8 Clinical handover in context: risks and protections across a hospital patient's journey

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8.1 Setting the scene

One weekday afternoon an 18-year-old patient, we'll call her Belinda Page,[1] arrives at the emergency department of a busy tertiary teaching hospital, complaining of shortness of breath and chest pain due to a flare-up of her asthma. During the six hours Belinda spends in the emergency department she develops additional symptoms – weakness and numbness, particularly down her left side. She undergoes an emergency MRI, x-rays and other tests but the emergency department night registrar, Dr Ken Lee – a relatively junior non-English speaking background doctor – cannot reach a diagnosis. Under pressure to move patients out of the emergency department as quickly as possible, during the night he calls the senior neurology consultant, Dr Richard Lancer, who declines to admit Belinda before reviewing her. Dr Lee then calls the Ward M consultant, Dr Allenanda, who reluctantly agrees to admit Belinda to a general medical assessment ward, until the neurology staff can review her the next day.

Over the next day we observed and recorded as many of the interactions with and about Belinda as we could, including consultations and examinations, formal and informal discussions about her case and nursing and medical handovers. The first occurred at 8 am the next morning when, after working a 12-hour shift, Dr Lee fronted up to a large auditorium to give the whole-of-hospital medical handover of all the patients he had admitted overnight. He sat on a solitary chair placed front and center of the auditorium, almost as if he were to be interrogated. In the tiered rows of seats facing him sat those members of the hospital's day shift medical staff who had the time and motivation to attend (attendance is not compulsory). On this morning, about 25 doctors were present, ranging from interns to senior consultants. They included the two female registrars from Ward M (Dr Pantani and Dr Lingren) and a male cardiology consultant (Dr Davidson). The neurology consultant Dr Lancer arrived about five minutes into this handover. While Dr Lee delivered his handover, referring to a sheet of handwritten notes, another doctor stood at the computer console, front right of the auditorium, and projected the patient's x-ray, test results and scans on the front screen. Below we reproduce a transcript of this five-minute handover.

This first event in Belinda's journey of care beyond the emergency department demonstrates what we believe is the key fact about spoken face-to-face clinical handover: that it is a two-edged sword, an event that helps protect patients but also one

1 Pseudonyms are used in all transcripts and descriptions throughout the chapter.

that potentially puts them at risk. On the one hand, the handover below is a fluently delivered, succinct, informative and logically structured account of Belinda's situation so far. On the other hand, the 'live' interactive context means the speaker gets interrupted and the event loses its focus. There are gaps in the information, the allocation of responsibility for follow-up task is not always clear, and some of the key medical staff who will be taking over Belinda's care do not hear the handover firsthand. These are all factors that may impact negatively on Belinda's continuity of care. We return to these points after presentation of the transcript.

Text 8.1: 8 am medical handover of Belinda Page.[2]

1. Dr Lee (emergency department Registrar): Belinda Page ah 18-years-old lady admitted under Ward M. Have a background history of asthma, developed acute shortness of breath while at work yesterday. Works as a lifeguard at swimming pool. Not responded to the regular inhaler ah so brought in by the colleague. In the emergency department basically complained of severe crushing chest pain and very distressed. So she was being treated for acute exacerbation of asthma yesterday morning. Basically tried to manage the pain. Not – the shortness of breath settle but the crushing chest pain persist into the afternoon and was reported to me yesterday evening. Um basically doesn't seem to have any cardiac cause but it's very tender left side of ( ) chest wall. Um ECG didn't show any evidence of ( ), ( ) is negative, chest x-ray unremarkable. Very anxious looking um lying on the bed. Seemed to be comfortable before I walk in but become quite distressed when I walk in. Then (he) started to complain (they) have left-sided weakness for about an hour before I met her. Kind of left-sided weakness and numbness ... She have a similar episode a year ago when he – she was admitted under Respiratory for chlorine gas inhalation pneumonitis. There was a MET call at the time for a similar chest pain – crushing chest pain and anxiety. But basically discharged home with pain medication and deflammatory medication and some ( ). She also have history of neck trauma in 2008. Apparently had some cervical neck injury with some fracture required couple of months of immobilization but doesn't need any intervention. So we decided to order the cervical and thoracic x-ray. But while at Radiology she become unconscious, not responding to painful stimuli, voice, still breathing spontaneously, hemodynamically stable, but as soon as we shined a light into the eyes just woke up and talk to me again and not confused==
2. Dr Davidson (Cardiology consultant): ==Sorry to interrupt you, Ken, but can we go back to her x-ray. [Person projecting the x-rays from the computer console clicks back.] There is an anomaly. Stop, stop. You can see the lateral ventricals well. There's a big rectangular structure in the middle ... That's normally where the septum pellucidum should be sitting there and in some people you have a dilatation and there's a cavity in the septum pellucidum which it's known as cavum septum pellucidium so that's a normal anomaly – it's not a cyst or anything sitting there. So

2 For transcription conventions, see page 3.

3. Junior doctor in audience: What's it known as?
4. Dr Davidson: Cavum septum pellucidum, so it's a cavity in the septum pellucidum. I don't know whether this has been reported or not
5. Junior doctor in audience: But it's a normal variant?
6. Dr Davidson: That's correct. You don't attach any significance to it.
7. Dr Lee: So when she woke up she complaining of not able to move and not having feeling from the ==neck down
8. Dr Davidson: ==Incidental note is made for [speaks slowly] cavum septum pellucidum. That's the spelling for you. Alright, sorry to interrupt you.
9. Dr Lee: It's alright. Yeah, so when she woke up she complain of not able to move and no feeling from the neck down but she um able to breathe spontaneously um so after spoke with Doctor Lancer the neurosurgeon so [almost laughs] we decide to do MRI ah last night. Obviously came back unremarkable apart from [laughs]
10. Dr Davidson: If you want a quick MRI have a seizure or something in Radiology!
11. Dr Lee: So I think the consensus is most likely functional.
12. Dr Davidson: Yeah
13. Ward M Registrar 1=Dr Pantani: Why didn't she go to neuro?
14. Audience: [some laugh]
15. Ward M Registrar 2=Dr Lingren: I second that
16. Dr Pantani: a neuro consult
17. Dr Lingren: neuro consult, awesome!
18. Dr Lee: Yeah, Doctor Lancer said call Sanjay[3] today
19. Audience: [lots of laughter]
20. Dr Pantani: Poor Sanjay!
21. Dr Lee: And pysch liaison, physio.
22. Dr Davidson: Sanjay's not here in the morning, is he?
23. [laughter]
24. Dr Pantani: OK, serves him right. He deserves this consult.
25. [laughter and banter continues]

3 'Sanjay' turns out to be Doctor Sindarmana, the neurology registrar who examines this patient in Ward M during the morning.

