student contact with patients and families often involves providing or clarifying information about diagnosis, testing, home care, and other related issues. In developing these sessions, we at UICCOM borrowed heavily from materials developed at UK medical schools, particularly the University of Cambridge (these and similar resources are available to EACH: International Association for Communication in Healthcare members on the EACH website <http://www.each.eu/teaching/resources/>).

However, while incorporating formal sessions throughout training is a useful development, formal sessions do not necessarily translate into learners' actual behaviors in the realities of clinical practice [16,23–25]. For example, the seminal study on disintegration of student CS by Pfeiffer et al. [11] was repeated after implementing more formal CS sessions in the clinical years and found that while the decline in CS scores was less than it had previously been, there was still a statistically significant decline [14].

2.2. Experiences of learning in the clinical workplace

If lack of formal sessions during clinical training does not completely account for the disintegration of CS, what else might be contributing? I posit that the primary reason for disintegration of

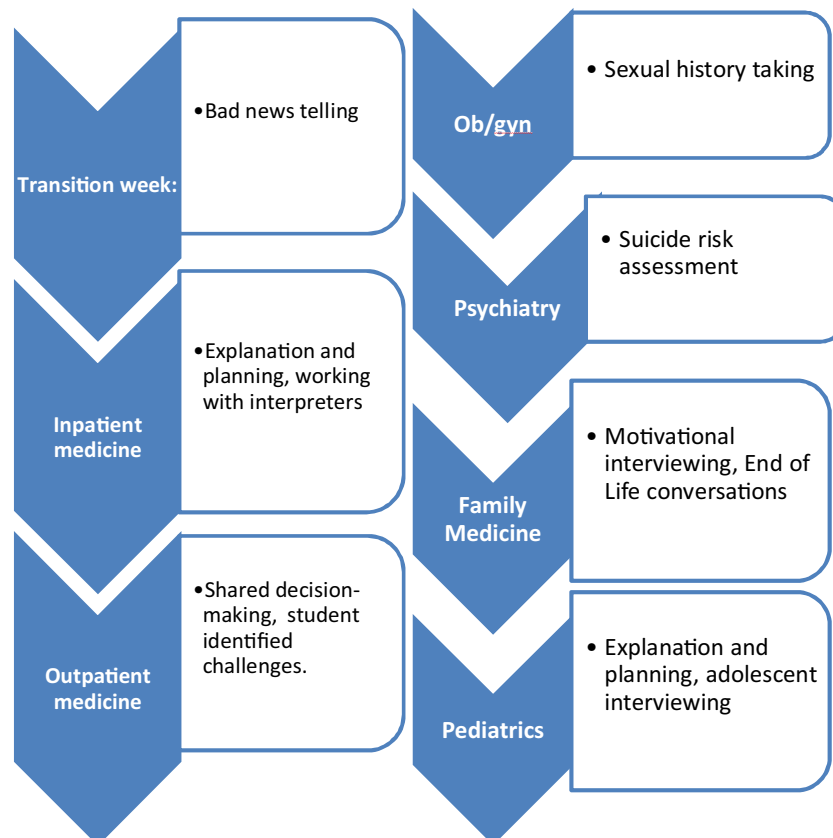


Fig. 1. Formal communication sessions taught during Required Clinical Clerkships – University of Iowa Carver College of Medicine.

learners' skills lies with their experiences of learning in the clinical workplace and will explore these issues in some depth in this section. In the last decade in particular, many scholars have explored student experiences of learning about CS in the workplace, and the messages are surprisingly consistent across countries and schools [16,24,25,26–35]. As an example, as part of larger studies at UICCOM, we asked three different cohorts of senior medical students (2009–2010, 2013, 2016) how and what they learned about CS during the clinical years of training [32,33]. Echoing findings in other studies, they identified three main ways of learning about communication skills in the context of clinical clerkships. First, they consistently said that they learn by watching practicing clinicians interacting with patients. Others have pointed to the central place of this role modeling in relation to communication skills learning [16,29–31,36]. Students consistently point out that rather than necessarily role-modeling the CS they have learned in formal sessions, there is great variability in the CS of their supervisors, who do not always demonstrate effective, patient-centered care. A second way of learning about CS is by conducting interviews themselves. Our students noted this is largely through “trial and error”, seeing for themselves what does and what does not work. Part of the reason for this is because our students, similar to many reports in the literature, are rarely observed when interacting with patients and even less frequently are they given feedback on their actual communication with patients. They must rely on their own assessment of their effectiveness to guide their behavior. However, self-assessment is of limited utility in guiding CS development. As Regehr and Eva astutely explore, physicians in general have a limited ability to self-assess, with those in the bottom tier tending to overestimate their performance while those in the top ranks tending to be overly self-critical [37]. A final way our students identified learning about CS is in the context of presenting patients to supervising or attending physicians after students have conducted patient interviews on their own. In medical education, responding to patient presentations is often perceived as the main opportunity for direct clinical teaching [38,39]. In relation to communication skills, our students noted that most supervising physicians ask about the information elicited in “history taking” (“Did you ask about X, what about Y?”) rather than how the information was gathered (“How did you explore the patient’s concerns?”). Thus, learners felt they receive the message that how one approaches communication is not necessarily important. The following student quote captures this subtle message well: “In preclinical, they teach you to ask open ended questions but you can’t really ask open-ended questions in the clinical years, just because the patient will not give you the right things and then your attendings will be, ‘Why didn’t you ask this?’ So we learn to streamline it more and do it fast, which could be bad but that’s how it

is.” Implications of this message are that teacher responses to learner presentations can influence how students interact with patients and the value they give to CS.

