



Queensland Paediatric Sepsis Program Sustainability Plan

5-year roadmap



Children's Health Queensland pays respect to the Traditional Custodians of the lands on which we walk, work, talk and live.

We also acknowledge and pay our respect to Aboriginal and Torres Strait Islander Elders past, present and future.

Queensland Paediatric Sepsis Program Sustainability Plan 5-year roadmap

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Introduction

Sepsis is a leading cause of death and disability for Queensland children. In 2017, more children died from sepsis in Queensland than from road traffic accidents or leukaemia. From 2013 to 2017, there were on average 450 children with sepsis admitted to Queensland Paediatric Intensive Care Units (PICU) each year resulting in an average of 15 sepsis-related childhood deaths a year¹. Reviews conducted by Queensland Health of adverse clinical events from 2012-17 demonstrate variation in paediatric sepsis care across the state^{2,3,4}. Care of critically ill children with sepsis is priority 1 in the Queensland Paediatric Patient Safety Review⁴, and sepsis is a priority in the 2021-22 Queensland Department of Health Operational Plan.

It is important to understand that a third of paediatric sepsis survivors suffer long term cognitive or functional sequelae resulting in life-long impacts for these children, their families, the community and the health system⁵. The estimated long-term, indirect costs far exceed the immediate direct costs on the health care system.

The Queensland Paediatric Sepsis Program (QPSP) is an innovative, multidisciplinary program to reduce the burden of sepsis on families, clinicians and the health system. To achieve this goal, the many linked activities within the QPSP are described below. The QPSP's multifaceted model is novel within paediatric sepsis, both in Australian and globally.

The QPSP beginning:

Implementation of Emergency Department Paediatric Sepsis Pathway

The evidence-based and co-designed paediatric sepsis pathway was implemented in 2018 in 16 tertiary and secondary Emergency Departments (EDs) and over 80 rural and remote sites as part of the Clinical Excellence Queensland Sepsis Breakthrough Collaborative Project.

The paediatric sepsis pathway is a decision support tool for clinicians that includes:

- a screening tool to support early recognition of sepsis and prompt early senior clinician review
- a treatment bundle to support timely sepsis treatment in the first few hours
- an antibiotic guideline to support appropriate empiric antibiotic choice and dose
- an antibiotic administration guide
- a sepsis information leaflet for parents/carers

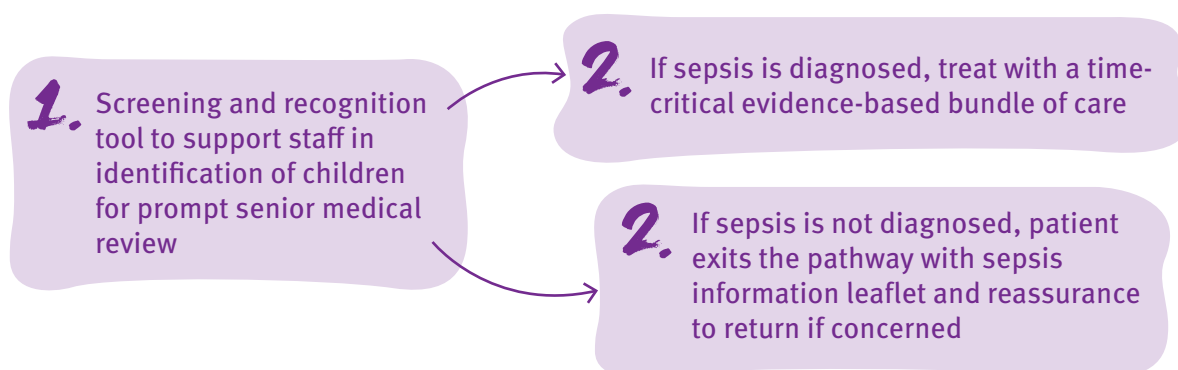


Figure 1 – Queensland Paediatric Sepsis Pathway functions

A multifaceted and multimodal evaluation showed the following results:

- Compliance with time-critical treatment bundle delivery was 30 percent in patients with septic shock and 40 percent in patients with sepsis⁶.
- The timely delivery of the treatment bundle significantly increased in the sickest patients; namely those admitted to intensive care, although the numbers of these patients was small.
- The timely delivery of the treatment bundle significantly improved over time in the sickest patients (admitted to PICU) as compared to an historic PICU cohort. This included improved empirical antibiotic choice according to suspected sepsis source and dosing.
- Improved empiric antibiotic appropriateness according to recommended guidelines for suspected source of infection and improved antibiotic dosing.
- The pathway implementation was associated with an increased antibiotic consumption in the paediatric quaternary centre.
- Clinicians reported high levels of knowledge and capability in the recognition and treatment of sepsis following comprehensive education during the Sepsis Breakthrough Collaborative⁷
- Health economic modelling estimated a reduction in hospital length of stay (above baseline secular trends observed in non-participating hospitals), 13 percent reduction in PICU bed days and 33 percent reduction in the number of transfers to Queensland Children's Hospital PICU⁷
- Estimated cost saving ranges from \$228k to \$2M, using economic or accounting costs respectively⁸

The pathway was simplified in 2020 following regression modelling analysis and in response to clinician and human factors feedback. The QPSP is re-engaging with Hospital and Health Services (HHSs) ED's to support embedding the pathway into localised clinical governance structures, and supporting the extension of the pathway to inpatient units.

Members of the QPSP team were part of the co-design process for the upcoming National Sepsis Clinical Care Standard. The pathway aligns with this standard and the QPSP is working with HHSs to ensure readiness.