26. Dr Davidson: I might have missed it. Who was she admitted under finally?
27. Audience member: Ward M
28. Dr Davidson: Ward M.
29. [at this point Doctor Lancer, the Neurology Consultant, walks into the auditorium. All attention immediately turns to him]
30. Dr Pantani: Oh, Doctor Lancer! Why didn't you accept the functional patient?
31. Dr Lancer: Why? Because she wasn't (clearly) – it wasn't clear what was going on. And she had an MRI in the middle of the night, I understand.
32. Several audience members: Yes
33. Audience: [lots of laughter]
34. Dr Lancer: Excellent. And what did the MRI show?
35. Dr Pantani: It was normal
36. Junior doctor in audience: ==apart from some cavities in the brain!
37. Audience: [laughter]
38. Dr Pantani: We expect expert neurological opinion on her today!
39. Dr Lancer: Yes of course. [plays along with the teasing to end of handover]
40. Dr Pantani: [laughs]
41. Dr Lancer: She was already ACCEPTemergency department by Ward M
42. Dr Pantani: Not very keenly!
43. [laughter]
44. Dr Lancer: We'll be very happy to come and see her
45. [The audience members begin to leave; Dr Lancer stands, chatting with Ward M registrars]
46. Dr Lancer: Yes, well, she came in – she came in with chest pain and shortness of breath.
47. [The Ward M registrars both laugh loudly]
48. Dr Lancer: No, no, no. It was chest pain and shortness of breath. And then having accepted, then she started having all these things. I got a request to say would you like to take her instead?
49. [The Ward M registrars both laugh loudly]
50. Dr Lancer: And I said, well, actually, I don't think that's right. Not until we see if she's got a neurosurgical problem. Then she's going to come to me anyway.
51. Dr Pantani: I think that was very slack!
52. Dr Lingren: I think it was very smart
53. Dr Lancer: No we ( )
54. [Dr Lancer and the Ward M registrars leave the auditorium, chatting]

8.2 Good – but there are gaps

We acknowledge that this handover is a very impressive oral performance from a non-native speaker of English who has just worked a demanding 12-hour shift. In the first 21 turns, Dr Lee outlines Belinda's presentation, recounts what happened to her in the emergency department, explains his response (the emergency MRI), provides his provisional diagnosis ('most likely functional') and creates expectations about what should happen next to ensure her future care. He implies that Belinda will be reviewed by the neurology team to firm up the diagnosis and decide whether she should be transferred to the neurology ward. He also implies that the liaison psychiatrist and a physiotherapist will become involved in Belinda's treatment. But if we slow the event down and examine it more closely, we realize that Text 8.1 is not as unproblematic as it first appears.

First, there are gaps in the information Dr Lee provides. The handover is sketchy about what happened to Belinda while she was in Radiology, partly because this is the point at which Dr Lee is interrupted by Dr Davidson and his discussion of the cavum septum pellucidum. The interruption and diversion also mean that Dr Lee makes no further comment about the cervical and thoracic x-ray he had ordered for Belinda. Dr Davidson comments on an anomaly in her x-rays but neither he nor Dr Lee comments on what her x-rays showed about her presenting condition. Dr Lee also does not explicitly say which ward in the hospital Belinda Page was admitted to overnight, again possibly due to an interruption. From turn 13 the Ward M registrars enter the handover with bantering questions ('Why didn't she go to neuro?'). In turn 26 Dr Davidson needs to ask 'I might have missed it. Who was she admitted under finally?' An audience member answers, not Dr Lee.

Second, Dr Lee is not explicit in allocating responsibilities for Belinda's ongoing care. In turn 18 Dr Lee says 'Dr Lancer said call Sanjay today' and in turn 21 'And psych liaison, physio'. But he does not say who is to do the calling. Is this *his* responsibility, before he goes off shift? Or does he mean: 'The medical registrars in the general medical ward need to call Sanjay, the psychiatrist and the physiotherapist today'. Or is calling the psychiatrist and physiotherapist conditional on what the neurology review shows, in which case it will be the neurologist's responsibility? Dr Lancer's arrival allows the Ward M registrars to teasingly establish that the neurology review will happen shortly, but the handover ends without anyone taking responsibility for calling the psychiatrist and the physiotherapist.

Third, the handover does not have an explicit and unambiguous end point. Instead, Dr Lee appears to relinquish or lose control of the event after about turn 12. Up to that point roles in the interaction have been clear: The audience gives the floor to Dr Lee, who takes extended turns to deliver his information. The only other significant contribution comes from Dr Davidson, who acknowledges that he is 'interrupting' Dr Lee. But from turn 12 onwards, the event becomes highly interactive and humorous, with brief contributions from several different participants. From about turn 40 it becomes more of a bantering conversation between Dr Lancer and the Ward M registrars and gradually the audience members pack up and drift away. This trailing

off of the handover means that Dr Lee has not been able to state explicitly that his account of the patient is now over (assuming it is – he might have had further details to add but gave up when the Dr Lancer banter takes over). Audience members have not had the opportunity to ask Dr Lee for any clarifications they might want before he leaves, or to add any further educational points.

Finally, two of the key people who will be providing the next step in care for Belinda are not present. The first, Sanjay, the neurology registrar, does not attend any of the handover. The second, Dr Lancer, the neurology consultant, arrives *after* Dr Lee has delivered his information. This means that both will need to rely on second-hand retellings of the handover (as Dr Lancer does when he asks the Ward M registrars what the MRI showed) or the written notes Dr Lee will enter into Belinda's file.

So we can identify several gaps or problems with Text 8.1. But how significant are these problems? As we tried to evaluate this handover, we realized that we could not tell how effective it really was in ensuring Belinda's continuity of care unless we looked at *what happened next*. Did subsequent clinicians feel adequately prepared by this handover? Did they sort out who was responsible for following up on Dr Lee's suggestions? Did it matter that some key players in Belinda's care were not present for this first handover of her care?

Examples like Text 8.1 made us realize that we needed to consider clinical handover in the broader context of the patient's journey. Only if we examined clinical handovers in the unfolding sequence of care for patients could we really understand the role, effectiveness and risks of handovers. That realization had major theoretical and practical implications for our clinical handover research, as we now outline.

8.3 The paradox of clinical handover: a risk-minimizing and risk-creating event

As explained elsewhere in this book, the ECCHo project set out to identify features of effective and ineffective communication in clinical handover and to work collaboratively with healthcare professionals to evaluate, reflect on and develop their own clinical handover practices.

At hospital B, the team used a range of methods to collect qualitative data about clinical handover from 2011 to 2013. Like many other healthcare communication projects we used conventional interview and survey methods to explore clinicians' attitudes towards and ideas about clinical handover. However, what made the ECCHo project unique is that our main methods were ethnographic and linguistic. We spent many hours in a general medical ward and in the emergency department observing actual medical and nursing handovers within and between wards. We audio and in some cases video recorded handovers which we later transcribed for discourse analysis, amassing more than 80 handover events. We also added to our dataset what we call 'patient journeys', where we observed and recorded all successive interactions

with and about specific patients across a day. This chapter deals with data from one of those patient journeys, for the young woman we're calling 'Belinda Page'.

