Service Level Quality Improvement Measures for Acute General Paediatric Services (SLQMAPS)

2016
Foreword

Collecting evidence is essential in order to measure the impact of change following an intended quality improvement intervention.

There are some sets of metrics which are currently used for service improvement, for example, in children’s cardiac surgical and in neonatal services. However, with the exception of Scotland, where there is already a patient safety programme which evaluates some aspects of care of children, there is a paucity of meaningful data to evaluate acute paediatric services across the UK.

This very much needed project has therefore provided the essential groundwork so that a range of outcomes for acutely ill children can now be developed, designed and measured to support local service improvement. The project specifically came about following the publication of two sets of acute service standards by the RCPCH entitled Facing the Future: Standards for Acute General Paediatric Services and Facing the Future Together for Child Health. Our challenge was then to see if implementation of these standards would, in turn, lead to better local provision of acute care for infants, children and young people.

The project has involved many members, taken into account the views of a range of other organisations, and most importantly embedded the views of children, young people and their families across the UK.

Very special thanks go to Rachel Winch, project management lead, and to Dr Dan Lumsden, clinical lead for their sterling efforts and, in particular, their ability to explore, challenge and find solutions throughout the life of this project.

We now look forward to like-minded organisations coming forward to work with us so that we will have a set of measures which will evaluate the safety, quality and effectiveness of acute paediatric care at local level, and which will also examine the experience of patients and staff.

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Executive summary

In 2014, following the development of service standards for acute general paediatric services, the RCPCH launched a programme of work with the intention of developing quality improvement (QI) measures for acute paediatric services. There is a clear lack of metrics specifically for acute general paediatrics, but significant interest in, and need for, their development. Similar sets of metrics exist for other specialty areas, including neonatology and surgical care.

The RCPCH is ideally placed to lead this work due its UK-wide reach, strong membership body and ability to bring together key stakeholders geographically and across interest areas. The RCPCH has notable expertise in delivering a wide range of quality improvement projects and national clinical audits, and setting clinical standards for paediatric practice.

The primary objective of this programme of work is to enable and support child health services to monitor the effect of service interventions at a local level. By monitoring changes in metrics at an individual unit level, services will be empowered to assess the impact of meeting service standards, for example, Facing the Future Standards for Acute General Paediatric Services, to assess the impact of locally driven quality improvement initiatives, and to enable routine monitoring.

The development process to date has involved an initial call for evidence and consultation with children and young people, literature review and evidence synthesis, shortlisting of potential measures by an expert reference panel and stakeholder consultation followed by further shortlisting based on feedback provided.

Following the consultation process, proposed measures were re-aligned into five measurement domains, under which lie quality improvement measures for further development. These measurement domains are:

1. Management of acute illness by inpatient general paediatric services
2. Patient safety
3. Activity and patient flow
4. Patient and parent/carer experience
5. Staff experience

Alongside the measurement domains, ten key principles have been set out for further development of the metrics. These principles are intended to ensure that the measures meet the needs of services and their users at a local level without causing undue additional burden to their workload. Key to this is ensuring that, wherever possible, measurement domains and measures will be aligned with existing standards and data sources. Where new data capture is required, the collection burden and financial impact of data collection will be a major consideration. Recommendations under each measurement domain focus on where there is potential to align with existing standards and data sources.

Challenges have been identified with the use of local service level metrics for analysis at a national level, or for benchmarking of units. Consequently, an additional objective of this project is to identify research gaps and work towards a framework to compare quality of care between units in the future.
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Background

Following the development of service standards for acute general paediatric services, in 2014 the RCPCH launched a programme of work with the intention of producing 5-10 universally applicable and practically measureable quality improvement measures for acute paediatric services that can be used to indicate changes in the quality of care over time, which may result from service change.

It is intended that the quality improvement measures will be useful and highly relevant to clinicians, infants, children and young people (ICYP) and their carers and commissioners alike, and be applicable across the four UK nations.