Based on these findings from student learning experiences, it is possible to provide a clearer definition of the problem. Restated, a primary reason for disintegration of CS is that informal workplace teaching does not explicitly teach effective CS. Thus, what is important is not just what learners experience during clinical training, but also what they *do not* experience. This concept is in keeping with more general literature emphasizing the substantial influence of the hidden or informal curriculum on student learning, professionalism, and interaction with patients [40,41]. In this case, the hidden curriculum often does not reinforce what is taught pre-clinically or in formal sessions and can even contradict it.

As a response to this problem, it is useful to consider at least some of the opportunities to explicitly address CS in the workplace, focusing on the key contexts in which students note learning about CS: A) role modeling, B) case presentations, and C) conducting interviews themselves (Table 1).

2.2.1. Role modeling

Role modeling is a time-honored and important aspect of clinical learning, not just of CS but of all clinical skills. While teachers are always being watched and emulated, the difficulty in relation to CS learning is that this role modeling is often implicit rather than explicit [16,29–31,36,42–45]. As an example, at UICCOM clinical teachers identified role modeling as the main way they teach about CS, hoping that as the learner watches them they will pick up on effective communication being modeled [45] [see also 45]. However, the literature on role modeling identifies that just observing someone is not necessarily a helpful learning experience unless the learners understand what they are looking for. Three important steps can help to maximize the learning from observation/role modeling [38,43,45]. First, clinical teachers can be encouraged to “prime” the learner before observing the encounter to help focus the learner on what they might gain from observing. Approaches to this include giving learners a specific focus (“Watch how I . . .”) and/or asking learners what they anticipate might be challenging in the encounter and/or what they would like to see demonstrated (See Table 1). Second, during the encounter, the clinician should be conscious or mindful of what they are modeling. Although this sounds obvious, making the deliberate choice to attend to this will also help with the final step, which involves explicit reflection and allowing time for debriefing after the encounter. In this debrief, learners can be asked to reflect on what they have observed and to ask any questions while clinicians

Table 1
Key Steps for maximizing communication skills learning in clinical teaching.

| Role Modeling | Responding to Case Presentations | Observing Learners |
|---|---|--|
| 1. Prime learner before encounter – <i>Please pay attention to the way I...</i> <i>“What aspects of the clinical encounter do you have questions about?”</i> 2. Prime patient <i>Have observing learners introduce themselves</i> 3. Conscious awareness of what is being role modeled 4. Debrief – teacher and learner reflection on CS effectiveness • <i>What did you notice (analyze skills used)?</i> “What do you have questions about?” | 1. Pay attention to learner cues about CS, for example: <ul style="list-style-type: none"> • <i>The patient had so many problems</i> • <i>I had difficulty getting a dietary history</i> • <i>I wasn’t sure what questions to ask</i> • <i>I told patient they need to keep up on their medication</i> 2. Explore learner’s perspective on the encounter <i>How did it go? Anything challenging?</i> 3. Discuss potential communication approaches that could be helpful in similar encounters | 1. Prime learner before the encounter – <i>What would you like me to watch for? I will be in the room for just 5 minutes.</i> 2. Prime patient – either teacher or learner explain teacher’s presence <i>I will be here for just a few minutes to watch Student X – we do this to continually help each other be effective clinicians</i> 3. Take note of specific communication skills – both effective and those that could benefit from change 4. Debrief – provide learner centered (<i>How did that go, what would you like feedback about, what was tricky?</i>) and behaviorally specific (<i>I noticed you interrupted the patient before she was done talking and she did not return to the issue she was discussing</i>). |

can reflect out loud on what CS they modeled and if it was effective or not [43,44].

As well as benefits, each of these approaches to explicit emphasis on CS in informal teaching has its limitations. In the case of role modeling, as with other forms of non-experiential learning such as lectures, the extent to which this leads to actual change in learners' own skills is limited [7]. As one of our students said, "The most teaching that happens was to watch what you see, which you won't remember because you don't get to practice." Thus, Learning CS requires the opportunity for application and practice.