As explained in our opening scene, Belinda Page presented one afternoon to hospital B's emergency department and was admitted later that night to a general medical ward at the hospital. Across the next day we observed and recorded nine clinical interactions with and about Belinda. As Tab. 8.1 shows, our recordings included four handover events as well as consultations and examinations with the patient and discussions.

Our analysis of patient journeys like Belinda's led us to recognize that clinical handover is at once a powerful resource for ensuring patient safety and at the same time a high risk activity where patient safety can be compromised. In summary, we found that:

1. Clinical handover is a crucial process in the continuity of care of a patient, allowing clinicians to hand over information and responsibility about patients.
2. Clinical handover provides clinicians with a timely and time-efficient opportunity to identify and repair risks to patient safety arising from oversights in clinical practice and/or lack of clarity in passing on care.
3. However, contextual, cultural and skill constraints may inhibit some participants from exploiting clinical handover's safety potential.
4. Risks not identified and addressed during clinical handover may accumulate and compound to impact on patient safety.

Tab. 8.1: Interactions recorded in Belinda Page's journey

Event #	Time	Description of event	Event type/genre
1.	8 am	Belinda's case is handed over to whole-of-hospital medical meeting by junior nightshift emergency department doctor (see Text 6.1 at the start of this chapter)	**Clinical handover**
2.	9 am	Ward M's senior medical consultant, Dr Allenanda, examines Belinda	Consultation & examination
3.	9:30 am	Ward M medical staff discuss Belinda's case	Discussion
4.	10 am	Ward W's neurology registrar (Dr Sanjay Sindarmana, a trainee neurologist) examines Belinda	Consultation & examination
5.	11 am	Neurology registrar discusses Belinda with Ward M's registrar	Discussion
6.	11:30 am	Neurology registrar briefs Ward W's senior neurology consultant, Dr Lancer, about Belinda	**Clinical handover**
7.	12 pm	Ward W's senior neurologist examines Belinda	Consultation & examination
8.	1 pm	Ward M nurse hands over Belinda's care at shift change	**Clinical handover**
9.	2 pm	Ward M nurse transfers Belinda to Ward N (neurology) and hands over Belinda's care to a Ward N nurse	**Clinical handover**

As we traced patients' journeys we realized that clinical errors of commission, omission, misinterpretation, oversight or inadequate knowledge are an inherent risk in the time-pressured context of a tertiary training hospital. Miscommunication, or simply 'messy' communication, is unavoidable when groups of clinicians must exchange information face-to-face in hectic, noisy corridors, clustered around patients' bedsides or at busy nurse or doctor stations. Junior staff members face a steep learning curve and can struggle in the face of complex information and competing demands. Even the most skilled clinicians can sometimes make mistakes, given the frequent interruptions and disruptions that characterize the context.

Fortunately, the handover interactions that punctuate the clinical day allow clinicians to notice and address risks on the spot. Our observations and recorded data indicate that senior staff can use handover as an educational tool, identifying risks and oversights in junior practice and modeling clear, comprehensive and concise handover. All clinicians can act as safety back-ups for one another by checking and clarifying care tasks and responsibilities during handover. However, cultural attitudes to interactivity, deference to role hierarchy and lack of medical or communicative confidence and skills may inhibit clinicians from being assertive during handover. This can mean that risks accumulate across interactions, potentially jeopardizing patient safety. We will now exemplify these points with data from Belinda's journey.

8.4 Clinical handover as a risk repair and educational resource

Text 8.1 above demonstrates clinical handover's potential as a dynamic and practical educational resource, with Dr Davidson seizing the opportunity of Belinda's x-ray to teach the other doctors about the cavum septum pellucidum anomaly.

In the hour and a half that followed Dr Lee's 8 am handover, Belinda was examined by the Ward M senior consultant and, shortly after that, by the neurology registrar, Dr Sanjay Sindarmana, as anticipated in Text 8.2. In the 20 minutes he spent with Belinda and her sister, Dr Sindarmana elicited a detailed history, examined Belinda and offered his provisional diagnosis:

Text 8.2: Neurology registrar examines Belinda

1. Neurology registrar=Dr Sindarmana: So it's all good in the sense that there's nothing bad going on. That doesn't mean that there's NOTHING wrong. It just means that we haven't found what it is.
2. Belinda's sister: Yes

3. Dr Sindarmana: All we can say is that there is quite unlikely for anything to be really dangerous or bad.
4. Belinda's sister: OK

(Extract 1 from Neurology Registrar's consultation of Belinda Page)

Dr Sindarmana then explains that the most likely treatment will be just to wait and watch, although he mentions a lumbar puncture as one option:

Dr Sindarmana: we might do a lumbar puncture just to make sure that we've tested everything we can.

Belinda: Yes.

Dr Sindarmana: But that is a possible next step. But I don't think it's going to happen today or tomorrow. I think we have to give you some time

Belinda: Yes

Dr Sindarmana: before we can think about lumbar puncture.

Belinda: Yeah, no no no. I didn't think that I would have anything to

Dr Sindarmana: OK?

(Extract 2 from Neurology Registrar's consultation of Belinda Page)

Before leaving Belinda, Dr Sindarmana prepares her for the possibility that his senior will have a different opinion:

Dr Sindarmana: OK, right, look, as I said Doctor Lancer will probably say much the same as what I've said.

Belinda: Yeah

Dr Sindarmana: Ah if he has a different view we'd do what he says because he's more experienced than I am. OK?

Belinda: Yeah, thank you

(Extract 3 from Neurology Registrar's consultation of Belinda Page)

Ten minutes later Dr Lancer, the neurology consultant, arrives in Ward M and Dr Sindarmana hands over the results of his consultation with Belinda. Text 8.3 below is this second handover in Belinda's journey. It demonstrates how senior clinicians can use handover as a teaching resource and as an opportunity to monitor and model safe clinical practice by identifying and repairing oversights and helping to structure the handover they want to receive. In this interaction we see Dr Lancer, the senior

clinician, using the handover assertively but respectfully to query and correct his junior's practice.