Our aim: Holistic program for the management of paediatric sepsis



Figure 2 – QPSP 2026 Goals

The QPSP, in strong partnership with consumers, is delivering a world-leading holistic approach to paediatric sepsis including the development of:

- Iterative designed sepsis pathways, with upcoming additions to guide and improve standards of care beyond the immediate treatment - up to 72 hours.
- Expansion of the sepsis pathway into inpatient areas of care.
- Digital solutions such as a digital care pathway for the ieMR and statewide reporting dashboards to support clinical decision making and to monitor key sepsis indicators
- A toolkit to assist HHSs in implementation of paediatric sepsis pathway including education, compliance with the National Sepsis Clinical Care Standard and support to embed into business as usual.
- Improve compliance with Antimicrobial Stewardship (AMS) principles in sepsis management and monitoring of antimicrobial consumption.
- Initiatives which support and champion health equity for Queensland's Aboriginal and Torres Strait Islander infants, children, young people, families and communities.
- Communication and care inclusive of culturally and linguistically diverse infants, children, young people, families and communities.
- Family support network for families with children diagnosed with sepsis including a Peer Mentor Program
- Integrated statewide Model of Care for post-sepsis support
- Comprehensive education platform, including resources and an education framework to enhance statewide, national and international awareness and knowledge.
- Systems approach to paediatric sepsis safety analysis and design, aiming to enhance care delivery for children diagnosed with sepsis across the state.
- Resources for families and clinicians to support infants, children and young people with complex needs.
- Exploration of ergonomic factors in everyday work to understand barriers to sepsis pathway uptake.
- A platform to facilitate collaboration for research in all aspects of paediatric sepsis.
- Ongoing health economics analysis to assess impact of the QPSP.

Sustainability is a key focus for all activities of the program. Stakeholder feedback and data provided to QPSP throughout the duration of the program reflect concerns about sustainability, particularly in relation to embedding the use of the pathway into clinical practice, improving sepsis management, family experience and outcomes, and improving health service efficiency and effectiveness.

The QPSP has secured recurrent funding for a multidisciplinary team, however the capacity and authority is lacking to provide continual bespoke and intensive support for each HHS.

The QPSP created a 5-year roadmap to tackle sustainability issues with clear, measurable and achievable actions which strive for the quadruple aim to produce value-based health service improvements.

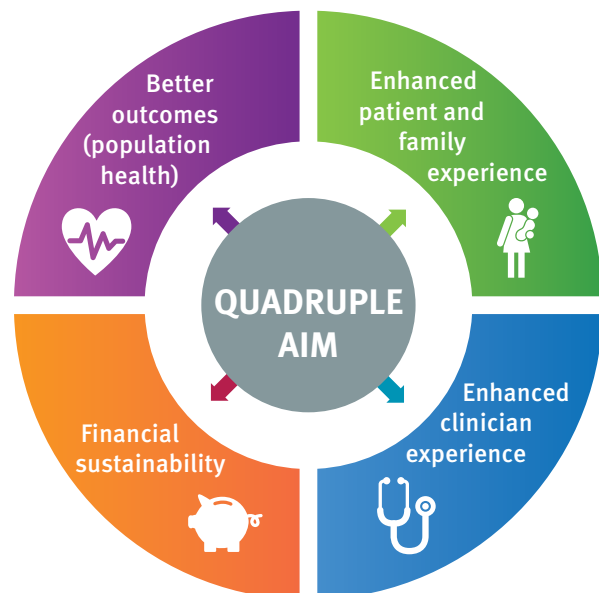


Figure 3 – Quadruple aim⁹

Developing the 5-year roadmap

The QPSP partnered with Digital Storytellers¹⁰ to facilitate a story-led consultation which engaged stakeholders' language, sensory and emotive brains to draw out rich qualitative data and set the QPSP apart in a competitive funding environment. Digital Storytellers are a national company with a track record in supporting government and health organisations to utilise powerful stories which elicit change. The National Stopping Sepsis Action Plan¹¹ incorporated Digital Storytellers graphic illustrations to visually describe the current state of sepsis care in Australia.

A 2-hour virtual listening workshop was held on 24 February, 2021 to co-design the 5-year roadmap including specific recommendations and actions. Multidisciplinary stakeholders represented nursing, medical, allied health, Aboriginal and Torres Strait Islander health, primary care, research and families from across Queensland (n=43). Clinicians from 8 HHSs reflective of metropolitan, regional and rural areas were present, alongside colleagues from New South Wales and two universities. Post event semi-structured interviews were held with three stakeholders who were unable to attend the workshop. The full list of participants can be found in Appendix 1.

The agenda for the workshop included individual, partnered and small group breakout sessions which used storytelling to facilitate reflective actions and recommendations (Appendix 2). The storytelling approach was new to clinicians however the feedback from the post-workshop survey showed 90% of respondents found the storytelling format was valuable and they would recommend storytelling workshops to their peers (Appendix 3)

Following the workshop and interviews, thematic analysis was conducted using Braun and Clarke's 6-phase framework¹² (Figure 4) to answer the question *what actions are needed* to sustainably improve Queensland paediatric sepsis care over five years. The framework steps include:

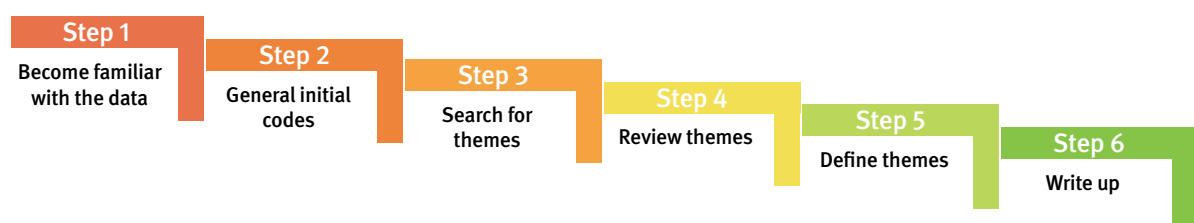


Figure 4 – 6 phase thematic analysis framework¹²

Ideally, more than one person would be involved in code and theme generation to help alleviate bias. However, due to time and capacity constraints, the QPSP Manager conducted this analysis alone. In an attempt to mitigate bias, the codes, themes, actions and goals were circulated to workshop and interview stakeholders for two rounds of review and revision.

