

Project ECHO – Children, Adolescents and Young Adults with Complex Pain

Children's Health Queensland Hospital & Health Service
Integrated Care – 2023



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Short biography	Samuel Gray is currently an ECHO Network Coordinator in the Integrated Care team at Children's Health Queensland Hospital and Health Service. He has tertiary qualifications in both Public Health and Media & Communications from the Queensland University of Technology. Sam is passionate about improving health outcomes and integrating care through the utilisation of public health principles and effective communication. Previous to this role, Sam held a number of positions with Brisbane South PHN (Primary Health Network), working across Commissioned Programs, Primary Health, and Stakeholder Engagement & Communications. He has also worked with the Woolworths Centre for Childhood Nutrition Research and Toowoomba Grammar School. With both a Government and NGO perspective, Sam understands the importance of person-centred care, and a whole-of-system approach to health care optimisation in Queensland.

Project details

Name of model or initiative	Project ECHO – Children, Adolescents and Young Adults with Complex Pain ECHO Network
Time period	<ul style="list-style-type: none"> • February-October 2020 • August-November 2021 • March-June 2022 <p>Re-designed and commenced in 2021, occurs ongoing on a yearly basis. Recently concluded 2022 Network and commenced 2023 Network on 14/02/2023. Variation of original network 'Persistent Pain' which launched June 2018.</p>
Participating site/s	Children's Health Queensland HHS
Details of any project partners (or nil)	<ul style="list-style-type: none"> • Dr Mark Alcock –Anaesthetist & Pain Medicine Specialist, CHQ HHS • Daria Westerman –Senior Occupational Therapist, CHQ HHS • Rebecca Fechner –Senior Physiotherapist, CHQ HHS • Eloise Cowie –Psychologist, CHQ HHS
Details of consumer representation or participation (or nil).	Consumer representation in the form of spoke participants; who often bring lived experience as an individual or family member of someone who experiences or has experienced complex pain, alongside their role as a clinician, educator or other professional.

Elevator pitch

Project ECHO is a proven model of inter-professional education and collaboration, utilised to improve care integration and improve health outcomes for consumers (Arora et al. 2011, Newcomb et al. 2022). An ECHO Community of Practice connects professionals from often-siloed industries and disciplines, ultimately improving access to services and enhancing provider capability to deliver best-practice care to consumers. The ECHO model exemplifies the concepts of **Learn, Partner, and Innovate**.

The *Children, Adolescents and Young Adults with Complex Pain* ECHO network is an innovative and targeted approach that connects professionals for collaboration and knowledge-sharing, with a shared aim to enable the delivery of developmentally sensitive and personalised care for every child, adolescent, and young adult in Queensland with chronic pain.

Complex and chronic pain in children and adolescents is associated with a plethora of serious health concerns. Left unresolved, persistent pain is linked to outcomes such as chronic insomnia, activity limitations, negative educational outcomes, lower quality of life, and mental health issues in adolescence and adulthood (Noel et al. 2016, Grace 2013, Law et al. 2012, Agoston et al. 2016). Considering the rapid development of knowledge in this relatively new area of practice, a connected and collaborative approach is needed to maintain and optimise the delivery of care.

Through this innovative and scalable model, it becomes possible to make a real difference to the target population, and greatly improve the integration of care in Queensland. Coordinated and collaborative efforts through this approach yield positive outcomes for consumers, professionals, and the health sector as a whole.

Solutions implemented

A connected and collaborative approach is fundamental to the integration of health care in Queensland. Children's Health Queensland (CHQ) defines integrated care as 'the provision of care in the broadest sense - physical, psychological, and social - which is oriented around the needs of children, young people, and families, and designed and delivered in partnership with them. In an integrated system, these needs are met through the coordinated and collaborative working of all providers, irrespective of sectorial, organisational, or geographic boundaries' (Children's Health Queensland, 2023). CHQ have been able to facilitate this approach by establishing ECHO networks across a broad range of topic areas – including paediatric complex pain.

Following the success of previously established ECHO networks (since 2017), the development of a targeted paediatric pain network was a straight-forward and logical progression. The proven effectiveness and scalability of the ECHO model means that an ECHO network can be designed and implemented for almost any topic, within any sector.

The implementation of a *Children, Adolescents and Young Adults with Complex Pain* ECHO network serves a multitude of purposes. Firstly, it serves as a knowledge sharing platform through which subject matter experts are able to share short, pertinent didactic presentations to educate other professionals. Secondly, it is an opportunity for the spoke participants (those registered as group members) to present a case they have encountered in practice; and seek input and advice from other group participants and members of the panel. Thirdly, it is an opportunity to facilitate inter-professional and inter-sectoral networking. This supports service and system integration, information sharing with like-minded professionals (from similar or varying professional backgrounds); and reduces professional isolation. Resources and information are circulated to the broader network following each session.