Text 8.3: Neurology registrar briefs Ward W's senior neurology consultant about Belinda

1. Dr Sindarmana: OK, so Belinda Page. Background of asthma. She has been off work – um she went to work – she went back to work a day or two ago. Um yesterday she was um very short of breath so she took some Ventolin. Didn't feel better. Took some (drugname). Her employers at work got a bit concerned and got her to the hospital. While she was in the hospital her dyspnea kept on getting worse and she had some associated chest tightness and chest pain on the left side ah going to the left shoulder and the left arm as well. So ah shortness of breath, chest tightness, ah eventually seen by the emergency department. Ah was put on a nebulizer um and soon after she was nebulized ah her dyspnea she felt was a bit better but she in her own words she got more focused on the pain, which became a bit more prominent. At the same time she noticed that she had numbness of the left side of her body, of her left arm and the left upper limb and her left lower limb. Um and the weakness as well with some parasthesia. So numbness, weakness, parasthesia almost a simultaneous onset. Ah at that point she was shifted inside to the emergency department. Went for a – a urgent CT scan and while she was there in the scanner she she had an episode of loss of consciousness um which ah [sighs in frustration] there's a lack of description in the notes ah and she can't describe much but ah there were no preceding symptoms. Apparently it lasted for about 5 or maybe 10 minutes. Ah in the notes it says that when the light was shone in her eyes she regained consciousness and um she was not thought to be – after she woke up, she was not confused. But she did notice then that she had weakness and numbness on the right side of her body, in addition to the left side of her body. But this time it came to her the pain was quite bad. She really couldn't move any of her limbs as well. Um a few hours later the movement on the right upper limb returned to some extent and also to the right lower limb but not to a great extent. The left sided==
2. Dr Lancer: ==Do you know if she's right-handed?
3. Dr Sindarmana: I didn't ask her that question. I beg your pardon.
4. Dr Lancer: It would be the right hand to come back first.
5. Dr Sindarmana: And er the left-sided symptoms are much the same except for the fact that she can now wriggle the fingers on the left side of the torso but nothing apart from that. She's had no bladder problems, she's had no bowel problems. She's ah she's had no visual problems or speech problems. That's all in focus. Um and ah she has no history of fever or anything like that for the last few weeks or so. And that's really the history which she has. Um she's just – when she was in the emergency department when she had these these features she had an urgent MRI of the brain and the spine. I think that was at about three o'clock this morning. Ah and that was that was normal. There was nothing acute on the scans.
6. Dr Lancer: Do you know if they did any blood gases on her when she came in?
7. Dr Sindarmana: Ah I haven't actually looked at the bloods yet so.
8. Dr Lancer: I'd be interested to know what was actually showing there.

9. Dr Sindarmana: Yeah, if she had an episode of unconsciousness she might have had a blood count done.
10. Dr Lancer: I was more interested in when she was dyspneic, what was actually going on?
11. Dr Sindarmana: Yeah
12. Dr Lancer: But anyway um so she's started to get better?
13. Dr Sindarmana: Yeah, so she's – since that time ah there has been mildly progress in the neurology in the ah weakness of the right side a bit better but not much better on the left side. She's still quite numb um on the left side ah but doesn't feel numb any more on the right side which includes numb on the back on the left side as well. And the pain is still quite significant ( ) and all the other causes of pain like cardiac causes have been excluded. Now what's – that's probably the history. On on examination she
14. Dr Lancer: Can I just check in with you == in terms of sleep and other vegetative symptoms? ←
15. Dr Sindarmana: ==Yeah. [flipping through his notes] Yeah, um, it's ah I didn't actually ask her that.
16. Dr Lancer: OK, I'll talk to her about it.
17. Dr Sindarmana: Yeah, yeah, it's ah ... I mean in fact I didn't think it was ( ) last night (expect) that
18. Dr Lancer: No, no
19. Dr Sindarmana: Yeah.
20. Dr Lancer: Sorry, go on. The examination?
21. Dr Sindarmana: Yeah, so she's alert on examination. Um she's got normal tone. She's got a power of about 4 minus to 4 plus out of five ah you know in most of her like upper limb and her lower limb. [background noise increasing] On the LEFT side, apart from the wiggling of the fingers and the toes, there's not much power at all. Um she's got a (impacto-flexus?). Ah she's had (pyro? flexus) in the knees and the ankles, especially the ankles but they are symmetrical bilaterally. Um both of the ankles are ( ). Um she's got intact (propercetion?) um including the side which is still weak. Um and on examination of sensation she has got a loss of (sharp) sensation traveling from the ankle. Not lost, but altered starting from the ankle on the left side to the knee on the left side, both in front and at the back, and then the sensation comes back. Um on the right side she has some (intact) sensations. She – when she was seen earlier by the doctors who were looking after her they did find that she had loss of sensation in the back on the left side as well but she was in too much of pain for us to move her in that position, we'd have to (roll) her over. So we can try if you to to – you can pull her up and examine the back. Um and ah I think that's – ah we couldn't walk her because she was clearly too (unwell) and that was ( ) was fine.
22. Dr Lancer: Uh huh
23. Dr Sindarmana: And
24. Dr Lancer: And reflexes?
25. Dr Sindarmana: Ah normal reflexes in the upper limbs. HyPER reflexive in the lower limbs in both her knees and her ankles. Ankles are quite hyper but they're actually equal bilaterally.

26. Dr Lancer: And (plantus?)
27. Dr Sindarmana: (down?).
28. Dr Lancer: And can her bowels move properly?
29. Dr Sindarmana: No bladder or bowel problems.
30. Dr Lancer: Thank you. [very soft] My suspicion from what you say is that it's likely to be stress-related. Did you think that there was anything else that might be going on?
31. Dr Sindarmana: Yeah I mean that would be – I must say that that her affect didn't NOT sound, didn't LOOK like a typical functional but that doesn't mean that it is not functional. Um and the history of being a lifeguard and still BEING a lifeguard after having chemical pneumonitis due to an exposure to chlorine, you know, continuing the same occupation after being sort damaged due to the occupation is a bit of a a unusual thing==
32. Dr Lancer: ==Bit odd. Hmm==
33. Dr Sindarmana: And ah – But it would be nice to know if she does have some additional symptoms of an affective disorder which might contribute towards this presentation. Um but ah her her MRI scan is totally fine. I did say we'll see how we go with it. If you don't get better then the next step would be doing a lumbar puncture. But on the history there's no indication that we need to do it NOW because it's better to observe it for now and see what happens.
34. Dr Lancer: Yes. I mean I think in terms of practical management it's a matter of KNOWING that there's nothing organic wrong. Then the psych liaison team can work with her. And so the best thing would be to do the lumbar puncture sooner rather than later.

Like Dr Lee's 8 am handover, Dr Sindarmana's handover is concise, logical, well-structured and rich in information. Although Dr Sindarmana does not follow strictly the iSBAR stages, he does structure the information clearly. He identifies the patient; summarizes her presenting condition ('background of asthma'); narrates the sequence of symptoms that led to her presentation at emergency department; and outlines how those symptoms progressed while in the emergency department, drawing on Belinda's account to supplement the inadequate medical notes. But before Dr Sindarmana can move on to summarize his examination of Belinda, Dr Lancer interrupts.

In turn 2 Dr Lancer identifies a first gap in the information he's being given ('Do you know if she's right handed?'). This exposes an oversight in Dr Sindarmana's examination ('I didn't ask her that question. I beg your pardon.'). Dr Lancer's reaction is not to be critical but to explain the relevance of the information ('It would be the right hand to come back first').

