Trauma Exchange: interview with Jonathan Armstrong

Transcript

Cal Shuker:

Music Kia ora and welcome to Trauma Exchange, a series of conversations which explore the world of serious injury in New Zealand. My name is Carl Shuker and it's a privilege to host these discussions on behalf of the National Trauma Network and its partner organisation, Te Tāhū Hauora Health Quality & Safety Commission.

Physical injury is the leading cause of death for people in Aotearoa aged between 1 and 39 years. For those who survive, many require extensive rehabilitation to support recovery from complex injuries. We know that the sooner rehabilitation starts, the better the outcomes for the patient and they can return to normal life sooner.

So, today I'm speaking to occupational therapist, Jonathan Armstrong, about his role in recent quality improvement projects for trauma patients in the hospital and for those transitioning back into the community. We'll be talking about how these projects have improved the rehabilitation journeys of people with serious injury in Tāmaki Makaurau and across Aotearoa, New Zealand.

Jonathan is an experienced occupational therapist at ABI Rehabilitation and was previously the Director of Allied Health at Te Whatu Ora Counties Manukau.

He worked on projects for both Counties Manukau and ABI Rehab and Active Plus Rehab and he's now an advisor for the serious traumatic brain injury national collaborative run by Te Tāhū Hauora.

Jonathan, you've been involved in a few quality improvement projects with the network and Te Tāhū Hauora recently, with a focus on how traumatic brain injury is managed in hospital and community settings. So, can you tell us a little bit about your first project, which looked at the accuracy of assessment and screening of inpatients with traumatic brain injury?

Jonathan Armstrong:

Sure, so people who are admitted to hospital with a suspected traumatic brain injury are usually screened a number of ways, including using radiology like a CT scan of their brain, using standardised cognitive measures to assess their thinking abilities and using symptom screens that check if a person is experiencing any signs of brain injury such as headaches or sensitivity to light or dizziness.

All those components of assessment have to be consistent and accurate in order to correctly diagnose the severity of the brain injury and help to make clinical decisions about how it's managed.

So at Te Whatu Ora Counties Manukau, we recognise that there was the potential for error in screening people with traumatic brain injury, particularly if that injury was relatively mild and didn't appear apparent in the usual clinical interviews, or if the person was a major multi-trauma injury where attention had to be focused on other significant injuries, like orthopaedic or spinal or abdominal.

So, we particularly wanted to focus on the assessment of cognitive status that's undertaken to establish if a person is in a state of post-traumatic amnesia. And that's an important

measure as it tells us how severe somebody's injury is and also tells us what kind of support or ongoing rehab they're likely to need.

Carl:

And what can you tell us about how to complete these assessments and what you found?

Jonathan:

The assessment that we use is called a Westmead Post Traumatic Amnesia Scale or PTA scale and has to be repeated daily to establish if continuous memory has returned. So, we test to see if the person can do things like recall where they are, what's happened to them and simple information that they've been asked to remember from the day before like names and faces. And all those are essential skills to be able to cope in everyday life, and they're all also typical signs of post-traumatic amnesia.

So, when we conducted a baseline of assessments over a period of four months, what we found was that there were some common errors occurring in a particular section of that assessment, approximately 50 percent of the time. And that's due to the assessment having to be repeated on a daily basis.

Sometimes over a number of days and sometimes, as the person moves through the hospital to different wards, the assessment has to be conducted by different people. So, we wanted to improve that so that we could be certain that injured people were being assessed accurately and thereby receiving the right kind of cognitive management while in the hospital and also being referred on to the right support services and rehab when they were discharged.

Carl:

And what sorts of changes did you make based on those findings?

Jonathan:

So there were a number of rehab improvement activities we put in place. We created online e-learning tools. We did face-to-face education sessions, created ward-based champions who were the go-to people to assist with any uncertainties. And we created more accessible resources for the assessment, and all those aimed to improve the accuracy of the assessment.

And auditing is ongoing to ensure that the improvements continue and they make positive change to the identification and the management of people when they're in post-traumatic amnesia.

Carl:

Jonathan, that's fantastic work. And I understand that work has had some impact at a national level. Can you tell us about your role in achieving national consistency in that screening for post-traumatic amnesia?

Jonathan:

So, the National Trauma Network, while we were working with them on this original project, they recognised that the issues that we were addressing through our project were wider than just Te Whatu Ora Counties Manukau. And this work could have a positive impact across other districts.