Case for change

The RCPCH Facing the Future: Standards for Acute General Paediatric Services [1] aimed to build consensus on service standards for acute paediatrics. The evidence base upon which to develop such standards is limited so the standards were founded upon expert opinion and consensus. Currently, robust evidence of good outcomes resulting from service change is lacking. In 2012 the Children and Young Peoples' Health Outcomes Forum (CYPHOF), in relation to health services in England, recommended that “Colleges and specialist societies develop robust and evidence based outcome measures and indicators for the key conditions within their remit, and that these are transparently reported by service provider organisations for the information of children, young people and their families, as well as for commissioners and regulators.” [2]

One of the recommendations in the Chief Medical Officer's 2012 annual report, “Our Children Deserve Better” was that the CYPHOF annual summit should provide an opportunity to review health outcomes that are relevant to children, and to examine regional variation [3]. The CYPHOF annual report 2014-2015 reviews progress on improving child health outcomes, highlighting key challenges and areas for the development of indicators, and the publication of transparent, regularly updated surveillance of trends, outcomes and variation in performance [4].

The NHS Outcomes Framework for England contains a set of high level, overarching outcome indicators and improvement areas. In the 2015/16 Framework, 6 out of 30 improvement areas which sit under the overarching indicators are specifically related to infants, children and/or young people, and others are applicable to infants, children and young people as part of the general population [5].

Figure 1: Extract from the NHS Outcomes Framework for England 2015/2016: overarching indicators and improvement areas relating to infants, children and young people

A recent NIHR report into drivers for reconfiguration and the underpinning evidence base concluded that there was strong evidence that some service reconfiguration can significantly improve outcomes, but that there were evidence gaps, including the interplay between staff numbers, skill mix and outcomes [6].
1. **Preventing people from dying prematurely**
   
   i. Potential years of life lost (PYLL) from causes considered amenable to healthcare
   ii. Children and young people
   iii. Neonatal mortality and stillbirths

   **Reducing mortality in children**
   
   i. Infant mortality (PHOF 4.1*) ≠
   ii. Five year survival from all cancers in children

2. **Helping people to recover from episodes of ill health or following injury**
   
   Preventing lower respiratory tract infections (LRTI) in children from becoming serious
   Emergency admissions for children with LRTI

3. **Ensuring that people have a positive experience of care**
   
   Improving children and young people’s experience of healthcare
   Children and young people’s experience of inpatient services

4. **Treating and caring for people in a safe environment and protecting them from avoidable harm**

   **Improving the safety of maternity services**
   
   Admission of full-term babies to neonatal care

Feedback from participants in the Care Quality Commission (CQC) inspection process has highlighted that data are rarely available for paediatric services, in contrast to adult services within the same institution. This can make the case for change more difficult to make to commissioning bodies, and there is the added risk of losing out on funding being awarded to adult services which can present data.

Other colleges have led the way in outcome metrics. The Royal College of Surgeons of England identify the benefits of a reliable system of measuring outcomes including: i) greater public transparency and accountability, ii) enable surgeons a better basis for judging and improving their practice, iii) offer patients the basis to make informed choices about their care, iv) evidence for service improvement and quality assurances of operations, v) better data for health service commissioners when making funding decisions [7]. Cardiothoracic surgeons, through the Society for Cardiothoracic Surgery in Great Britain and Ireland, already host a public database of their individual results and mortality rates for select procedures [8].

Other NHS stakeholder organisations have indicated an interest in developing metrics for children’s services. The Clinical Services Quality Measures (CSQMs) work stream developed by NHS England aims to provide an at-a-glance indication of how well services are performing. Metrics have already been developed and made public for a number of services, for example, stroke services. Future phases of this work will include children’s services [9]. In Scotland, the Maternity and Children Quality Improvement Collaborative (MCQIC), including a paediatric care strand, has aimed to improve outcomes and reduce inequalities in outcomes by providing a safe, high quality care experience for all women, babies and families [10]. The key focus of the paediatric care strand is reduction in
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avoidable harm. Now running for six years, the programme collects data from acute paediatric units across Scotland to facilitate learning and improvement at a local level.