In turn 6 Dr Lancer again probes for more information ('Do you know if they did any blood gases on her when she came in?'). Dr Sindarmana admits he has not yet looked at these but suggests how they might be relevant ('Yeah, if she had an episode of unconsciousness she might have had a blood count done'). But this is not Dr Lancer's reason for wanting to see them, and he immediately corrects Dr Sindarmana ('I was more interested in when she was dyspneic, what was actually going on?').

In turn 14, just as Dr Sindarmana is about to launch into reporting the examination phase of his handover, Dr Lancer again interrupts: 'Can I just check in with you ==in terms of sleep and other vegetative symptoms?' By asking this question Dr Lancer is suggesting this information should have been part of handing over the patient's history. Again, Dr Sindarmana admits an oversight ('Yeah, um, it's ah I didn't actually ask her that'). Dr Lancer now takes explicit responsibility for following this up ('OK, I'll talk to her about it').

In turns 24, 26 and 28 Dr Lancer helps structure the handover by prompting Dr Sindarmana for relevant information ('reflexes ... plantus ... bowels'). Then in turn 30 Dr Lancer offers his own interpretation ('My suspicion from what you say is that it's likely to be stress-related') before asking his junior for his assessment. In turns 31 and 33 Dr Sindarmana struggles to state his view, perhaps because he's inclined to a different position ('her affect [...] didn't LOOK like a typical functional'). In turn 30 he also relates what he has told the patient – that there's no need to do the lumbar puncture yet. In turn 34 Dr Lancer directly contradicts this position ('the best thing would be to do the lumbar puncture sooner rather than later'). And so we see that Dr Sindarmana was wise to prepare Belinda in the consultation by saying 'if he has a different view we'd do what he says because he's more experienced than I am'.

In the course of this brief handover Dr Sindarmana has learned about the clinical management of a patient presenting with Belinda's symptoms *and* he has also learned about how to give a clinical handover. He has learned what information he should have found out from the patient and why, what he should have checked for in test results and how he should have sequenced his information. The handover functions as both an educational tool and as a safety check on Dr Sindarmana's clinical practice (his senior now knows what gaps he needs to fill when he in turn examines Belinda). Unfortunately, not all Belinda's handovers are delivered under the alert scrutiny of a senior clinician, as we'll now see.

8.5 Handover as a safety risk: poor and poor communication

After the handover from Dr Sindarmana, Dr Lancer examined Belinda and agreed to admit her to the neurology ward where she was to have her lumbar puncture and receive physiotherapy and a visit from the liaison psychiatrist. Before this could happen the nursing shift changed and Belinda's Ward M outgoing nurse handed over to the Ward M incoming nursing team. Despite the ward's policy of bedside nursing handover, the nurses stood in the corridor outside Belinda's single-bed room (usually reserved for patients in isolation), with the three incoming shift nurses gathered around the outgoing nurse. Unlike the two previous handovers in Belinda's day, this handover – Text 8.4 below – is poorly structured, vague and incomplete. Most of these deficiencies are not addressed by any of the incoming team.

Text 8.4: Ward M nurse hands over Belinda's care at shift change

1. [The three incoming shift nurses stand near the outgoing nurse in the corridor. There is no attempt to go into Belinda's room. All the nurses hold copies of the ward sheet that summarizes key patient details.]
2. Outgoing nurse: ( ) she's actually an 18-year-old [pause while nurses gather around]. So she's got left-sided weakness. It's still weak, she's not moving anything at all on the left side, both arm and leg, and the right side is little bit up and down. Sometimes more movement than others. Um neuro are thinking functional so they've possibly got a bed for her this afternoon. So she's (GCS?) of 15 so the weakness on the left side's fairly severe but right side is fluctuating. Ah she hasn't actually passed urine since about five or six this morning. They did a bladder scan and there was only 60 mills in there. She said that that was usual for her. She doesn't pass urine much during the day but I'm trying to get her to drink. Um but she's got a couple of friends in there so I'm asking 'Can you get her to drink?' We'll see but haven't had her up yet. Overnight they said if she hadn't passed urine they might have to put a catheter in and that sort of made her pass urine better. [slight chuckle]
3. Incoming nurse 1: Hmm [chuckle]
4. Outgoing nurse: Um they've just charted her up for heparin so I've given her that but, and she's on nurofen for the pain (which she's had late) ... She's a bit up and down.
5. Incoming nurse 1: Hmm
6. Incoming nurse 2: OK, thank you.
7. Incoming nurse 3: She's in the separate room because of this? [pointing at reference to Belinda's chemical pneumonitis on ward sheet]
8. Outgoing nurse: Oh um she's not um she's not un – No that was actually – so she works as a lifeguard at a pool==
9. Incoming nurse 3: ==Right==
10. Outgoing nurse:==so she had a chemical exposure to chlorine or something. She's not actually on any precautions. She's just (for observation).
11. Incoming nurse 3: Hmm
12. Outgoing nurse: and neuro will take her this afternoon, I think.
13. Incoming nurse 3: Alright, thanks.
14. [The handover group disperses.]

A first concern with this handover is that it is not clearly framed. The outgoing nurse does not announce the handover, nor does she check that all the relevant incoming team are present. In fact, they're not and she has to pause after her first sentence while the nurses gather.

A second problem with the handover is its disorganization. Structurally, this handover does not follow the logical sequence suggested by protocols like iSBAR

(see chapter 7 for our adaptation of iSBAR for nursing). Table 8.2 displays the structure of this handover.

Table 8.2 shows that the outgoing nurse delivers a brief Identification before moving straight into Assessment, skipping the stages of (presenting) Situation and Background. The Identification is not clearly audible to several of the nurses (or to us, the researchers, and we were standing close to the outgoing nurse). The Assessment stage mentions three aspects of Belinda's situation in a relatively ad hoc sequence: the location and extent of her weakness; the need for her to drink and pass urine; and the pain relief medication ordered and given. At that point two of the four incoming team members assume the handover is over. They are presumably satisfied with the information they've received. But one incoming nurse tries to make sense of Belinda's placement in an isolation room by linking it to information on the ward sheet that the outgoing nurse has not referred to. It is only

Tab. 8.2: Structure of the Ward M nursing shift clinical handover in Text 8.2

Stage	Transcript
Identification	( ) she's actually a 19-year-old.
Assessment	So she's got left-sided weakness. It's still weak, she's not moving anything at all on the left side, both arm and leg, and the right side is little bit up and down. Sometimes more movement than others. Um neuro are thinking functional so they've possibly got a bed for her this afternoon. So she's GCS of 15 so the weakness on the left side's fairly severe but right side is fluctuating. Ah she hasn't actually passed urine since about five or six this morning. They did a bladder scan and there was only 60 mills in there. She said that that was usual for her. She doesn't pass urine much during the day but I'm trying to get her to drink. Um but she's got a couple of friends in there so I'm asking 'Can you get her to drink?' We'll see but haven't had her up yet. Overnight they said if she hadn't passed urine they might have to put a catheter in and that sort of made her pass urine better. Um they've just charted her up for heparin so I've given her that but, and she's on neurofen for the pain (which she's had late) ... She's a bit up and down.
Closure	N2: Hmm N3: Thank you.
Check	N4: She's in the separate room because of this? *[pointing at reference to Belinda's chemical pneumonitis on ward sheet]*
Background/ Presenting Situation	Oh um she's not um she's not un – No that was actually – so she works as a fitness instructor at a pool==so she had a chemical exposure to chlorine or something.
Recommendation	She's not actually on any precautions. She's just for observation and neuro will take her this afternoon, I think.
Closure	Alright, thanks.

when she queries the chemical pneumonitis that the outgoing nurse provides any Background and Situation, along with a fragment of Recommendation (treatment plan).