2.2.2. Case presentations

Before exploring ways to maximize learning from conducting patient interviews, it is important to address the common product of those encounters, the presentation of the patient case to supervising physicians. Though, as noted, it is often the primary opportunity for teaching in the clinical setting, the content and process of case presentations has received very little attention in research, particularly in relation to CS learning [32,46–48]. We have conducted a series of studies at UICCOM in which we recorded learner case presentations to see if and how communication skills and issues arise in these educational encounters. What we found is that within case presentations learners may provide cues to the content and quality of communication that transpired during the learner-patient encounter. These cues, in turn, can provide opportunities for clinical teachers to address CS issues. It is worth trying to picture, for example, what may have been happening in the patient room if a learner starts the subsequent case presentation by saying, "This patient had so many problems I had a hard time sorting it out". When I have asked this question of clinical teachers in faculty development workshops, the possibilities they come up with include a patient using a loquacious and/or tangential communication style, a who has difficulty remembering their medical history, a patient who has multiple problems and/or a learner lacking the skills to manage these issues in an organized manner, or a learner who uses mainly closed questions thereby not eliciting the whole patient story. Any one of those possibilities or even something else may have been what occurred in the patient room. Therefore, the first step in deciding how to address this type of cue in a learner presentation would be for the clinical teacher to ask the learner what happened (Table 1). Once the nature of the interaction is clarified, the cue can then be addressed in terms of CS and how a similar encounter could be approached. For example, if the issue was that the patient had a long list of medical problems, then this situation would be a teachable moment to introduce or reinforce the use of screening and summary (also known as "up front agenda setting"), in which the list is elicited up front before going into depth about any one problem [1,49]. This strategy has been consistently shown to help with time management and patient-centered communication. In addition to paying attention to explicit verbal cues, some examples of which are presented in Table 1, our studies found more implicit cues from learners that had implications for CS issues. Examples of these include noting if the learner spends significantly shorter or longer time with the patient than expected, if there is a significant amount of pertinent information missing, or if the learner provides non-verbal indications of frustration, agitation, or lack of confidence (such

as sighing or eye rolling). There may also be no explicit or implicit cues provided. In these cases, it can be helpful for clinical teachers to take the time to explicitly ask learners about their encounters ("How did the interaction go, any challenges?") and about areas that are often specifically linked to communication outcomes such as patient ideas, concerns, expectations ("What does the patient think is going on, what is he concerned about?") as well as the patient's level of understanding and agreement with information provided.

While responding to CS issues in case presentations is a potential teaching opportunity, there are limitations to the reliance on case presentations as the main window into the learner-patient encounter. In a recent UICCOM study, we compared video recordings of resident-patient encounters with transcripts from audio recordings of the subsequent case presentations made to supervising faculty after those encounters [50]. As Table 2 shows, while there was much congruence between the medical information discussed and conveyed, there was lack of agreement in certain content areas such as social history, patient education, and others that were often omitted from case presentations. This is not surprising given the nature of case presentations in which the information expected to be conveyed is primarily medical information. However, one of the main findings was that presentations offered very limited insight into the actual learner-patient encounter. While video recordings, for example, showed some very disorganized, doctor-centered, closed-ended interactions with patients, none of these communication issues came through in the case presentations, partly because learners had time to organize their thoughts prior to presenting them. Similarly, effective use of CS such as appropriate questioning, listening, expressions of empathy and shared decision making was also not explicitly conveyed and therefore the opportunity to reinforce these effective behaviors was missed.

2.2.3. Direct observation of learners with patients

The limitation of case presentations points to what has been consistently noted in the medical education literature, namely that the best way to obtain a sense of a learner's CS is through direct observation of interactions with real patients. Observation of learners with simulated patients can provide some insight, however learners also consistently identify that simulated patients often act differently than real patients and that learners themselves interact differently with simulated patients than they might with real patients [27,33]. While learners desire more observation with real patients, followed by helpful feedback, this rarely occurs [33,51–53]. Because several publications address these issues, I will limit my discussion to exploring some key barriers and approaches to using observation effectively in CST. One of the biggest obstacles that teachers and learners identify to observation is time: particularly time for observation of learners in the context of busy clinical settings. Lane and Gottlieb successfully trained faculty to conduct brief observations (3–4 min) and provide focused feedback to students on a pediatrics rotation, resulting in a significant increase in the number of times students were observed during the rotation [54]. Thus, watching just the first few minutes of a learner taking a history or sharing information about a diagnosis can provide enough material for meaningful feedback to be given to learners regarding their CS. Similarly, video recording

Table 2
Comparison of content of resident-patient encounters with subsequent resident-supervisor case presentations.

| Resident-patient encounters (video) | Resident presentation to supervisor (audio) |
|---|--|
| Medical History | Congruent: Most medical content conveyed |
| Patient perspective, social history, content/process of patient education, planning and decision making | Consistently Omitted |
| Effective and ineffective CS | Little insight into CS effectiveness via presentations |

provides another way that real encounters can be captured and then reviewed with the learner later when there is more time. Key steps in maximizing learning from observation, like with role modeling, include priming the learner, conscious awareness of what is being observed, and finally making sure to reflect and debrief afterwards (Table 1). Potential learner discomfort with being observed is another obstacle to this type of observation being initiated by learners or teachers. For example, interviews with medical students at UICCOM revealed that because observation mainly occurred when it was required as part of the clerkship and involved a standardized checklist [mini-CEX at UICCOM,53], learners perceived observation as connected to formal evaluation by clinical teachers. This increased nervousness and resistance to being observed, as well as perceptions that observation was limited in educational value. Suggestions for how to minimize this discomfort therefore include providing opportunities for learners to be observed that is disconnected from formal evaluation and having frequent observations so learners can become more accustomed to being watched [33]. A final obstacle consistently identified in relation to learning from being observed is that feedback is often not provided in a timely manner or it is vague in content (“Good job”) and therefore limited in helping guide learners’ CS development. It is imperative that feedback follows observation in a timely manner and that it be learner-centered and behaviorally specific in order to have an impact on a learner’s subsequent CS [6,33].