So, two of us from the original project at Counties joined the Health Quality & Safety Commission and the National Trauma Network as advisors to help with what was called the serious traumatic brain injury collaborative. So other Te Whatu Ora districts could kind of get knowledge from what we'd achieved and try and put some of those quality improvement projects into their own districts and see how they worked.

So, they used some of our quality improvement tools that were created in the original project, such as the audit tool and the e-learning, and just got a baseline of where their issues might lie in terms of consistent and accurate screening, and then looked at ways to address any challenges that they had in their particular services.

Carl:

How many teams were participating in that collaborative, and did they have any success?

Jonathan

So, there were two phases to that serious TBI collaborative. The first involved five teams and they were Northland, Bay of Plenty, Hawke's Bay, Taranaki and Southland. And then there was a second phase that involved four other teams: Auckland, MidCentral, Nelson and Marlborough and Canterbury.

And so, each district reviewed their own processes and assessments and each found that they had slightly different areas that needed to be addressed. For some, it was around the initial identification of people with a suspected brain injury. For others, it was about undertaking assessment accurately in a particular area of their hospital. For others, it was about providing the right management and education to people and their whānau once the injury had been identified and was in the process of being assessed.

What was great about all the collaboratives was that everybody's efforts were all, from the different districts, were all shared. Everybody found different solutions to their own challenges, and then those were shared with others so that we're all learning from one another and we're all borrowing the solutions that had been proven to work elsewhere.

Carl:

Classic QI collaborative stuff, that's awesome. So, Jonathan, can you talk to us about potential consequences for patients if post-traumatic amnesia isn't identified?

Jonathan:

So, people can leave the hospital unaware of their cognitive difficulties and when they return home or try to return to their usual roles like looking after their children or going back to work or resuming study, they begin to struggle and have a limited understanding of why they're struggling or what can be done to help.

They can have issues with a whole range of thinking or cognitive skills. They may struggle with concentrating; it might take them longer to think things through. They can't remember information that they've been given relatively recently, and it therefore becomes much harder to make plans or make decisions.

Those kinds of difficulties are often invisible to people. They're not obvious like a broken leg or a weak arm. So, they're really difficult for the person with the brain injury to understand, but also for the people around them like their whānau to understand. So, without the right

support in place, people can become really frustrated and often very confused about what's happening to them.

When those issues are identified early on with the right screening, then the right support, such as inpatient or community rehab, can be offered so that there are professionals providing advice and strategies to manage those kinds of difficulties. And the person can begin to return to daily life with an understanding of what those difficulties are, why they're happening, and also have some tools to manage those cognitive changes.

The other important thing about the assessment of post-traumatic amnesia is the duration of somebody's post-traumatic amnesia does define the severity of their brain injury. And the severity of your brain injury also often defines the services that you're eligible for when you are discharged from hospital. So, there's kind of a number of reasons why getting the screening for post-traumatic amnesia is really important.

Carl:

So you touched there on some of the implications for the wider whānau of patients. Can you talk more about the implications of these improvements for families and whānau of patients affected by these kinds of injuries?

Jonathan:

Yeah, so when we are referring to community rehabilitation teams to support the person with brain injury, it's very important to not just be supporting the person with the injury, but also the team of people around them. And that includes obviously their whānau.

And, you know, we know that as brain injury rehab specialists, we're only a very short part of this person's recovery journey. And it's the whānau that needs to support those people in the long term. So, actually upskilling the whānau and sharing education and resources with them is so important because they're the people that are going to be supporting this individual long term.

Carl:

Of course family and whānau being involved in the rehabilitation process can be such a huge part of a patient's recovery so that's great to hear.

Another important project that you were involved in was a collaboration between ABI Rehab, Active Plus Rehab, ACC and Te Whatu Ora Counties Manukau. Can you tell us a little bit about what that project hoped to achieve?

Jonathan:

Yeah. So that project aimed to streamline the referral processes from the hospital to the community TBI rehabilitation services, aiming to get major trauma patients and their whānau the right community-based rehab to meet their needs at the right time.

Carl:

And what changes were made to that existing process?

Jonathan:

So, prior to that piece of work being done, Middlemore Hospital wards and the ED all had different ways of making referrals to community rehab providers and were all using different referral forms. Sometimes those templates didn't accurately identify the injured person's

needs and injured people were not getting picked up by rehab providers for weeks after their discharge from hospital. And in the baseline data, it was found that the average time from discharge to entry into a TBI rehab community service was just over 40 working days.