ECHO networks generally run on a set schedule, and the frequency of sessions can be tailored to suit the needs of the network's participant audience. With paediatric complex pain management being a relatively new area of practice, a method of connecting clinicians to the right knowledge in a timely and effective manner was desperately needed. The *Children, Adolescents and Young Adults with Complex Pain* ECHO continues to run once a month, with these regular meetings providing opportunities for participants to stay updated on best practices and connected with the network.

For this network to be successful in its aim, the panel membership needed to consist of mixed-background professionals well-placed to address the multi-faceted problems experienced by young people with complex pain. Due to the nature of the health issue, a team of professionals from only one discipline (e.g., solely physiotherapists or psychologists) would not be suitable. For true integration of care and a whole of system approach, diverse disciplines were needed to address the problem from differing lenses. After careful consideration, a panel was constructed featuring a paediatric pain specialist, an occupational therapist, a physiotherapist, and a psychologist. Individuals working with young people experiencing persistent pain were invited to join from any discipline or sector.

Ultimately, the ECHO model was one that was entirely suitable for the health problem of the target demographic – and addressed all fundamental components needed to fulfil the aim of the program. By utilising the ECHO model, the *Children, Adolescents and Young Adults with Complex Pain* network has been able to connect professionals from a variety of disciplines and backgrounds, share timely information and resources, and establish best-practice approaches to improve patient outcomes. This exemplar also served as a proof of concept and

precursor for Townsville Hospital and Health Service to launch an adult focused persistent pain ECHO Network in 2019-20, given the demonstrated suitability and sustainability in this paediatric focused ECHO.

By establishing this network, professionals involved in paediatric pain management are better equipped to address the ever-present issues and complexities of this space. As a result of this, children, adolescents, and young adults with complex pain are likely to receive better care in line with best-practice and achieve greater health outcomes. Connecting professionals, sharing knowledge, and integrating care is adjacent to the aim of this network, the primary purpose of ECHO more broadly, and what is required to improve health outcomes for children and young people in Queensland.

Evaluation, results, and benefits

Several evaluative approaches have been used to identify the benefits of this model, including a mix of both quantitative and qualitative data. Survey data and semi-structured interviews were used to collect data from both panel members and ECHO participants. These have yielded similar results to those from other jurisdictions internationally including the United States, Northern Ireland, and Canada (Anderson et al. 2017, Katzman et al. 2020, De Witt Jansen et al. 2018, Furlan et al. 2019, Page et al. 2022).

The *Children, Adolescents and Young Adults with Complex Pain* ECHO Network in 2022 had participants from a range of disciplines, including psychologists, physiotherapists, occupational therapists, music therapists, nurse educators, nurse navigators, school nurses, teachers, senior practitioners (Child Safety), senior medical officers, and resident medical officers. The network spanned across 4 sectors: Health, Education, Child Safety and NGO/Other. This supports the CHQ definition of Integrated Care – stating that in an integrated system, needs are met through the coordinated and collaborative providers, irrespective of sectorial, organisational, or geographic boundaries (Children's Health Queensland, 2023). There has been a total of 263 individual attendees across 5 series of this network.

The qualitative data and feedback provided by network participants speaks volumes about the impact this ECHO network has achieved. The following feedback was provided in semi-structured interviews with network participants:

- *“The case presentations really help to put into perspective one's own work, suggestions are practical and applicable to a lot of cases. Hearing what others have to say, I find the work becomes a bit more achievable and less overwhelming. Hearing the consistency of the types of issues that others are experiencing in other services, is really useful for your own practice. As a practitioner, participating supports your own tenacity to continue in the field. You know you're not alone, these are big problems we're trying to help people live with. It's not easy, takes patience and it's good to have help with that”.*
- *“Theory and EBP from the didactic presentations really good to get up-to-date information on latest understanding of condition, frameworks. We can have a lot of underlying assumptions as a health professional, so it was good to bust some of the myths around persistent pain and the treatment. Case discussions were really good way to apply theory into practice in a variety of presentations – it was good to have lots of those with paediatric patients. To see how from a developmental perspective pain presents very differently. Different e.g., with treatment tools really useful. It was good to be sent slides/case studies after, as unless you're seeing these kids everyday which I'm not, you find your memory fades and can be sketchy on the details. Therefore good to have the written resources. Also about realising the role and scope base on the setting that you work in. In our acute ward context where children only stay as long as they need to. We got some good feedback from QCH team, about how the acute ward isn't really the space to start therapy with these kids, better to get them out and link them in with appropriate service. Not “medicalising” them. Good feedback and we have changed our model of care based on that advice. Really appreciate the opportunity to provide contributions – including asking questions about the didactics, as well as about the cases and finding out what other people are doing in their workplace”.*
- *“Opportunity to reflect from listening to a case study, and then link with our own cases in the Department [Department of Education]. This generates conversation among the group at our Department, this has been valuable for me and for us as a service. The insight into tertiary*