Although there are various strands of work ongoing in this area, there is a clear lack of metrics specifically for acute general paediatrics, but significant interest in, and need for, their development. The RCPCH is in a good position to lead this work due its UK-wide reach, strong membership body and ability to bring together key stakeholders geographically and across interest areas.

The RCPCH has significant expertise in delivering a wide range of quality improvement projects and national clinical audits, and setting clinical standards for paediatric practice. This includes;

- National clinical audits - Epilepsy12, National Neonatal Audit Programme (NNAP), National Paediatric Diabetes Audit (NPDA),
- Quality improvement projects including Meds IQ, Paediatric Care Online (PCO) and Situation Awareness for Everyone (S.A.F.E),
- Evidence based guidelines,
- Health services research,
- Participation and advocacy, and
- Influencing policy using evidence.

The RCPCH's aim, as part of its health policy strategy, is to provide tools for child health services to monitor the effects of service interventions in the future. The first step is to develop a set of quality improvement measures which may be used to measure the impact of changes in service delivery at a local level as part of the RCPCH's wider Quality Improvement Strategic Framework [11].
Objectives

The objective of this project at inception was to produce five to ten universally applicable and practically measurable quality improvement metrics for acute paediatric services for infants, children and young people aged 0 to 18 which could be used to indicate changes in the quality of care over time, which may result from service interventions.

Collection of data was intended to:

1. Enable and support child health services to monitor the effect of service interventions at a local level.
2. Provide a strong evidence base for the development and revision of service standards, such as the Facing the Future suite of standards.
3. Identify and share examples of best practice, to aid the improvement of child health outcomes across the four UK nations.

The primary objective of this programme of work is therefore to enable and support child health services to monitor the effect of service interventions at a local level. By monitoring changes in metrics at an individual unit level, services will be empowered to:

- Assess the impact of meeting service standards, for example, Facing the Future Standards for Acute General Paediatric Services,
- Assess the impact of locally driven quality improvement initiatives,
- Enable routine monitoring.

Following on from the completed consultation detailed below, a number of significant obstacles have been identified which will require resolution before local service level metrics can be analysed at a national level, or utilised for any comparison between, or for the benchmarking of, units. Therefore, an additional objective of this project is to identify research gaps and work towards a framework to compare quality of care between units in the future. This would also provide a strong evidence base for the development and revision of service standards, and inform quality improvement and policy development at a local and national level.

Through this programme of work and through other policy and quality improvement work within the College, we aim to ultimately identify and share examples of best practice, to aid the improvement of child health outcomes across the four nations.
Methodology and process to date

Development of the quality improvement measures has been a several stage process to date, as detailed in Figure 2. Having completed all stages up to and including the review of the consultation by the reference group, the project is now at the reporting of findings stage.

![Figure 2: Quality improvement measures development: Project stages](image)

The process undertaken at each stage is provided in more detail in Appendix 2.
Summary of consultation feedback

Scope and intention of measures

It was evident from consultation feedback that the move by the College to develop outcome metrics in this area was welcome. Some concerns and areas for clarification were also made evident. Clarity was felt to be lacking as to the intended level of data collection and use of the metrics. Data collection at a local level can be used to drive local service improvement, while national level data collection would inform policy development and comparison between services. When doing the latter, there are a number of issues that need to be considered at an individual metric level:

- The extent to which changes in a given measure reflect the effects of service change, or are driven by factors outside of the health service.
- Data variability caused by time of collection and seasonality.
- Coding differences.
- The absence of standardised definitions and units of measurement of, for example, of admission.
- Demographics of the local population.
- Performance of the local health service outside of the hospital, including accessibility and quality of local primary and community care.

Measures selected need to be in the power of the service to change in order to be a useful quality improvement tool, and need to have an intrinsic value to the data collector. There was some concern about using metrics that would be influenced by primary and community care before the child reaches the hospital. However, there is a clear drive towards integrated models and pathways of care and collaborative working across boundaries within paediatrics, with a good outcome for the child being the ultimate aim. Examples include the Connecting Care for Children initiative in North West London, which draws paediatric expertise and community support into primary care [12], and Partners in Paediatrics in the West Midlands, which develops and supports collaborative planning and delivery of care for children and young people [13].