Table 3 shows two different models of ways that these very practical approaches to explicitly incorporating CS into clinical teaching can be combined in more comprehensive approaches that are developmentally appropriate for the learner. The first uses an apprentice-type approach that first lets learners see what is expected, then gives them the opportunity to try it themselves before the teachers use observation, feedback, and other teaching strategies to hone and build on the learners’ CS. The second model is framed around making case presentations in front of patients as a time-efficient way to combine CS strategies in one teaching encounter and more fully involve the patient. In UICCOM randomized control trials comparing teaching in the patient’s presence to responding to presentations outside the patient room (for example, in the staff conference room), we found that teaching in the patient’s presence can be as, if not more, efficient as conference room teaching and provided more opportunities for explicitly teaching CS, as well as benefitting patients’ understanding of their health care issues [55–57].

Though taking opportunities to be more explicit about CS during informal teaching may contribute to less disintegration of learner skills, two further key factors in students’ overall CS learning also affect both the perception and reality of CS integration.

2.3. Content over process

As noted, clinical teaching opportunities tend to emphasize medical and diagnostic information rather than communication

issues. As Kurtz and Silverman et al. describe it, the emphasis tends to be on “what” information is elicited/conveyed (content) over “how” content is elicited/conveyed (process) [58]. The focus on content will always be important given that the ultimate aim of clinical education and clinical care is to identify and address the patient’s medical issues. However, without the addition of attention to process issues, students’ overall learning will be negatively affected. Rather than arguing that CS should take precedence over medical information, what is needed is that the link between content and process be consistently and clearly acknowledged in learners’ educational experiences. Opportunities for emphasizing this link exist in the context of formal teaching sessions both pre-clinically and clinically. As an example, at UICCOM, instead of through a separate course, pre-clinical CS are taught under the umbrella of clinical reasoning along with evidence-based practice and physical examination skills. In formal experiential practice sessions during clerkships, when debriefing each student’s practice with a simulated patient in addition to feedback on CS, students discuss the information obtained and their diagnostic thinking and consider which CS are going to help elicit the additional information needed. In addition to these formal curricular approaches, informal workplace teaching also needs to explicitly address and reinforce for learners how to integrate content and process in consultations with real patients. As Apers et al. identified, even with formal practice with simulated patients of integrated consultations, transferring this approach to real practice is particularly challenging and confusing for students [35].

2.4. Ideal versus real

Another key factor appearing to influence real and perceived disintegration of CS is the use of “ideal” theoretical CS models and how this relates to the “reality” of practice. While several existing CS models can be used for teaching (Calgary Cambridge, Four Habits, SEGUE, and others), how they were developed and also how they are used, especially in pre-clinical training, can appear to learners to be based in general practice context or new patient visit scenarios. Clinical learning in different contexts, with different types of visits and patients, results in perceptions that these models are less applicable to the realities of clinical practice [16,25,28]. In fact, the concept of these models as static, to be rigidly applied to every encounter, is an inappropriate interpretation of their purposes [59]. Rather, CS learning and the models that guide it always need to take “context” into consideration [60,61]. Throughout the health professional curriculum, these models should be emphasized as “tool boxes” of skills meant to be used flexibly, depending on the context, patient, and goals of the encounter. Explicitly acknowledging how formal teaching and ideal models may not mirror observed practice, and why, can help learners more easily reconcile the differences they see and experience. Early and contiguous clinical exposure where learners observe how things are applied in real clinical practice, rather than living in the hypothetical world of applying the skills “someday” in

Table 3
Opportunities for combining clinical teaching strategies on communication.

| Apprentice-type model | Teaching in the patient’s presence |
|--|--|
| <ol style="list-style-type: none"> 1. Explicit role modeling of approach – 1–3 times 2. Learner-patient encounters on their own 1–3 3. Observe learner and give feedback 4. Reference previously observed skills or new cues in response to presentations 5. Additional role modeling and/or observation to assess progress | <ol style="list-style-type: none"> 1. Learner-patient encounter (interview) on their own 2. Prime patient to understand process 3. Learner gives presentation to teacher in front of patient 4. Teacher feedback including room for patient input 5. Teacher role models and/or learner demonstrates additional approaches 6. Debrief/feedback after encounter |

the future, may aid in this effort. As an example, during year 1 at UICCOM, students are paired with clinicians in outpatient clinics where they are given the chance to incrementally observe and practice the CS they are learning in formal experiential sessions. In small groups, students critically analyze their experiences including how the skills being taught are variably applied depending on the clinical context. Students have noted that this approach allows them to realistically recognize the integration of classroom learning with the realities of practice [62]. This approach may help prevent the impression that CS learned pre-clinically are not applicable to actual practice during workplace learning.

2.5. Clinical teachers' knowledge and skills

All the issues previously noted depend on teachers in the clinical setting being able to integrate effective CS into both their practice and teaching. The inappropriate presumption in many schools is that clinical supervisors are both effective communicators themselves and can also recognize and give feedback on communication to learners. In reality, another reason for disintegration is that not all clinical teachers are knowledgeable about CS and may not themselves be effective communicators and/or effective teachers.