A third problem is the quality of the actual information in each stage. The information is vague and at times confusing. The handover does not make clear which of the four incoming nurses will be responsible for Belinda, and it is difficult to find anywhere in the handover a clear statement of what that nurse needs to do to continue Belinda's ongoing care. The only Recommendation refers to what the neurology staff will do. The Assessment stage, which composes the majority of the handover, is characterized by fuzziness. Table 8.3 shows the questions raised by the vague language used in this stage of the handover.

The impression this handover gives is of an outgoing nurse who has spent very little time reading Belinda's notes or preparing for her handover, and incoming nurses who are satisfied with some very sketchy information, probably because all the nurses believe Belinda will shortly be moved out of Ward M. But that may not happen – delays caused by bed block were common at the hospital at that time, and Belinda could well have spent many more hours in Ward M.

So, at the conclusion of this handover is the incoming team really well prepared to care for Belinda? We do not believe so. In fact, we consider that Belinda is at some risk. First, none of the incoming nurses have made visual contact with Belinda. They could not recognize her, and they have not been able to assess her current status firsthand or check her background and current symptoms with her. Second, the nurses have not been briefed on her asthmatic background, even though this was the presenting condition. Is Belinda on asthma medication? Do incoming nurses need to administer or check this? Third, no one has probed the nature and relevance to her current presentation of the chemical pneumonitis. Do the nurses really know what this is? It would be a great opportunity for someone who does know to educate the junior staff. Finally, it is not clear exactly what the incoming nurses need to do for Belinda and when during the next shift.

These problems could have been reduced if a senior nurse had been present to ask prompting and clarifying questions and to explain unfamiliar terms. By doing so the senior would have not only protected Belinda's continuity of care but also modeled effective handover and normalized assertive participation by incoming staff as an effective means of achieving safe, good quality clinical handovers.

Luckily for Belinda, a bed does become available in the neurology ward about an hour after the nursing shift change. One of the Ward M nurses who was present at the 1pm Ward M handover is asked to escort Belinda to Ward W, neurology. Text 8.5, the nursing handover from Ward M to Ward W, shows the risks of accumulated gaps in knowledge and information as well as the benefits of using handover to immediately identify and resolve confusions.

Tab. 8.3: Vagueness in Text 8.3 – Ward M's nursing shift handover of Belinda's care

	Transcript	Questions not answered by the outgoing nurse's handover
1	( ) she's actually a 19-year-old. So she's got left-sided weakness. It's still weak, she's not moving anything at all on the left side, both arm and leg, and the right side is little bit up and down. Sometimes more movement than others.	No mention of asthma or asthma medication What does 'a little bit up and down' mean? Can she move right arm/leg at all?
2	Um neuro are thinking functional so they've possibly got a bed for her this afternoon.	Does this mean Belinda will definitely be going to neuro? Or that they haven't decided yet?
3	So she's GCS of 15 so the weakness on the left side's fairly severe but right side is fluctuating.	'Fairly severe' 'fluctuating': vague
4	Ah she hasn't actually passed urine since about five or six this morning.	Vague, exact time would be in record
5	They did a bladder scan and there was only 60 mills in there. She said that that was usual for her. She doesn't pass urine much during the day but I'm trying to get her to drink. Um but she's got a couple of friends in there so I'm asking 'Can you get her to drink?'	Who is 'they'? Emergency department doctors? Ward M doctors? How much is 'much'?
6	We'll see but haven't had her up yet.	When will we see? What does 'haven't had her up' actually mean?
7	Overnight they said if she hadn't passed urine they might have to put a catheter in and that sort of made her pass urine better. [slight chuckle]	Who said? To whom? Implication of humor: she's malingering
8	Um they've just charted her up for heparin so I've given her that but, and she's on neurofen for the pain (which she's had late) ... She's a bit up and down.	Who has charted her up? When did the nurse give the heparin? What does 'a bit up and down' mean?
9	Oh um she's not um she's not un – No that was actually – so she works as a fitness instructor at a pool==	Still not clear why Belinda is in the single room
10	==so she had a chemical exposure to chlorine or something. She's not actually on any precautions. She's just for observation.	Vague – has the nurse read Belinda's notes? Confusing explanation
11	and neuro will take her this afternoon, I think.	Why 'I think'? Is it the bed, ward or time that's in doubt?

Text 8.5: Ward M nurse hands over Belinda's care to the Ward W neurology nurse

If we compare this handover to Text 8.4, the Ward M nursing shift handover, we see that it is better organized, more comprehensive and more interactive. Table 8.4 shows the stages in the handover.

1. [The handover takes place beside the busy Ward W nurses' station. The patient, Belinda Page, has already been wheeled into a four-bed room down the corridor. As the Ward M nurse speaks the Ward W neurology nurse makes tiny notes around the edge of her ward sheet.]
2. Ward M nurse: OK, so here we've got Belinda Page. Um she came over to us yesterday. She came into emergency department. She's 18. She presented with shortness of breath and chest pain. Um she has got a history of um asthma and she has had previous admissions for shortness of breath. Um all ECG, blood, (troponums) have all been negative. Um she's on ah Ventolin PRN. She's been fine. Um and==
3. Neurology nurse: ==How often's she use it at home?
4. Ward M nurse: Sorry?
5. Neurology nurse: She's just got her own ... puffer?==
6. Ward M nurse: ==She's got her own puffer there.
7. Neurology nurse: She just uses it ( ) once?
8. Ward M nurse: Ah she's got the ah spacer. Um I've only just taken over. I don't know about the PRN she hasn't actually had it. She might not – I didn't actually SEE the puffer so she might still need to have that given to her. She's just got the ==spacer.
9. Neurology nurse: ==Oh, I'll check that==
10. Ward M nurse: ==That's the only thing I saw there.
11. Neurology nurse: That's OK, yeah.
12. Ward M nurse: Her neuro obs are 350 and she's also presented ... with um mild weakness to the right side, right arm, right leg==
13. Neurology nurse: ==Oh, RIGHT?
14. Ward M nurse: Yep, mild. But left side severe weakness. She works in a swimming pool um and she has had a previous presentation and she has got chemical pneumonitis
15. Neurology nurse: From the swimming pool?
16. Ward M nurse: um pneumonitis. OK? I haven't
17. Neurology nurse: Pneumonitis? OK, yeah.
18. Ward M nurse: She's got a history of that. ==She works in a swimming pool you know
19. Neurology nurse: ==Oh is that – yeah, on the chest, yeah, ==pneumonia, OK.
20. Ward M nurse: ==pneumonia, yeah
21. Neurology nurse: Yeah.