So, we worked across the organisations: ABI Rehabilitation, Active Plus, AUT, ACC and Te Whatu Ora Counties Manukau to map out the process of referral and look at where the difficulties in the bottlenecks arose and then addressed each one of those individually.

So, one issue that became evident was the multiple forms that people could use to refer to community rehab services and each had their different level of detail. So, we worked with the referring and the receiving teams on creating one form that was going to meet everybody's needs in terms of the details provided. One that was quick for the hospital team to complete but was also comprehensive enough for the community teams to start their assessment. And we also worked on a feedback loop so that the people who were referring in the hospital knew that the referral had been received and knew that it had been accepted.

Working with ACC, we were also able to look at bottlenecks in the approval process and remove those to speed the process up. So, ACC provided pre-approval for people being discharged from Middlemore Hospital and only got involved after the person started their rehab with ABI or Active Plus. And those changes resulted in an average time from discharged community follow-up becoming just over two working days as opposed to the 40 plus that had been originally.

Carl:

That's extraordinary. So, I mean, my follow-up question was, what would it feel like to patients outside needing community rehabilitation, but obviously it feels 38 days better.

Jonathan:

Yeah, people are now receiving their community support a lot earlier, and therefore, they're hopefully not struggling at home or trying to return to work or school with a brain injury and all the related symptoms that they're not able to manage.

Our community teams have also found that this earlier intervention has reduced injured people's needs to be referring to doctor Google, and becoming distressed with their symptoms as they have brain injury experts to talk to and know what to expect.

So, the providers like ABI Rehab and Active Plus are now able to provide early intervention and support with clinicians that have expertise in neurological rehabilitation and can address the multiple symptoms that people are experiencing, whether those are balance issues, visual issues, cognitive or fatigue issues.

And hopefully injured people will feel like they've not been left in the dark to struggle through those difficulties alone and they have expert clinicians who can walk alongside them early on as they're going through their recovery, and offering education and intervention and support to address the issues as they arise.

Carl:

It's an extraordinary improvement, Jonathan. Is it an initiative that only patients in Tamaki Makaurau will benefit from at this point?

Jonathan:

So the pilot was so successful that ACC took the findings and scaled up many aspects of that project. And they started rolling that out across all hospitals in August of last year, which has meant that these improvements in access to community rehab can be achieved across Aotearoa.

Carl:

That's so fantastic. You've been at the centre of this. Do you have any other tips for other teams around the country who want to improve their local services?

Jonathan:

Yeah, so I would say that I have two main tips for people who want to take on quality improvement projects like these ones I've been describing.

My first tip would be that people really need to take their time to study the problem that they're trying to address. On the surface of things, it may seem like an issue with a process or a system or assessment maybe due to a particular area. And when you delve deeper, you find that actually the problem lies elsewhere, most likely further upstream from the point that you originally thought it originated from. It's worth taking extra time to really examine the problem so that whatever solution you're putting in place actually addresses the underlying issue.

And my second tip would be to get a group of people together that are really passionate about solving the problem you're trying to address. The great thing about the two projects that I've described here was that we had a dream team of people who really wanted to do their best to make improvements. We all had expertise in different areas, but we all had a common goal of improving access to brain injury services and outcomes for people who'd experienced a brain injury.

Carl:

Well, thank you so much for speaking with me today, Jonathan. It's extraordinary work. Yeah, I keep thinking in my head, 40 working days down to two working days. It's just an extraordinary improvement.

Congratulations, and we should also acknowledge the hard work that went into this project from your other team members and collaborators: ABI Rehabilitation, Active Plus, Te Whatu Ora Counties Manukau, ACC and the Auckland University of Technology.

Thanks for joining our conversation with Jonathan Armstrong today. It's great hearing about how approval of referral information and removing pre-approvals for patients to receive concussion services dramatically reduce the time patients wait for care. Now the screening process for post-traumatic amnesia is being improved across Aotearoa.

Thank you for joining us.

If you'd like more information about this mahi or would like to learn about other projects completed during the trauma rehabilitation collaborative, check out the National Trauma Network and Tāhū Hauora Health Quality & Safety Commission websites. That's at www.majortrauma.nz or at www.hqsc.govt.nz.

Thanks again for joining us.

Mā te wā.