Thus, ultimately, effective CS for our learners depends on investing in our clinical teachers, recognizing and supporting the important role they have in the development and maintenance of learners' CS. For example, in a UICCOM interview study of clinical teachers, while many felt that CS was one of the main areas they should teach to new clinical students, many were not sure how to approach it beyond role modeling and noted that it was difficult to prioritize CS in the context of teaching other clinical topics [63]. By understanding the importance of effective CS, clinical teachers can both enhance their own skills and also comfortably emphasize it in their teaching of students. If I were starting a new health professions school, my first step, before admitting any students, would be to familiarize clinical teachers with the evidence base and skills for effective CS and effective teaching to enable them to help ensure continuity between classroom and clinic, ideal and real.

Time and resources need to be devoted to providing training for clinical teachers in effective communication and effective teaching. The concept of "parallel process" can aid in this process, as many of the core skills to be learned are the same for effective clinician-patient interactions and effective teacher-learner interactions [64]. For example, basic principles of explanation and planning are the same for effective teaching and feedback. The challenge in providing this type of training for clinical teachers mirrors the challenges faced by our learners. Faculty development needs to use the same best practices to enhance clinical teachers' skills, including experiential practice with opportunities for observation and feedback on both CS and teaching skills and the ability to apply and transfer what is learned in the context of actual practice [39]. Several examples of this type of training can be found in the literature [65–68]. Obstacles to the effectiveness of this type of faculty development include having the time to participate in training and what one might label the broader hidden curriculum that exists in the workplace for clinical teachers. Emphasizing effective use of CS in both practice and teaching can be difficult when the organizational culture in which clinical teachers work does not support and value these types of activities. Institutional buy-in and efforts to create larger scale organizational change that values use of effective CS and teaching of CS can go a long way to transform the context in which clinical teachers try to implement these activities [69]. In addition, involving clinical teachers throughout the curriculum, rather than just during the clinical

years, can also contribute to better integration of student experiences. For example, having clinical teachers from all disciplines participate as facilitators in the pre-clinical curriculum and also in curriculum development efforts can help to provide more continuity and clinical realism for both learners and teachers throughout the curriculum.

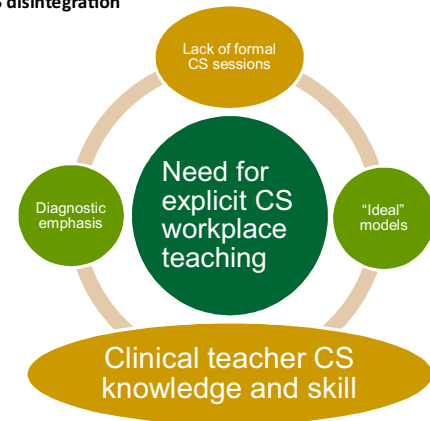
3. Discussion and conclusion

This article has examined some of the key factors contributing to the disintegration of CS in medical student learning. I acknowledge that the emphasis has been on the gaps that exist in current approaches to CS teaching, which is a rather negative picture (Fig. 2a). Fig. 2b presents a more optimistic, practical, and proactive view of these issues, emphasizing the myriad opportunities to enhance integration of CS throughout the curriculum.

The main point I wish to emphasize is the need to be explicit with learners—first, to explicitly emphasize CS during both formal and informal clinical teaching opportunities; second, to consistently and honestly address the lack of integration that learners will certainly experience between classroom- and workplace-based learning throughout curriculum. Finally, involvement and support of clinical teachers is paramount to addressing these issues, as reflected by the larger circles representing needs of clinical teachers in Fig. 2a and b. This support and involvement should begin early in the curriculum and be continuous through CS teaching, curriculum development, and ongoing teacher training.

This selected review has demonstrated that while much has been written about these issues there are still many unanswered

2a: Reasons for CS disintegration



2b: Opportunities for CS integration

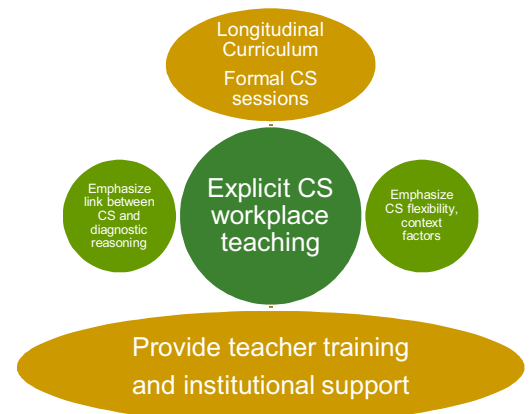


Fig. 2. Key Factors in Dis-integration of Medical Students Communication Skills (CS). 2a: Reasons for CS disintegration. 2b: Opportunities for CS integration.

questions that deserve additional scholarly attention. Potential areas for future research include more investigation of teacher, learner, and patient perspectives on clinical learning of CS; evidence of what interventions are effective for enhancing CS clinical teaching; and what are the short- and long-term impacts of these interventions on CS disintegration, the CS of practicing clinicians, and ultimately patient outcomes. These issues merit further investigation across the educational continuum as well as across the many health professional disciplines.