Chat text and notes of the workshop and interviews were transcribed into excel and from this data 38 codes were generated (Appendix 4). Patterns in the codes were identified and evolved into six themes, which are the basis for the 5-year roadmap (Figure 5). Specific actions proposed by participants during the workshop and interviews were aligned to each theme (see Tables 1 – 6). These themes and actions informed the development of seven overarching goals to achieve by 2026 relating to health service resilience, family support and clinician engagement.

Queensland Paediatric Sepsis Program 5 year Roadmap

CLINICAL EDUCATION, TRAINING & RESOURCES

Review and update clinical pathways and localised resources

Education and awareness for broad healthcare providers

Accredited for multidisciplinary CPD points

THINK Patient focused SEPSIS clinical education framework

Embedded in multidisciplinary higher education courses

Mandatory training for relevant clinical areas

DATA & DIGITAL

Digital pathways, decision support tools and education

Artificial intelligence and machine learning alerts

Dashboards and benchmarking

Inform Antimicrobial Stewardship dashboards

Integrate with the Digital Early Warning strategy

Sepsis registry

Sustainable capture of data

Pursue synergistic funding opportunities

2026 GOALS

STANDARDISED PRACTICE

CLINICIANS & FAMILIES HAVE INCREASED KNOWLEDGE & SEPSIS CONFIDENCE IN RECOGNISING SIGNS

INCREASED EMPOWERMENT & SUPPORT OF FAMILIES

SUSTAINABLE INTEGRATION INTO EDUCATION CURRICULA

INCREASE APPROPRIATE USE OF ANTIMICROBIALS

EARLIER BACK TRANSFER TO LOCAL HOSPITAL

REDUCTION IN HOSPITAL & PICU LENGTH OF STAY

DEDICATED TEAM

Continued advocacy for a dedicated paediatric sepsis team

SYSTEMS LEVEL

Sustainable governance

Alignment with state, national and international bodies

Mechanisms for shared learning

Connection with patient safety bodies

Human factors and ergonomics analysis

Review clinical incidents

Health economics

Performance monitoring and reporting

Prescriber review and feedback

Integrate Antimicrobial Stewardship in Sepsis management

COMMUNICATION, AWARENESS & KNOWLEDGE

Aboriginal and Torres Strait Islander lead

Culturally informed & evidence-based information for all families

Resources for children with complex needs

Continued advocacy for prioritised public awareness

Alignment with national and international campaigns

Build SEPSIS DAY

COORDINATED CARE

Holistic statewide post sepsis model of care

Dedicated statewide clinical nurse consultant

Holistic long term follow-up of child and family

Family support network

Integrated systems with GP and home HHS

Figure 5 - QPSP 5 year roadmap

Key themes

The following section of the report outlines the specific actions to be undertaken by the QPSP over the next five years, with support from HHSs, the Department of Health and other key stakeholders.

These are structured under the following key themes:

1. Dedicated team
2. System level
3. Coordinated care
4. Communication, awareness and knowledge
5. Data and digital
6. Clinical education, training and resources

Each action has a timeframe and responsibility outlined. The timeframes reflect:



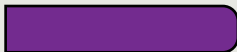
Short: to be implemented within the next 12 months



Medium: to be implemented within the next 2–3 years



Long: to be implemented within the next 5 years



Ongoing: continues over the life of the QPSP

Refer to glossary for acronyms.

1. DEDICATED TEAM






Continued advocacy for a dedicated paediatric sepsis team

“Reiterates the need for a key central resource going forward for clinicians and families”

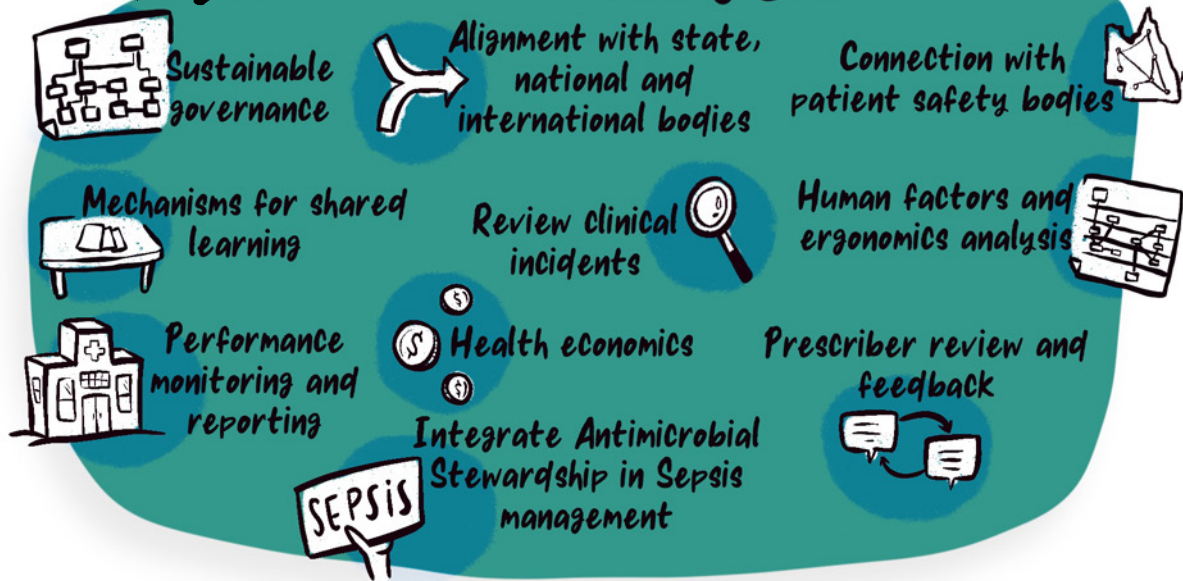
“A dedicated body whose sole focus being sepsis would be powerful”