The Facing the Future: Together for Child Health service standards apply across the unscheduled care pathway to improve health and outcomes for children, and states that service providers, planners, commissioners and users need to work together across service boundaries to design and deliver efficient and effective unscheduled care [14].

Clarity was recommended with respect to the range of metrics proposed to show that they were not intended to capture comprehensively an overall indicator of the quality of an acute service, nor was it clear at present how robust some of the proposed metrics were as indicators of quality service. Concerns were raised that the metrics could be unintentionally reduced to a “score-card” for the service, drawing parallels to the Clinical Services Quality Measures (CSQM) work stream which explicitly has such a purpose [9].

It was felt to be of limited utility to make direct comparisons with outcome metrics produced by surgical units. “Hard” outcome measures for acute paediatric services were acknowledged as lacking, with mortality fortunately representing an infrequent occurrence for even large units.
A focus on metrics relating to specific aspects of the care of a small number of exemplar conditions, e.g. administration of antibiotics in infants, children and young people with suspected sepsis, was challenged by some respondents, because of concerns of the risk of creating perverse incentives to focus on these aspects to the detriment of other aspects of patient care. It was also questioned as to whether level of performance against a limited number of indicators could be extrapolated to infer more broadly quality of care across that service.

Respondents felt that many of the measures are not direct health outcomes for infants, children and young people. This programme of work resulted in the need to establish an evidence base with which to inform local service improvement and national service standard and policy development. Although ultimately the programme aims to improve outcomes for infants, children and young people, it focuses on changes in metrics as a result of service changes that have been implemented with the intention of improving quality of care.

**Data collection and funding**

A key question in the consultation was whether the intention was to use existing data sources or to develop new ones. We did not limit the selection of outcome domains or metrics for consideration to exclude the use of either, preferring the metrics to be driven by what was felt to be the correct focus rather than availability of data. Clarity was requested as to how future metric developments were to be funded - and whether additional funding would be provided by the College (either from existing reserves or through additional grant applications) or whether local services would be expected to independently fund this.

Questions were also raised on how the reliability of data collection could be ensured. It was noted that the smaller the number of metrics proposed for data collection, the more reliable collection of data was likely to be. Furthermore, data collection was only likely to be reliable with buy-in from centres collecting data.

**Methodology of measure development**

A number of respondents to the consultation requested clarification as to the existing evidence base behind the proposed metrics, and what validation had been performed already. Details on future plans for validation of proposed metrics was also requested.
Recommendations following consultation process

General principles for ongoing work streams

1. The primary focus of the project will be the development of metrics for use at local service level to measure the impact of a change in service provision or delivery.

2. Use of metrics for benchmarking and identification of best practice, whilst desirable in the future, will be contingent upon identifying and addressing research gaps with respect to confounding factors of service performance.

3. Developed metrics are intended for quality improvement and not quality assurance, and are not intended as a direct measure of overall service performance.

4. Data collection should be of intrinsic value to those collecting the data.

5. Metrics developed will be suitable for use in all four nations of the UK.

6. The process of validation for each metric shall be transparent, and developed in parallel to the metric itself.

7. Wherever possible, measurement domains and measures will be aligned with existing standards and data sources. Where new data capture is required, the collection burden and financial impact of data collection will be a major consideration.

8. No single metric is sufficient in isolation to judge the impact of service change, and changes should be considered across all measurement domains.

9. Five measurement domains will be developed:

   1. Management of acute illness by inpatient general paediatric services
   2. Patient safety
   3. Activity and patient flow
   4. Patient and parent/carer experience
   5. Staff experience

10. The views of children and young people and their parents and carers will remain central to the ongoing development of each measurement domain.
Recommended measurement domains

A total of five measurement domains are proposed. Under each domain lie potentially a number of quality improvement measures, which are intended to measure the impact of changes in service delivery. For all domains, partnership with stakeholder organisations will be essential moving forward. One key stakeholder for future development of all domains and potential measures is the recently established General and Adolescent Paediatric Research Collaborative United Kingdom and Ireland (GAPR-UKI).