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There are no conflicts of interest to disclose

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References

- J.D. Silverman, S.M. Kurtz, J. Draper, *Skills For Communicating With Patients*, 2nd edition, Radcliffe Medical Press, Oxford, UK, 2013.
- General Medical Council, *Tomorrow's Doctors: Outcomes and Standards for Undergraduate Medical Education*, General Medical Council, Great Britain, 2009.
- Liaison Committee on Medical Education, *Functions and Structures of a Medical School*, (2016) <http://www.lcme.org/functions2016march.pdf>, (Accessed December 2016).
- J.D. Silverman, Teaching clinical communication: a mainstream activity or just a minority sport? *Patient Educ. Couns.* 76 (2009) 361–367.
- J. Brown, Clinical communication education in the United Kingdom: some fresh insights, *Acad. Med.* 87 (2012) 1101–1104.
- S.M. Kurtz, J.D. Silverman, J. Draper, *Teaching and Learning Communication Skills In Medicine*, Radcliffe Medical Press, Oxford, UK, 2005.
- M.E. Rosenbaum, J.D. Silverman, Training for effective communication in health care settings, in: L.R. Martin, R.M. DiMatteo (Eds.), *The Oxford Handbook of Health Communication, Behavior Change, and Treatment Adherence*, Oxford University Press Oxford, 2014.
- D.R. Kauss, A.S. Robbins, I. Abrass, R.F. Bakaitis, L.A. Anderson, The long term effectiveness of interpersonal skills training in medical schools, *J. Med. Educ.* 55 (1980) 595–601.
- H.F. Kraan, A.A. Crijnen, M.W. de Vries, J. Zuidweg, T. Imbos, C.P. van der Vleuten, To what extent are medical interviewing skills teachable? *Med. Teach.* 12 (1990) 315–328.
- J.L. Craig, Retention of interviewing skills learned by first-year medical students: a longitudinal study, *Med. Educ.* 26 (1992) 276–281.
- C. Pfeiffer, H. Madray, A. Ardolino, J. Willms, The rise and fall of students' skill in obtaining a medical history, *Med. Educ.* 32 (1998) 283–288.
- J. van Dalen, E. Kerkhofs, B.W. Knippenberg-Van Den Berg, H.A. van Den Hout, A.I. Scherpbier, C.P. van der Vleuten, Longitudinal and concentrated communication skills programmes: two Dutch medical schools compared, *Adv. Health Sci. Educ.* 7 (2002) 29–40.
- P. Haidet, A. Kelly, C. Chou, Characterizing the patient-centeredness of hidden curriculum in medical schools, *Acad. Med.* 80 (2005) 44–50.
- K.M. Hook, C.A. Pfeiffer, Impact of a new curriculum on medical students' interpersonal and interviewing skills, *Med. Educ.* 41 (2007) 154–159.
- Z. Tsimtsiou, O. Kerasidou, N. Efsthathiou, S. Papaharitou, K. Hatzimouratidis, D. Hatzichristou, Medical students' attitudes toward patient-centred care: a longitudinal survey, *Med. Educ.* 41 (2007) 146–153.
- K. Bombeke, L. Symons, L. Debaene, B. De Winter, S. Schol, P. Van Royen, Help, I'm losing my patient-centredness! Experiences of medical students and their teachers, *Med. Educ.* 44 (2010) 662–673.
- M. Neumann, F. Edelhäuser, D. Tauschel, M.R. Fischer, M. Wirtz, C. Wopen, A. Haramati, C. Scheffer, Empathy decline and its reasons: a systematic review of studies with medical students and residents, *Acad. Med.* 86 (2011) 996–1009.
- C. Haq, D.J. Steele, L. Marchand, C. Seibert, D. Brody, Integrating the art and science of medical practice: innovations in teaching medical communication skills, *Fam. Med.* 36 (2004) 543–50.
- A. Kalet, M.P. Pugnaire, K. Cole-Kelly, R. Janicik, E. Ferrara, M.D. Schwartz, M. Lipkin, A. Lazare, Teaching communication in clinical clerkships: models from the Macy initiative in health communications, *Acad. Med.* 79 (2004) 511–520.
- M. Deveugele, A. Derese, S. De Maesschalck, S. Willems, M. Van Driel, J. De Maeseneer, Teaching communication skills to medical students, a challenge in the curriculum? *Patient Educ. Couns.* 58 (2005) 265–270.
- J.G. Fiedorowicz, J. Tate, A.C. Miller, E.M. Franklin, R. Gourley, M. Rosenbaum, A medical interviewing curriculum intervention for medical students' assessment of suicide risk, *Acad. Psychiatry* 37 (2013) 398–4013.
- E.M. van Weel-Baumgarten, S. Bolhuis, M.E. Rosenbaum, J.D. Silverman, Bridging the gap: how is integrating communication skills with medical content throughout the curriculum valued by students? *Patient Educ. Couns.* 90 (2013) 177–183.
- C. Heaven, J. Clegg, P. Maguire, Transfer of communication skills training from workshop to workplace: the impact of clinical supervision, *Patient Educ. Couns.* 60 (2006) 313–325.