The need for a statewide, multidisciplinary team dedicated to supporting innovation and improvement in paediatric sepsis came through as a strong theme from the stakeholders. Stakeholders spoke about the power of a collective team to influence and drive all recommended actions, and that without a recurrently funded team this work would not be sustainable.

Table 1 – Dedicated team actions

#	Action	Responsibility	Timeframe
1a	Continued advocacy for sustainable, pragmatic, multidisciplinary statewide paediatric sepsis team to support patient care, health professional development and health equity for Aboriginal and Torres Strait Islander families.	QPSP Team	
1b	Support and advocacy for embedded sepsis champions at each HHS or site	QPSP Team	
1c	Clinical Advisory Group and Executive Committee endorsement of permanent labour proposal.	Medical Co-Leads, Manager	

2. SYSTEMS LEVEL



“100% we need governance to manage sepsis as a whole in the state”

“Systems review, feedback and sharing of learning at all levels is paramount”

“Making it easy to make the right decision”

Throughout the discussions, macro and meso level factors were highlighted that have wide ranging influence across the system. While not directly involved in day to day care, these factors all contribute to outcomes for children and families. However, given the scale and complexity of these factors, change and actions at this level can move slowly. Partnership with Aboriginal and Torres Strait Islander health organisations and communities is key to strengthening the systems level response to reducing the increased burden of sepsis. It’s important to understand and engage with all stakeholders across the system to collectively champion and embed a culture of excellence for paediatric sepsis.

Table 2 – System level actions

#	Action	Responsibility	Timeframe
2a	Governance and reporting structure for program. Acknowledged collaborative governance with CEQ & CHQ.	Medical Co-Leads, Manager	
2b	Alignment with state, national and international bodies through consistent engagement and partnerships (QSP, ASN and ASN PSG, ACSQHC, NSW Sepsis Kills, GSA, US Sepsis Alliance)	Team	
2c	Collaboration with state and national Aboriginal and Torres Strait Islander health organisations	ATSI Lead, Team	
2d	Embedding the Aboriginal and Torres Strait Islander Health Equity agenda into all QPSP work	ATSI Lead, Team	
2e	Representation and embedded processes to engage with statewide patient safety bodies (e.g. DCGIIP)	Medical Co-Leads, Manager	
2f	Support and advocate for mechanisms for statewide shared learning, both positive and negative outcomes in collaboration with PSQIS and QPQC.	Team	
2g	Expert support for review of clinical incidents, with focus on supporting solution implementation in collaboration with PSQIS and QPQC.	Medical Co-Leads, Team	
2h	Human factors and ergonomics analysis of paediatric sepsis systems (e.g. AcciMap & PreventiMap, everyday work investigation analysis).	Medical Co-Leads, Manager	
2i	Support recurrent performance analysis and monitoring of facilities statewide against standards, including supporting sites to establish embedded sepsis champions, reporting processes and governance bodies.	Team	
2j	Biannual (2 years) health cost analysis of the impact of paediatric sepsis and the QPSP.	Medical Co-Leads, Manager	
2k	Identify appropriate mechanisms to provide prescriber review and feedback	Medical Co-Lead, AMS Lead	
2l	Promote balancing measures with continuous analysis of the impact of the pathway on AMS - Abx appropriateness, consumption, de-escalation, resistance	Medical Co-Lead, AMS Lead	
2m	Support and advocate for the establishment of multidisciplinary statewide deteriorating child working group, including governance in collaboration with PSQIS and QPQC.	Team	
2n	Seek opportunities to support differing needs of rural and remote facilities when managing sepsis	Team	

3. COORDINATED CARE



“Parent information from a central source would be great”

“Establish a strong, confident GP relationship as the anchor for the health journey”

“I need to feel heard, listened to and supported”

Coordinated care was the most discussed theme, with stories from both families and clinicians describing the urgent need for post-sepsis support. Care must be family centred, flexible and co-designed with consumers and Aboriginal and Torres Strait Islander communities, in order to ease navigation of the healthcare system and surround families with holistic support. Early and strong links with primary care are crucial, along with acknowledging the individuality and diversity of families.

Table 3 – Coordinated care actions

#	Action	Responsibility	Timeframe
3a	Statewide, multidisciplinary MOC for sepsis support during acute, inpatient and after discharge phases. To include bereavement, trauma informed and culturally informed care.	ASW, Team	
3b	Expansion of Family Support Network to ensure inclusion and representation of all families across Queensland (irrespective of location, culture or socioeconomic status), for all phases of their sepsis diagnosis and recovery or bereavement.	ASW	
3c	Care coordinated through dedicated roles e.g. Statewide Paediatric Sepsis CNC and ASW	CNC, ASW	
3d	Resources and education to facilitate holistic long term follow up of child and family, given significant and lifelong impacts of sepsis for survivors and bereaved.	ASW	
3e	Develop integrated systems to inform, involve and report back to GPs and home HHS	ASW, CNC	

4. COMMUNICATION, AWARENESS & KNOWLEDGE



“Advocacy at different levels of government is important”