Measurement domain 1: Management of acute illness by inpatient general paediatric services

Rationale:

Although we are aware that the UK rates poorly compared to its European neighbours in terms of under-five death rates, mortality and significant morbidity is fortunately rare in paediatrics. Therefore in order to assess quality and to inform improvement initiatives more nuanced measures of the management of acute illness are required.

Assessing the outcomes of aspects of management of exemplar or common conditions may provide a good indicator of the performance of a service and the effect of making changes to service delivery. However, there is a risk that by selecting a very small number of conditions to monitor, other conditions may be neglected. It is unclear whether good performance relating to a small number of conditions can be inferred to indicate good performance of the service in general. For potential metrics around time to a given intervention, careful consideration is required as to the time from first contact, and whether that is in the community or ED/ambulatory department. However, a well selected dashboard of measures taken together could indicate a general trend in performance.

Unless the measures selected are related to existing standards and, where possible, existing data collection, there may be a significant data collection burden on services.

Quality improvement measures for further development:

1. Process measure(s) encompassing one or more evidence based aspect of the medical management of a group of acute paediatric presentations (initially asthma, suspected sepsis and status epilepticus) for infants, children and young people presenting to, or already admitted to, acute paediatric services.

2. Adherence and response to paediatric early warning system (PEWS) for infants, children and young people admitted to acute paediatric service.

Recommendations for measurement domain 1:

Rates of unplanned admissions to paediatric intensive care units (PICU) have been used as an outcome measure for a number of published studies examining the impact of changes to service delivery (e.g. introduction of PEWS system or early review team). Data from PICU retrieval networks in the UK would suggest that absolute numbers of transfers from many centres are too low to be used as a metric directly. We strongly recommend though that a process of qualitative feedback is in place to ensure potential learning points from unplanned retrievals/admissions are not lost (analogous to the learning process of child
death reviews), including documented response from each centre regarding this individualised feedback (comparable to the current practise with child death reviews). The Paediatric Intensive Care Society published in 2016 the 5th Edition of its Quality Standards for the Care of Critically Ill Children, including tools for self-assessment of adherence to these audits [15].

The Epilepsy12 national clinical audit of epilepsy care for children and young people has previously focussed on non-acute secondary care. There is potential to consider inclusion of a metric within the audit which assesses the interface between out-of-hospital and hospital care. We recommend further development of a metric in this area and exploration of potential inclusion within the Epilepsy12 national clinical audit with consideration of the findings of the National Audit of Seizure Management In Hospitals (NASH) study [16] and the Royal College of Emergency Medicine audit of initial management of the fitting child [17].

The national sepsis CQUIN in England [18] provides an opportunity to develop a metric which relates to the response to suspected sepsis in children. Development of a metric in this area should be compatible with the sepsis CQUIN and applicable to services in Scotland, Wales and Northern Ireland.

A metric relating to the management of asthma within inpatient services could be developed from British Thoracic Society (BTS)/ Scottish Intercollegiate Guidelines Network (SIGN) guidelines for the management of acute asthma [19] and should consider the findings of the BTS paediatric wheeze and asthma audit [20].

NICE Guidelines, e.g. for the management of acute kidney injury, may provide a basis for other metrics for development. Other potential exemplar conditions may be suitable for development at a regional level, e.g. in the management of acute sickle cell disease crises, a common and important condition for units in the London region, but seen only rarely in many other parts of the UK.

**Measurement domain 2: Patient safety**

**Rationale:**

Improving patient safety is an unarguable priority for all modern care systems. The rate of adverse events for hospital admissions for infants, children and young people aged 0-17 has been estimated at between 2.1% and 10.8% [21], most commonly due to medication errors. It is essential that a focus on reporting of adverse events does not lead to disincentivisation of reporting. An increase in reported incidents may reflect an improvement in the safety culture, rather than a decline in patient safety [22].

The overall aim of safety reporting is a reduction of harm in the acute care setting. The Health Foundation’s report *The measurement and monitoring of safety* outlines ten guiding principles for safety measurement and monitoring [23], which should be central to the further development of metrics in this domain.