- J. Brown, Transferring clinical communication skills from the classroom to the clinical environment: perceptions of a group of medical students in the United Kingdom, *Acad. Med.* 85 (2010) 1052–1059.
- K. Bombeke, L. Symons, E. Vermeire, L. Debaene, S. Schol, B. De Winter, P. Van Royen, Patient-centredness from education to practice: the 'lived' impact of communication skills training, *Med. Teach.* 34 (2012) e338–e348.
- M.C.F. Nogueira-Martins, L.A. Nogueira-Martins, E.R. Turato, Medical students' perceptions of their learning about the doctor-patient relationship: a qualitative study, *Med. Educ.* 40 (2006) 322–328.
- A. Malhotra, I. Gregory, E. Darvill, E. Goble, A. Pryce-Roberts, K. Lundberg, S. Konradsen, H. Hafstad, Mind the gap: learners' perspectives on what they learn in communication compared to how they and others behave in the real world, *Patient Educ. Couns.* 76 (2009) 385–390.
- K. Bombeke, L. Symons, D. Mortelmans, L. Debaene, S. Schol, P. Van Royen, B. De Winter, 'More shades of grey in my answers': an interview study revisiting attitude erosion during clerkships, *Med. Educ.* 47 (2013) 476–484.
- T.R. Egnew, H.J. Wilson, Faculty and medical students' perceptions of teaching and learning about the doctor-patient relationship, *Patient Educ. Couns.* 79 (2010) 199–206.
- T.R. Egnew, H.J. Wilson, Role modeling the doctor-patient relationship in the clinical curriculum, *Fam. Med.* 43 (2011) 99–105.
- G. Essers, E.M. van Weel-Baumgarten, S. Bolhuis, Mixed messages in learning communication skills? Students comparing role model behaviour in clerkships with formal training, *Med. Teach.* 34 (2012) e659–e665.
- M.E. Rosenbaum, R.D. Axelson, Curricular disconnects in learning communication skills: what and how students learn about communication during clinical clerkships, *Patient Educ. Couns.* 91 (2013) 85–90.
- H.K. Schopper, M.E. Rosenbaum, R.D. Axelson, 'I wish someone watched me interview': medical student insight into observation and feedback as a method for teaching communication skills during the clinical years, *BMC Med. Educ.* 16 (0) (2016) 286–292.
- K. Steven, E. Wenger, H. Boshuizen, A. Scherpbier, T. Dornan, How clerkship students learn from real patients in practice settings, *Acad. Med.* 89 (2014) 469–476.
- L. Aper, W. Veldhuijzen, T. Dornan, M. van de Ridder, S. Koole, A. Derese, J. Reniers, Should I prioritize medical problem solving or attentive listening? The dilemmas and challenges that medical students experience when learning to conduct consultations, *Patient Educ. Couns.* 98 (2015) 77–84.
- L. Cote, H. Leclere, How clinical teachers perceive the doctor-patient relationship and themselves as role models, *Acad. Med.* 75 (2000) 1117–1124.
- G. Regehr, K. Eva, Self-assessment self-direction, and the self-regulating professional, *Clin. Orthop. Relat. Res.* 449 (2006) 34–38.
- C. Heidenreich, P. Lye, D. Simpson, M. Lourich, The search for effective and efficient ambulatory teaching methods through the literature, *Pediatrics* 105 (2000) 231–237.
- Y. Steinart, K. KMann, A. Centeno, D. Deolmans, J. Spencer, M. Gelula, D. Prideaux, A systematic review of faculty development initiative designed to improve teaching effectiveness in medical education: best Evidence in Medical Education (BEME) topic review, *Med. Teach.* 28 (2006) 497–526. www.bemecollaboration.org.
- F.W. Hafferty, Beyond curriculum reform: confronting medicine's hidden curriculum, *Acad. Med.* 73 (1998) 403–407.
- P. Haidet, A. Kelly, C. Chou, Characterizing the patient-centeredness of hidden curriculum in medical schools, *Acad. Med.* 80 (2005) 44–50.
- N. Junod Perron, J. Sommer, M. Louis-Simonet, M. Nendaz, Teaching communication skills: beyond wishful thinking, *Swiss Med. Wkly.* 145 (2015) 1–10.
- J. Benbassat, Role modeling in medical education: the importance of a reflective imitation, *Acad. Med.* 89 (2014) 550–554.
- C.L. Holmes, I.B. Harris, A.J. Schwartz, G. Regehr, Harnessing the hidden curriculum: a four-step approach to developing and reinforcing reflective competencies in medical clinical clerkship, *Adv. Health Sci. Educ.* 20 (2015) 1355–1370.
- P.F. Weissman, W.T. Branch, C.F. Gracey, P. Haidet, R.M. Frankel, Role modeling humanistic behavior: learning bedside manner from the expert, *Acad. Med.* 81 (2006) 661–667.