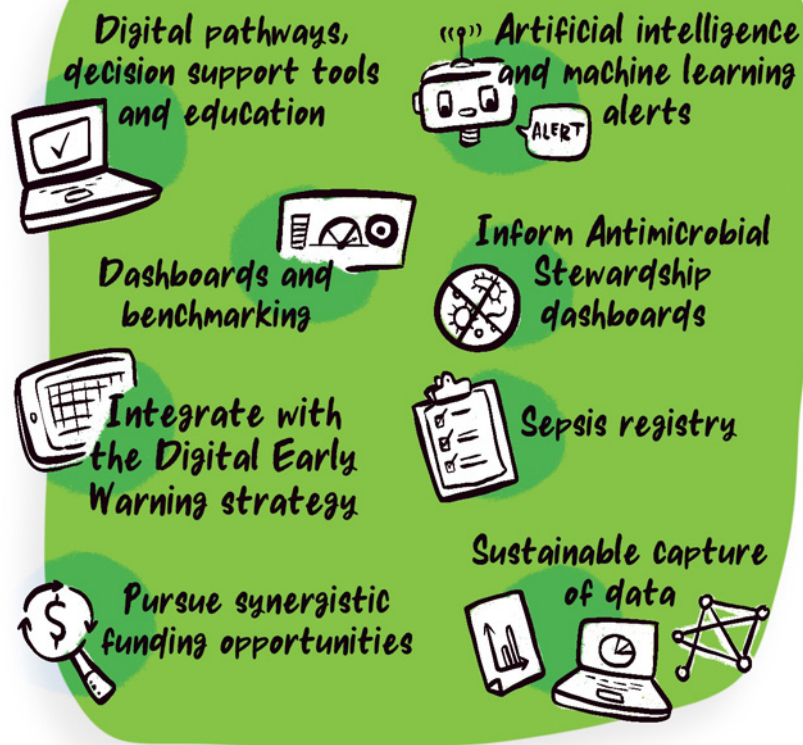
“Consistent, simple, visual and impactful messaging”

Eighty percent of sepsis cases are acquired in the community, so it’s essential that parents and caregivers are aware of the sign and symptoms, and empowered to advocate for their child to ask “could this be sepsis?”. There are constraints within the health system on influencing public messaging, however strategies must be developed to overcome these barriers and promote sepsis awareness to the community. Families of children with sepsis require bespoke communication to ensure they understand and are support through their child’s journey. Culturally and linguistically diverse communities and families, including Aboriginal and Torres Strait Islanders, must have access to culturally informed and equitable communication.

Table 4 – Communication, awareness and knowledge actions

#	Action	Responsibility	Timeframe
4a	Co-designed, culturally informed and equitable initiatives	ATSI Lead, Manager	
4b	Development of culturally informed resources for families and communities - must include guidelines of when to present to hospital and be translated when culturally relevant	ATSI Lead, ASW, Manager	
4c	Resources and guidelines for children with complex care needs (specifically cardiac and immunocompromised children) including when to present to hospital – recommendation 6 from Paediatric Patient Safety Review	ASW, CNC	
4d	Alignment and leverage from national sepsis communication campaigns (e.g. ASN, world sepsis day), and child health promoting in general e.g. Kids Safe, CPRKids; Ensuring similar or same language across the country	Manager, ASW, CNC	
4e	Communication and awareness within Primary Care, outreach services, rural nurse-led facilitates, school based youth health nurses and community health (e.g. 13HEALTH)	CNC	
4f	Communication and advocacy with health leaders and Department of Health to prioritise public health literacy about paediatric sepsis	Medical Co-Leads, Manager	

5. DATA & DIGITAL



“Capturing data is critical to be able to report and advocate true of burden of sepsis”

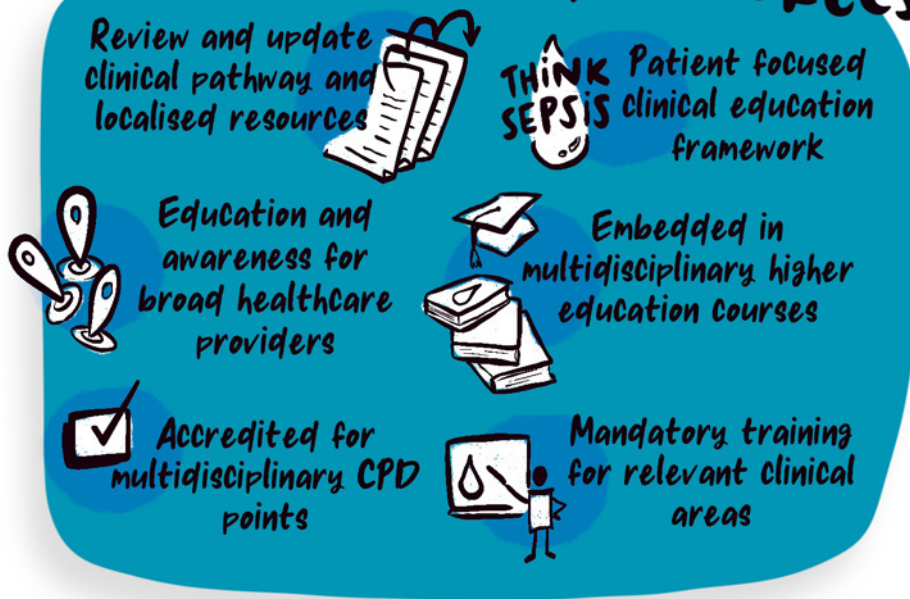
“Data capture and performance enhancement lends itself to the popular theme of requiring an ongoing team to facilitate and act”

Consistent feedback from clinician and family stakeholders states that digital solutions are critical to paediatric sepsis improvement, performance monitoring and sustainability. Queensland is leading the way with novel approaches to support clinician decision-making, improve workflow and present real-time performance data to enable service improvements. The bold vision encompasses future plans for artificial intelligence and machine learning, research for information resilience and implementing technology solutions to improve care for regional, rural and remote sites.