**Quality improvement measures for further development:**

2.1. Medication and treatment errors (including incorrect drugs given, prescribed and/or dispensed).
2.2. Quality of response to and learning from adverse incidents reported relating to physical or mental health affecting infants, children and young people admitted to acute paediatric services.

2.3. Quality of clinical handover within the acute paediatric service.

**Recommendations for measurement domain 2:**

In the first instance we recommend that the RCPCH brings together patient safety leads from each of the four UK nations in order to facilitate shared learning and provide an opportunity to collaborate in order to progress the delivery of safe care for children across the UK. The RCPCH will also seek to learn in particular from the experience of the MCQIC in Scotland, who have already undertaken a period of national data collection. The importance placed on handover within the acute paediatric department by the RCPCH is already exemplified by the inclusion of the Handover Assessment Tool (HAT) as part of the Work Place Based Assessment (WPBA) frame work for paediatric trainees in the UK.

**Measurement domain 3: Activity and patient flow (composite measure)**

**Rationale:**

In the last decade, rates of emergency admissions of children and young people to hospital have continued to increase, driven disproportionately by short term admissions (admissions <1 day) [24]. There has been much focus on the need to reduce unnecessary admissions to hospital, which cause distress and disruption to the child and family. Metrics around emergency department (ED) attendance, admission and length of stay are routinely collected (e.g. Hospital Episode Statistics (HES) in England), though challenges exist comparing data for units (e.g. definitions of “admission” when comparing centres with and without ambulatory care units).

Many factors outside the control of an acute service are likely to impact upon ED attendance and admission rates (e.g. local deprivation, availability of out-of-hospital primary care services). Focus on one single activity metric is likely to be inadequate (e.g. pressure to reduce length of stay may result in a premature discharge, resulting in increased readmission rates). It is therefore important to view each activity in conjunction with other measures as balancing measures, an approach taken by Boston Children’s Hospital [25].

The National Audit Office looked at managing the demand of emergency admissions to hospital and advocated prompt initial senior clinical assessment in order to reduce emergency admissions, suggesting that conversion rate from emergency attendance to admission may be a useful quality measure [26].

**Quality improvement measures for further development:**

3.1. (a) Overall rate of admission to acute paediatric inpatient service.

   (b) When present, rate of admission to paediatric ambulatory care unit.

3.2. Length of admission to paediatric inpatient services.
3.3. Unplanned readmission within 24 hours/48 hours/7 days of discharge from hospital for infants, children and young people.

Recommendations for measurement domain 3:

Development of metrics within the activity and patient flow measurement domain should concentrate on the feasibility and value in developing a composite metric which considers admission rates, length of admission and readmission in triplicate. Conversion from ambulatory unit to general ward admissions may also be explored. Additionally, the value of these particular metrics to ICYP and carers should be explored, both in terms of the implications and consequences of an admission at an individual level and also as to the importance that would be placed on these metrics as reported at a service level.

Measurement domain 4: Patient and parent/carer experience

Rationale:

Patient and carer experience must remain central to the delivery of high quality care. No one is better qualified to comment upon the care provided by a paediatric centre than the children and young people receiving that care. Measurement of experience of care is one of the five core domains of the NHS Outcomes Framework. Whilst the Friends and Family test has become well established, it is unlikely to be sensitive enough to provide a measure of change. The RCPCH already has experience in the field of patient reported experience measures (PREM) development; having developed tools for capturing patient reported experience in urgent and emergency care [27]. The feasibility of child specific data capture for PREM across acute paediatric services was demonstrated by the recent CQC National Children and Young People’s Survey 2014 [28]. This survey captured data from nearly 19 000 children across 137 acute NHS trusts in England.

Quality improvement measures for further development:

4.1. A patient reported experience measure (PREM) for infants, children and young people and their carers admitted to acute paediatric services, including questions related to management of pain.