- [46] D.D. Cali, C. Estrada, The medical interview as rhetorical counterpart of the case presentation, *Health Commun.* 11 (1999) 355–373.
- [47] C.F. Grace, P. Haidet, W.T. Branch, P. Weissmann, D.E. Kern, G. Mitchell, R.M. Frankel, T. Inui, Precepting humanism: strategies for fostering the human dimensions of care in ambulatory settings, *Acad. Med.* 80 (2005) 21–28.
- [48] K.L. Lundberg, What are internal medicine residents missing? A communication needs assessment of outpatient clinical encounters, *Patient Educ. Couns.* 96 (2014) 376–380.
- [49] L.B. Mauksch, D.C. Dugdale, S. Dodson, R. Epstein, *Arch. Intern. Med.* 168 (2008) 1387–1395.
- [50] K. Skelly, M.E. Rosenbaum, Missed teaching opportunities: comparison of learner-patient interviews and case presentations, Poster Presented at the International Conference on Communication and Healthcare, Heidelberg, Germany, September 10, 2016 unpublished research.
- [51] D.E. Kern, W.T. Branch Jr., J.L. Jackson, D.W. Brady, M.D. Feldman, W. Levinson, M. Lipkin Jr., Teaching the psychosocial aspects of care in the clinical setting: practical recommendations, *Acad. Med.* 80 (2005) 8–20.
- [52] J.R. Kogan, E.S. Holmboe, K.E. Hauer, Tools for direct observation and assessment of clinical skills of medical trainees, *JAMA* 302 (2009) 1316–1326.
- [53] E.S. Hauer, Twelve tips for implementing tools for direct observation of medical trainees' clinical skills during patient encounters, *Med. Teach.* 33 (2011) 27–33.
- [54] J.L. Lane, R.P. Gottlieb, Structured clinical observations: a method to teach clinical skills with limited time and financial resources, *Pediatrics* 105 (2000) 973–977.
- [55] K. Petersen, M.E. Rosenbaum, C.D. Kreiter, A. Thomas, S.A. Vogelgesang, G.V. Lawry, A randomized controlled study comparing educational outcomes of examination room versus conference room staffing, *Teach. Learn. Med.* 20 (2008) 218–224.
- [56] L. Madson, M.E. Rosenbaum, C.D. Kreiter, A. Lynch, A. Witt, A randomized controlled trial assessing the feasibility of examination room versus conference room teaching in a psychiatric setting, *Teach. Learn. Med.* 26 (2014) 40–48.
- [57] D.V. Power, M.E. Rosenbaum, L. Hanson, I.R. Reynolds, D. Brink, S. Prasad, C.D. Kreiter, Precepting medical students in the patient's presence: an educational randomized trial in family medicine clinic, *Fam. Med.* 49 (2017) 97–105.
- [58] S. Kurtz, J.D. Silverman, J. Benson, J. Draper, Marrying content and process in clinical method teaching: enhancing the Calgary-Cambridge guide, *Acad. Med.* 78 (2003) 802–809.
- [59] J.D. Silverman, M. Deveugele, H. de Haes, M.E. Rosenbaum, Unskilled creativity is counterproductive, *Med. Educ.* 45 (2011) 958–959.
- [60] G. Essers, S. van Dulmen, J. van Es, C. van Weel, C. van der Vleuten, A. Kramer, Context factors in consultations of general practitioner trainees and their impact on communication assessment in the authentic setting, *Patient Educ. Couns.* 93 (2013) 567–572.
- [61] R.L. Hulsmans, Shifting goals in medical communication: determinants of goal detection and response formation, *Patient Educ. Couns.* 74 (2009) 302–308.
- [62] A. Brenneman, C. Bernat, M.E. Rosenbaum, M. McDowell, How early clinical experiences reinforce classroom learning of communication skills, Poster Presented at the International Conference on Communication and Healthcare, Heidelberg, Germany, September 10, 2016 (unpublished research).
- [63] N. Manhica, M.E. Rosenbaum, K. White, P. Barlow, Increasing focus on communication skills teaching: a pilot study, Poster Presented at the Central Group on Educational Affairs Meeting, Chicago, Illinois, USA, March 27, 2017 unpublished research.
- [64] J. Westberg, H. Jason, *Collaborative Clinical Education*, Springer, New York, 1993.
- [65] N. Junod Perron, M. Nendaz, M. Louis-Simonet, J. Sommer, A. Gut, A. Baroffio, D. Dolmans, C. van der Vleuten, Effectiveness of a training program in supervisors' ability to provide feedback on residents' communication skills, *Adv. Health Sci. Educ.* 18 (2013) 901–915.
- [66] N. Junod Perron, S. Cullati, P. Hudelson, M. Nendaz, D. Dolmans, C. van der Vleuten, Impact of a faculty development programme for teaching communication skills on participants' practice, *Postgrad Med. J.* 90 (2014) 245–250.
- [67] C.L. Bylund, R.F. Brown, B. Lubrano di Ciccone, C. Diamond, J. Eddington, D.W. Kissane, Assessing facilitator competence in a comprehensive communication skills training programme, *Med. Educ.* 43 (2009) 342–349.
- [68] W.T. Branch Jr., C.L. Chou, N.J. Farber, D. Hatem, C. Keenan, G. Makoul, M. Quinn, W. Salazar, J. Sillman, M. Stuber, L. Wilkerson, G. Mathew, M. Fost, Faculty development to enhance humanistic teaching and role modeling: a collaborative study at eight institutions, *J. Gen. Intern. Med.* 29 (2014) 1250–1255.
- [69] J. Ammentorp, L.T. Graugaard, M.E. Lau, T.P. Andersen, K. Waidtløw, P.E. Kofoed, Mandatory communication training of all employees with patient contact, *Patient Educ. Couns.* 95 (2014) 429–432.