Table 5 – Data and digital actions

#	Action	Responsibility	Timeframe
5a	Review, maintenance and updating of paediatric pathways, decision support tools and supporting education materials including alignment to paper pathways.	CI	
5b	Develop validated digital automatic detection algorithms with artificial intelligence and machine learning, and develop alerts into existing electronic health record	CI	
5c	Expand the digital sepsis pathway to meet the requirements of specialty groups e.g. oncology suspected febrile neutropenic pathway	CI	
5d	Dashboards to allow benchmarking of process, outcome and balancing measures	CI	
5e	Enhance accessibility of support tools e.g. develop app version of screening tool	CI	
5f	Data solutions to inform dashboards documenting antimicrobial use (overall consumption, appropriateness, AMS interventions) with specific focus on sepsis	AMS Lead, CI	
5g	Advocate for and support the advancement of the patient deterioration warning system for the ieMR that can risk stratify for sepsis and integrate into the sepsis pathway	Medical Co-Leads, CI	
5h	Support and advocate for the creation of a sepsis registry to facilitate performance monitoring and follow-up; aligned to activities in progress throughout Australia and globally	Medical Co-Leads, CI, Manager	
5i	Pursue synergistic funding opportunities (e.g. QTFF, CIREs)	Medical Co-Leads, Manager	
5j	National partnerships to share data and learnings to enhance innovation	Medical Co-Leads, CI, Manager	

6. CLINICAL EDUCATION, TRAINING & RESOURCES



“Undergraduate education is important”

“Making sepsis education mandatory at all levels of healthcare is critical”

Sustainable clinical education across the continuum of care is the cornerstone of the QPSP. Stakeholders have confirmed the need for embedded education in a variety of syllabi and training packages. There are limitations to the influence on mandating education in HHSs. However, the development of strategic solutions in partnership with HHSs is key to ensuring all clinicians are knowledgeable and confident with paediatric sepsis recognition and management. Primary care, paramedics, rural and remote clinicians, Aboriginal Medical Services, private hospital and tertiary training facilities also require targeted and sustainable education.

Table 6 – Clinical education, training and resources actions

#	Action	Responsibility	Timeframe
6a	Endorsed iterations of the Paediatric Sepsis Pathway (decision support tool) for early recognition and treatment of sepsis that is available across the state for all areas of care	Team	
6b	Clinical education framework encompassing both Queensland Health and broad stakeholders with a role in educating clinicians.	CNC	
6c	Education and awareness for multidisciplinary health care providers, both internal and external to Queensland Health.	CNC, ASW, ATSI Lead	
6d	Support and advocate for paediatric sepsis education embedded in all multidisciplinary curricula -nursing, medical, allied health (including paramedics) at undergraduate and postgraduate levels	CNC, ASW	
6e	Support and advocate for paediatric sepsis training embedded in CPD for all disciplines caring for acutely unwell children; primary health, medical, nursing, allied health including paramedics	CNC, ASW	
6f	Support and advocate for recurrent, mandatory, standalone paediatric sepsis training in orientation for areas treating acutely unwell children, including mandatory training for locum/agency clinical staff before first shift.	CNC	