22. Ward M nurse: So yeah ... they're still under investigation. The MRI was (?AD). The other – she's got a left IV cannula. She's on regular ibuprofen which she's she's just had it==
23. Neurology nurse: ==Are you using the IVC?
24. Ward M nurse: Ah no, ==she's not on any IV antibiotics
25. Neurology nurse: ==no IV antibiotics==
26. Ward M nurse: ==Ah she's just on heparin and the ibuprofen but not on antibiotics. Um [checking notes] Yeah the other thing is she has – she's had um beg your pardon – she's ah hasn't passed urine since early hours of the morning. She says that's usual for HER==
27. Neurology nurse: ==Uh huh==
28. Ward M nurse: ==Ah she she probably needs to be approached with fluids. She's def – she's not drinking very much. She has had a bladder screen attended and that was – there was nothing in the bladder.
29. Neurology nurse: Nothing? [surprise]
30. Ward M nurse: Well there was nothing notable. ==So she just needs to be approached with the fluids.
31. Neurology nurse: ==Hmm, with some ice, OK.
32. Ward M nurse: Yep, OK, so just to keep an eye on that. Um ... yeah so she's for ... further review and she had her bowels open yesterday what else um she's been mostly resting in bed this morning. She has tolerated a bit of food, yeah
33. Neurology nurse: But she walks to the toilet?
34. Ward M nurse: Yep
35. Neurology nurse: OK
36. Ward M nurse: Yeah but yeah have stand-by because of the weakness ==I'd say
37. Neurology nurse: ==She need physio for that or?
38. Ward M nurse: She will need physio, yep, for review and probably for the mobility==
39. Neurology nurse: ==mmm, yeah==
40. Ward M nurse: ==just to to be safe. Um ...
41. Neurology nurse: OK. So I just want to
42. Ward M nurse: Any questions, yeah?
43. Neurology nurse: I just wouldn't mind doing just one thing
44. Ward M nurse: Yeah?
45. Neurology nurse: Just go and see her with you.
46. Ward M nurse: Yeah sure.
47. [The Ward M and neurology nurses walk to Belinda's bedside]
48. Neurology nurse: [to Belinda] Hi Belinda. How are you? I'm Michelle, yeah.

49. Ward M nurse: She's taking over from us, OK.
50. Neurology nurse: I'd just like you – can you just tell me your name
51. Patient=Belinda: Belinda Page
52. Neurology nurse: Neurology nurse: Where do you live, Belinda?
53. Belinda: Monalbin
54. Neurology nurse: Monalbin, yeah? And do you know what today is? What day?
55. Belinda: Yes, Thirteenth.
56. Neurology nurse: Thirteenth, yeah.
57. Belinda: Thursday
58. Neurology nurse: Thursday. And the month?
59. Belinda: Um January.
60. Neurology nurse: That's good. Thank you.
61. [the nurses leave Belinda's bedside and stand in corridor outside room]
62. Neurology nurse: [to Ward M nurse] Thanks for that.
63. Ward M nurse: Awesome.

Structurally, the Ward M nurse begins with a clear framing statement that includes Identification of the patient. She then provides Background that was missing from the 1 pm Ward M nursing handover, indicating that this nurse has at least read Belinda's file. She then moves into Assessment and she provides a reasonably clear Recommendation stage. Note also that much of the information in each stage is specific and technical, not vague (all ECG, blood, (troponums) have all been negative ... Her neuro obs are 350).

A striking difference from the shift handover in Ward M is that in Text 8.5 the neurology nurse is assertive and questioning. In this six-minute handover, she asks seven probing questions (indicated on the transcript). It is because the neurology nurse asks these clarifying questions that the Ward M nurse is obliged to add more background (Background 2) and assessment (Assessment 2 and 3). While the receiving nurse's willingness to ask until she is satisfied has definite safety benefits for Belinda, the interaction also shows up potentially risky gaps in knowledge and information about her situation and ongoing care.

For example, in turn 2, the neurology nurse identifies incomplete information and seeks to clarify it across several questions (She's just got her own ... puffer? She just uses it once?). But the Ward M nurse is not able to resolve the queries because she's 'only just taken over'. The upshot of a long exchange about the asthma medication is that the neur-ology nurse undertakes to check for herself later. From what we know about the highly stressed contexts of hospitals, it's legitimate to ask: Does she? Will she remember?

Tab. 8.4: Structural stages in Text 8.4, the Ward M nurse's handover to the neurology nurse

Stage	Transcript
Identification	Ward M nurse: OK, so here we've got Belinda Page.
Background 1	Um she came over to us yesterday. She came into emergency department. She's 18. She presented with shortness of breath and chest pain. Um she has got a history of um asthma and she has had previous admissions for shortness of breath.
Assessment 1	Um all ECG, blood, (troponums) have all been negative. Um she's on ah Ventolin PRN. She's been fine. Um and== [...]Her (neuro) obs are 350 and she's also presented ... with um mild weakness to the right side, right arm, right leg== [...] But left side severe weakness.
Background 2	She works in a swimming pool um and she has had a previous presentation and she has got chemical pneumonitis
Assessment 2	So yeah ... they're still under investigation. The MRI was (?AD). The other – she's got a left IV cannula. She's on regular ibuprofen which she's she's just had it== [...]==Ah she's just on heparin and the ibuprofen but not on antibiotics. Um [checking notes] Yeah the other thing is she has – she's had um beg your pardon – she's ah hasn't passed urine since early hours of the morning. She says that's usual for HER
Recommendation	==Ah she she probably needs to be approached with fluids. She's def – she's not drinking very much. She has had a bladder screen attended and that was – there was nothing in the bladder. [...] Yep, OK, so just to keep an eye on that. Um ... yeah so she's for ... further review
Assessment 3	and she had her bowels open yesterday what else um she's been mostly resting in bed this morning. She has tolerated a bit of food, yeah

What is striking about this information gap is that there is a much more efficient way of resolving it. If the handover had happened at the patient's bedside (as mandated by hospital protocols) it could have involved Belinda, who is perfectly alert and aware, as the neurology nurse later establishes. The patient could have instantly resolved this query! But neither of the nurses considers this option.