Recommendations for measurement domain 4:

We recommend that further engagement work is carried out with children, young people and their parents and carers to develop a patient reported experience measure for acute paediatric services. It was clear from the consultation that inclusion of a metric which focussed on effective pain management was felt to be important. Therefore we recommend that the PREM include questions relating to pain management. The starting points for this work stream will be the previously undertaken CQC Children and Young People’s survey 2014, and the RCPCH PREM for urgent and emergency care.

Measurement domain 5: Staff experience

Rationale:

Changes in services provision are likely to fail in the long term if they are to the detriment of the health and wellbeing of NHS staff. A strong relationship has been demonstrated
between staff morale and patient experience, with NHS patients reporting better experiences of healthcare in settings where their caregivers feel supported working in a positive organisational climate [29]. NHS staff surveys in England continue to demonstrate concerns about morale [30]. Furthermore, recent public debates such as the junior doctor contract dispute have highlighted high levels of dissatisfaction in the work place. Concerns about recruitment and retention of paediatric trainees are ongoing, with vacancies on middle grade rotas across the UK of 20.3% [31]. Around 1 in 5 doctors recruited to paediatric training will leave the training scheme prior to CCT [32]. We must look after our workforce if we are to look after infants, children and young people, part of which is measuring the direct impact of service change on their wellbeing.

Quality improvement measures for further development:

5.1 Staff reported experience, including satisfaction with care provided, morale and attitudes toward safety.

Recommendations for measurement domain 5:

We recommend that further engagement work is carried out with the RCPCH membership and other key stakeholders to develop a meaningful measurement of staff reported experience, which takes into account views on care provided, morale and attitudes toward safety.
Taking the quality improvement measures forward

The general principles and recommended measure areas set out in this report provide a clear road map for the development of a set of service level quality improvement measures for acute general paediatric services.

We recommend continuation of the programme of work to its full completion to provide stakeholders with a set of fully developed, piloted metrics with an established methodology for collection, along with support for collection.

Communication and engagement

Further engagement with paediatricians at a national and regional level is required, and can be achieved through discussions at regional paediatric meeting, the RCPCH Executive Committees within the devolved nations, and through engagement with GAPR-UKI. It is essential to the success of this project that there is broad engagement with the general paediatric community for whom these metrics are intended to be of most benefit.

Key stakeholders have been identified in relation to each measurement domain. Future work should include building relationships with key partners in order to develop each quality improvement measurement domain and refine the quality improvement measures. Key to this work, and running through each measurement domain, will be engagement with children, young people and their parents and carers.

We recommend that discussions are held with commissioners in England and with health boards in Scotland, Wales and Northern Ireland, and with health service regulators to investigate opportunities for collaboration.

Assessment of feasibility/measurability and initial data collection

The initial call for evidence, literature search and consultation took a preliminary look at feasibility, measurability, validity and potential data sources. Future work will be required to:

- Critically appraise and document the evidence base for the finalised quality improvement metrics.
- Assess feasibility, validity and establish data collection methodology, including the collection of existing data sets.
- Assess data collection and financial burden of each metric.
- Prioritise work streams for the establishment of long term data collection.

Establishing long term data collection

Following the assessment of feasibility and measurability and initial data collection, the following work would be required in order to establish long term data collection:

- Test feasibility and data collection methodology through piloting and refine methodology and definitions based on pilot results.
- Establish sensitivity to change.
- Investigate and identify research gaps and work towards a framework to compare quality of care between units in the future.
• Set up long term data collection, reporting and audit.

Areas for future research and development

A number of metrics and domains were highlighted during the shortlisting and consultation process as useful to measure. Some were felt to be aspirational at this stage in terms of our ability to measure, and others may be useful to consider as additions to a basic set of metrics as a programme of data collection becomes established.

These are:

• Management of children on an ambulatory care basis
• Management or transfer of time sensitive conditions
• Measures relating specifically to bronchiolitis
• Measures relating to CAMHS and mental health
• Safeguarding on general paediatric wards
• Measure of means of ensuring safe care of other children left at home
• Days lost (i.e. from school or childcare)
• Parent/carer ability to return to work
• Total cost of hospitalisation.
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