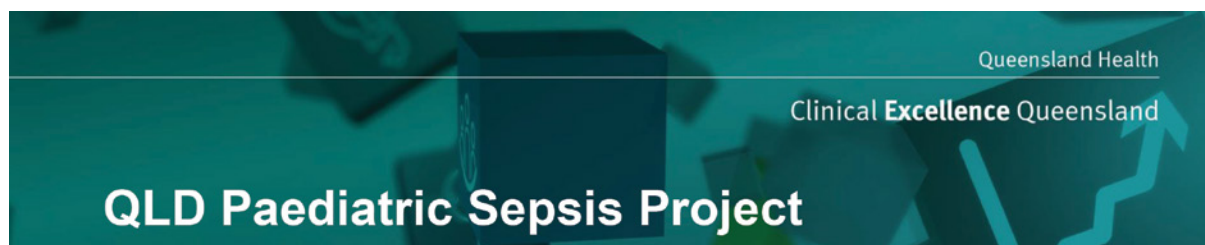
Appendix 1

Sustainability workshop participants

Initial	Position	HHS / organisation
AA	Practice Nurse	SWHHS
AH	Clinical Nurse Consultant, Queensland Paediatric Sepsis Project	QPSP
AHv	QEDSAP ECC Coordinator	CHQ
AI	Co-Chair, Queensland Paediatric Sepsis Project	QPSP
AK	GP Clinical Editor	Mackay
AW	Family and consumer representative	Consumer
BC	Clinical Informatician	QPSP
BM	GP Representative	Primary Care
CH	Paediatrician, Gladstone Hospital	CQHHS
DJ	Family and consumer representative	Consumer
DL	Associate Professor, School of Nursing	QUT
DT	Deputy Chair, Directors of Paediatrics	MSHHS
FY	SMO Outreach, General Paediatrics	CHQ
GW	Paediatric Senior Staff Specialist, Paediatric Intensive Care Unit	THHS
JA	Principal Project Officer, Queensland Paediatric Sepsis Project	QPSP
JH	PICU Nurse Educator	CHQ
JL	Executive Producer, Community Engagement	Digital Storytellers
KG	Senior Epidemiologist, PCCRG	UQ
KW	Chair, Queensland Child and Youth Clinical Network	QCYCN
KWe	Manager, Queensland Paediatric Sepsis Project	QPSP
LR	Manager, Queensland Sepsis Program	PSQIS
LS	Associate Professor, Child Health Research Centre	UQ
MC	Allied Health Lead	QPCCP
MCo	Director, Healthcare Improvement Unit	CEQ
MF	Senior Improvement Lead, NSW	NSW CEC
MR	Director, Queensland Sepsis Program	PSQIS
MRo	Nurse Navigator, General Paediatrics	CHQ
MS	Family and consumer representative	Consumer
NG	Pharmacist Antimicrobial Stewardship	CHQ
NM	Principal Project Officer, Queensland Sepsis Program	PSQIS
PH	Improvement Advisor	NSW CEC
PL	Co-Chair, Queensland Paediatric Sepsis Project	QPSP
SB	Clinical Nurse Caboolture	MNHHS
SF	Nurse Navigator, Rural and Remote	CHQ
SH	Co-creator	Digital Storytellers
SHm	PSO, Queensland Paediatric Sepsis Project	QPSP
SM	Improvement Lead, Paediatric Patient Safety Program, NSW	NSW CEC
SR	Deputy Medical Co-Chair, Queensland Paediatric Sepsis Project	QPSP
SS	CNC, QLD Paediatric Rehabilitation Service	CHQ
TM	Principal Project Officer Clinical Pathways & Infection Clinical Network	CEQ
TT	Senior Medical Officer, Roma Primary Care	SWHHS
VB	Nurse Navigator – Aboriginal and Torres Strait Islander	CHQ

Appendix 2

Sustainability workshop agenda



Sustainability Workshop

Wednesday 24 February 2021 | 2:00 – 4:30 pm

Zoom link: <https://us02web.zoom.us/j/89186313084>

Meeting ID: 891 8631 3084



Overview

The aim of the workshop is listening to stakeholders' stories to shape the actions for paediatric sepsis over the next 5 years. We ask that you please keep children, young people and their families at the heart of all discussions during the workshop.

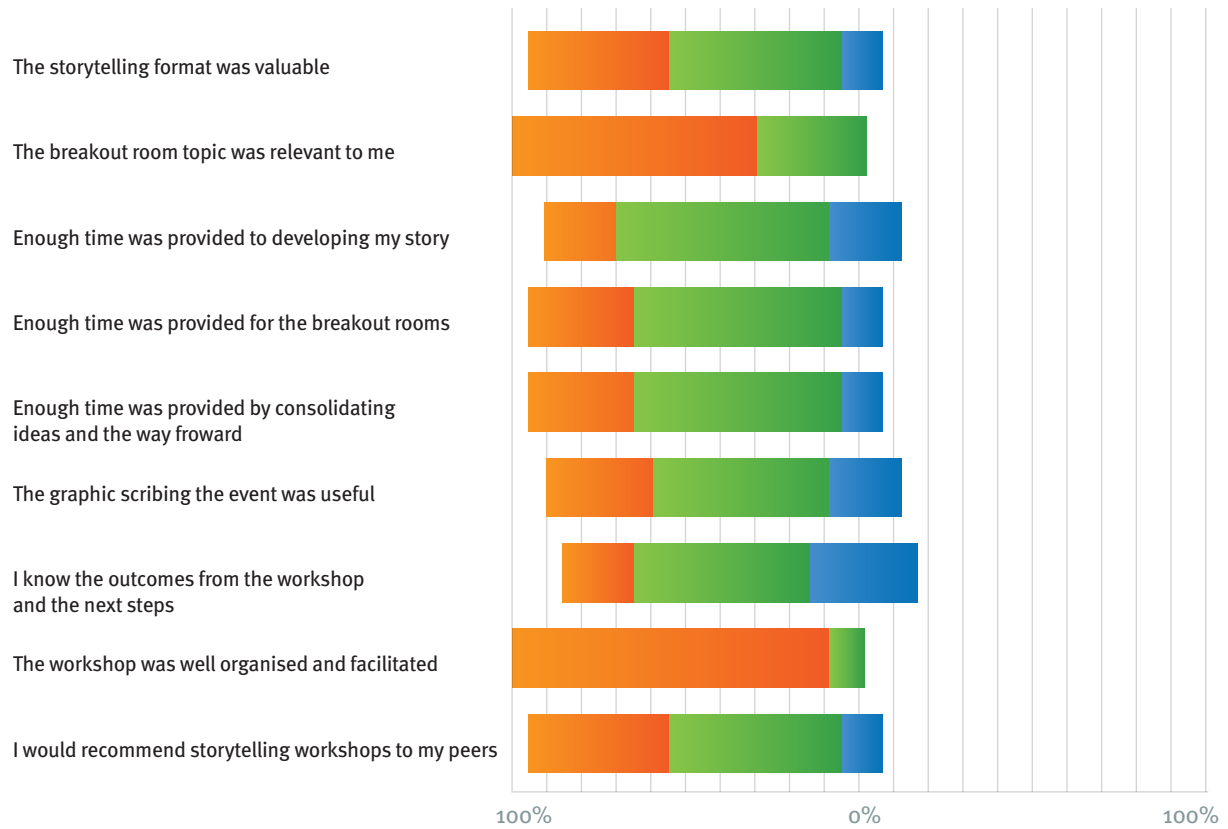
Time	Overview	Facilitator
2:00 pm	Welcome and arrivals	Digital Storytellers
15 mins	Introduction Overview, why storytelling, Zoom housekeeping & group agreements	Digital Storytellers Paula Lister
20 mins	Individual exercise Dropping in and exploring your story creatively <i>Materials: phone, pen and paper</i>	Digital Storytellers + participants
20 mins	Paired exercise Listening to and sharing your story	Participants
45 mins	Small group reflection Themed breakout groups with dedicated facilitators to share stories and collect recommendations and ideas <ul style="list-style-type: none">• Translation to practice• Governance and culture• Education and training• Integrated care• Data and evaluation	Group facilitators + participants
25 mins	Group sharing Presentations from each breakout group	Participants
15 mins	Reflection Group reflections, scribing artwork, next steps & final questions	Digital Storytellers Paula Lister
4:30 pm	Wrap / finish	