services has been really helpful. Sometimes we're in our own bubble, good to hear about services for similar kids outside Department of Education. Sometimes we don't understand what the tertiary service looks like, or how it runs. Another interesting thing for me, is looking at what a group coaching/supervision session can look like. Had a reflection recently that ECHOs are essentially like group supervision, and some of the facilitation skills and strategies, and my supervisor has now asked me to bring some of those to our group supervision sessions. Clinical governance models are changing, bringing in group supervision. Skills around presenting case studies is unknown for some of our therapists, so how this is undertaken in an ECHO has been really useful for us".

The themes identified in the examples above are common throughout feedback collected by CHQ Project ECHO. It is worth noting that evaluation data on the effectiveness of ECHO has mirrored these sentiments consistently throughout this network, as well as across the other ECHO networks including ADHD (Newcomb et al. 2022).

Beyond the direct impact on individual network members noted above, service level impacts have been reported (refer to testimonial 2 above). The reported revision to models of care by ECHO participants within their local setting has helped to embed best practices in the management of complex pain patients at regional centres across Queensland.

Due to the nature of the ECHO model, capturing patient level data (particularly quantitative data) is a challenge to establish direct causation/attribution. However, the benefits of this model and applying it to support the paediatric complex pain population has yielded consistently positive reported and observable factors. These include factors such as professional self-efficacy, capability, job satisfaction, reduced isolation, and knowledge; the patient experience, access to care, and health outcomes of young people being treated by participating professionals are improved by extension.

The ECHO model is a global model with demonstrated results across a broad range of topics worldwide. At CHQ, there are currently 20 ECHO networks. Quantitative data for each session is recorded in a data management system called iECHO. To date, iECHO data reports that CHQ have had ECHO registrations from over 840 organisations in over 370 communities – the largest impact of any ECHO hub organisation in Australia (University of New Mexico, 2023).

Further to this, an expansive collection of literature exists that affirms the effectiveness of the ECHO model – both globally (Arora et al. 2010, Arora et al. 2011, Zhou et al. 2016) and specifically in Australia (Newcomb et al. 2022, Moss et al. 2020, Mohsen et al. 2018).

Lessons learnt

A number of valuable lessons have emanated from the implementation of the ECHO model at CHQ. Considering the breadth of networks that have been launched and implemented since its induction, the following points are generally applicable to the model regardless of topic.

A key element of the ECHO model in practice is that it intends to be an 'all teach, all learn' approach. This means that ECHO differs from other models such as webinars, in that participants are equal contributors, and the sessions are often led by participants in many ways. Panel members are considered the 'content experts' and participants are considered the 'context experts'. This has been a valuable lesson in the implementation of the model – in that a significant portion of the benefit comes from the learner-centric nature of ECHO, and letting participants guide the network rather than having the panel dictate the sessions.

Consultation with the target audience throughout network development is invaluable to tailor content to topics of the most relevance and interest to them. Completing initial and ongoing learning needs assessments ensures the sessions remain targeted to the evolving needs of young people with complex pain and the providers who work with them.

Staying engaged throughout the entirety of the series is important to the connectedness and longevity of inter-professional relationships. Regular communications, encouraging regular attendance and establishing familiarity within the network are critical to its success.

Panel member debrief following each session has led to improvements in panel member skill in coaching and mentorship in response to case presentations. Participant cases are recognised as an opportunity to instill reflective practice in the daily work of group members, and to coach participants to transfer existing knowledge and build confidence in treating complex pain patients.

One current area for improvement in the ECHO model is around how to keep participants engaged outside of the network sessions. It would be beneficial to continue the conversations outside the direct involvement from the ECHO Hub (CHQ) – though this is a space that is yet to be explored in depth. The introduction of a participant portal, webpage, or group chat could help to solidify the group as a Community of Practice and provide a platform for further resource sharing and communication. These out-of-session engagement forums have been piloted by other ECHO Hubs globally with anecdotally positive results.

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