The neurology nurse also actively checks use of the IV cannula (turn 22), bladder content (turn 28), mobility (turn 32) and the implied need for physio (turn 36). The Ward M nurse is co-operative in responding and directly checks for any final questions (turn 41). These interactive exchanges all have a safety value, and seem likely to improve Belinda's chances of receiving continuity of care. The neurology nurse adds the further safety check of going to the patient's bedside with the Ward M nurse. What is slightly odd about this move to the bedside is that the neurology nurse confines herself to establishing that Belinda is alert and aware. Neither nurse takes advantage of Belinda's input to sort out the asthma medication or the exact nature and relevance of her chemical pneumonitis.

On the one hand, then, we can see several risks exposed by this handover: that the Ward M nurse has 'just taken over' and so does not know all the facts of Belinda's history and situation and doesn't understand medical information in Belinda's notes.

On the other hand, however, we see the receiving nurse using the handover to expose the risks around medication and ongoing care. Active dialogic participation by receiving nurse achieves two paradoxical outcomes: it exposes risk points in the handover and resolves most but not all of them. But neither nurse suggests involving the patient in the handover although involving the patient is very likely to have resolved the remaining risks.

8.6 Summary of barriers to safe and effective handovers

The examples we've presented in this chapter and have uncovered in our broader dataset show that clinical handover offers repeated opportunities in the patient's journey to identify and rectify any oversights and to teach young clinicians clinical and communication skills. The examples show that to make the most of clinical handover, both those giving and those receiving the handover need to be attentive and active during handover. They need the skills to be assertive and competent communicators. From our data we identify the following barriers that may prevent clinicians from maximizing the potential safety benefits of clinical handover:

8.6.1 Attitudes to interactivity and assertiveness in the hospital context

These attitudes mean that clinicians who interrupt to ask questions or who query another's handover may be viewed as 'problematic', 'time wasters' or 'disrespectful'. The adage that 'a quick handover is a good handover' needs to be replaced by 'an interactive handover is a safe handover'. Junior doctors need to be supported and encouraged to ask questions and seek clarifications, and senior doctors need to check that the crucial information such as the recommended treatment plan is summarized and lines of responsibility are completely clear. It is precisely due to the interactivity of spoken handovers that this can be achieved.

8.6.2 Deference to role hierarchy or discipline boundaries, in particular junior with more senior doctors and nurses with doctors

Our data suggests that this deference can inhibit clinicians from asking questions, querying information or identifying gaps and oversights.

8.6.3 The persistence of an outdated attitude that excludes patients and carers from the handover

Not only is this against hospital policy but it also denies clinicians access to the most valuable source of information about the patient.

8.6.4 Lack of confidence or skills in communicating in spontaneous, fast-paced, multi-party, patient-inclusive interactions

As we explained in chapter 1, communication in hospitals poses specific difficulties that some clinicians and patients may find overwhelming. We've seen that in Belinda's case the handovers both protected her but at times also exposed her to risks. Unfortunately, in the large organizational setting of the hospital no one sees the risks accumulating. Clinicians and managers see only the local part of the patient's journey – the fragment that they are involved in. Local risks may be identified and managed, but if not they may carry forward and compound risks that arise in the next local context. Analyses of critical incidents such as the one reported in chapter 1 almost always identify multiple accumulating communication problems as a major factor in avoidable patient harm. (See also the example presented in chapter 15.)

8.7 Strategies to maximize the safety benefits of clinical handover

In light of the issues in our data and our analysis of the barriers to effective handover, we suggest the following strategies. Several of these strategies are also referred to in the Australian clinical handover standard (ACSQHC 2012b). The evidence from our data is that these are not yet routine practices.

8.7.1 Organizational strategies

22. Management and staff must recognize that a good handover needs preparation. Work schedules should reflect the need to allow outgoing staff time to prepare, and the expectation among all staff should be that outgoing staff will have prepared before giving their handover. Minimally, staff members need time to read the patient's notes and to meet the patient and check details with them.
23. Staff who will be responsible for the patient's ongoing care must be at the handover or should send a nominated delegate who undertakes to report back to them directly.

8.7.2 Communication strategies

24. All staff should be encouraged to be attentive and communicatively active during handover. Training in assertive communication should be offered to all staff.
25. Wherever possible staff should hand over at the patient's bedside and should involve the patient. Handing over away from the bedside should be the exception, not the rule.
26. Communication protocols should be used as prompts to assist clinicians in communicating effectively both the informational and interactional dimensions of the bedside handover (see chapters 4, 5, 6 and 7).
27. Targeted training in handover communication should be offered to both native and non-native speakers of English so that clinicians can better manage handover interactions with colleagues, patients and carers.

8.7.3 Mentoring and leadership strategies

28. In group handovers, for example at shift change rounds, the ward manager should designate a senior staff member as 'handover mentor/leader', with recognized responsibility for eliciting whatever information they feel is necessary to ensure the quality and completeness of the handover.
29. The message that clinical handover is an excellent learning and teaching opportunity needs to be reinforced. Staff should be encouraged to take advantage of the immediacy and time-efficiency of the dynamic face-to-face context:
    - Senior staff should explain unfamiliar terminology and conditions or elucidate implications younger staff may miss.
    - All staff should ask for clarification of handover information or further information about any relevant aspect of the patient's condition.

8.8 Conclusion

In this chapter we have explored the insights that come from looking at a patient journey as opposed to evaluating discrete individual handovers. We have suggested that it is only by looking at a patient's care sequentially that we are able to evaluate the effectiveness or otherwise of the clinical handovers and related events and the quality of the continuity of care.

Our close-up analysis of actual handovers in sequence led us to argue that clinical handovers have the paradoxical potential to both protect the patient and to expose them to risk. More specifically, through close-up analysis of actual discourse we have shown on the one hand how clinicians can use clinical handover as an opportunity to identify and resolve uncertainties, correct assumptions, explain their reasoning

and share knowledge. On the other hand, we have also shown how clinicians can potentially compromise a patient's safety by not resolving gaps in knowledge, deferring clarification or failing to clearly allocate responsibility. We have located exact moments of risk to patient safety and explored when and how they are effectively managed or not. We have identified barriers that our data suggests inhibit effective communication and we have recommended strategies to help clinicians exploit the dynamic potential interaction offers for sorting things out here and now. By looking at handovers in sequence we have shown that risks not addressed at one point can carry forward and accumulate across the patient's journey.

These findings have only been possible because we have collected and then explored close-up actual interactions in their context. Our approach therefore contrasts with studies that rely only on observational coding or on interviews with participants after the event. Actual communicative data indicates that what people *think* they say or what they remember of what went on are often very different from what did in fact happen in an interaction. We believe that it is only by looking at concrete, specific examples of actual communication in context that we can trace how risks arise and how they are managed or not in the dynamic process of doing health care. Our approach allows us to propose strategies that are based on the unavoidably complex reality of healthcare interactions.