Appendix 3

Post sustainability workshop feedback

Strongly agree Agree Neutral Disagree Strongly disagree



Appendix 4

Sustainability workshop data codes

Code	Theme	
Acting early	Clinical education, training and resources	
Complexity		
Current failures		
Education		
Empowerment		
Mandatory education		
Pathway		
Resources		
Stories		
Vocational education		
Acting early		Communication, awareness and knowledge
Advocacy		
Awareness		
Communication		
Complexity		
Empowerment		
Family stories		
Health literacy		
Care complexity	Coordinated Care	
Coordinated care		
Culturally informed care		
Current failures		
Families		
Post sepsis support		
Primary Care		
Sepsis nurse		

Code	Theme
Capturing data	Data and digital
Data	
Digital	
Proactive	
Dedicated team	Dedicated team
Sustainability	
Alignment	Systems level
Failures	
Engagement	
Governance	
Human factors	
Individual feedback	
Shared learning	
System approach	
Systems level learning	
Transparent patient safety	

Glossary

Acronym	
ACSQHC	Australian Commission on Safety and Quality in Health Care
Abx	Antibiotics
AMS	Antimicrobial Stewardship
ANZPIC	Australian and New Zealand Paediatric Intensive Care Registry
ASN	Australian Sepsis Network
ASW	Advanced Social Worker
AushSI	Australian Centre for Health Services Innovation
CEQ	Clinical Excellence Queensland
CEWT	Children's Early Warning Tool
CHQ	Children's Health Queensland
CI	Clinical Informatician
CIRES	Australian Research Council Training Centre for Information Resilience
CNC	Clinical Nurse Consultant
CPD	Continuing Professional Development
CQHHS	Central Queensland Hospital and Health Service
DCGIIP	Directors of Clinical Governance Improvement and Implementation Partnership
GSA	Global Sepsis Alliance
ieMR	integrated Electronic Medical Record
MNHHS	Metro North Hospital and Health Service
MOC	Model of Care
MSHHS	Metro South Hospital and Health Service
NSW CEC	New South Wales Clinical Excellence Commission
PCCRG	Paediatric Critical Care Research Group
PSQIS	Patient Safety and Quality Improvement Service
QCYCN	Queensland Child and Youth Clinical Network
QPCCP	Queensland Paediatric Critical Care Project
QPSP	Queensland Paediatric Sepsis Program
QSP	Queensland Sepsis Program (adults, maternity and neonatal)
QTF	Queensland Technology Future Fund
QUT	Queensland University of Technology
SMO	Senior Medical Officer
SWHHS	South West Hospital and Health Service
THHS	Townsville Hospital and Health Service
UQ	The University of Queensland

References

1. ANZPIC Data
2. Clinical Incident subcommittee. (2018). Multi-incident Analysis of SAC 1 Paediatric Clinical Incidents 2012-2014: Queensland State Summary Report. Queensland Paediatric Quality Council, July 2018.
3. Coulthard, M.G., Osborne, J.M., McCaffery, K., McAuley, S.A. and McEnery, J.A. (2021), Multi-incident analysis of reviews of serious adverse clinical events in children with serious bacterial infection and/or sepsis in Queensland, Australia between 2012 and 2017. *J Paediatr Child Health*. <https://doi.org/10.1111/jpc.15759>
4. Queensland Health. (2019). Report on the review of adverse paediatric events involving critically ill children in Queensland (2016 and 2017).
5. Weiss, S.L. et al. (2014). Global epidemiology of paediatric severe sepsis: the sepsis prevalence, outcomes, and the therapies study. *Am J Respir Crit Care Med*, 191 (10): 1147–1157, doi: 10.1164/rccm.201412-2323OC
6. Harley A et al. (2021) Queensland Pediatric Sepsis Breakthrough Collaborative: Multicenter Observational Study to Evaluate the Implementation of a Pediatric Sepsis Pathway Within the Emergency Department *Crit Care Explor*. Nov 8;3(11):e0573 doi: 10.1097/CCE.0000000000000573.
7. Harley A et al. (2021) Knowledge translation following the implementation of a state-wide Paediatric Sepsis Pathway in the emergency department- a multi-centre survey study. *BMC Health Serv Res*. Oct 26;21(1):1161 doi: 10.1186/s12913-021-07128-2.
8. Blythe, R. (2021). Queensland Paediatric Sepsis Pathway: Economic analysis of outcomes. Australian Centre for Health Services Innovation.
9. Bodenheimer, T. & Sinsky, C. (2014). From Triple to Quadruple Aim: Care of the Patient Requires Care of the Provider. *Annals of Family Medicine*. 12(6): 573–576. doi: 10.1370/afm.1713
10. Digital Storytellers <https://www.digitalstorytellers.com.au/>
11. The George Institute for Global Health. (2017). Stopping Sepsis: A National Action Plan. Available from <https://www.australiansepsisnetwork.net.au/ssnap/stopping-sepsis-national-action-plan>
12. Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101. Cited by Maguire, M. & Delehunt, B. (2017). Doing a Thematic Analysis: A Practical, Step-by-Step Guide for Learning and Teaching Scholars. *The All Ireland Journal of Teaching & Learning in Higher Education (AISHE-J)* . Autumn 2017, Vol. 9 Issue 3, p3351-33514. 14p



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5-year roadmap

