

# Patient Safety Collaborative measurement proposals

## BACKGROUND

As part of the development of the patient safety collaborative programme, it was recognised from the outset that an effective approach to measurement would need to be developed to ensure that the patient safety collaborative national network could fully deliver the ambition to share and learn across the network, resulting in improved outcomes for patients across all healthcare settings.

The original intention was to develop a national coordinated measurement strategy via the Patient Safety Collaborative Measurement Group that would allow all the AHSNs to work to. However, due to a number of reasons (including uncertainty on the scope of the measurement programme and a lack of clarity on the resources available) this has not been advanced as originally planned.

Charles Vincent has developed a proposal for the establishment of a measurement unit to support the patient safety collaborative programme and he has outlined how the unit could address the challenge faced with developing a measurement solution.

The NHS England Patient Safety domain is supportive of this approach and has confirmed a budget for this for 2015/16 from the national support allocation of the patient safety collaborative programme budget. Such a unit has the potential to support improved safety measurement more generally. To support the development of the measurement unit, we think it is important to have an agreed set of principles that the work programme for the measurement unit can be based on. This will ensure that we have an agreed set of expectations and will hopefully provide clarity to both the network of AHSNs and the Patient Safety Collaborative Programme Board on what basis the work should be taken forward.

This paper sets out a set of principles that are very much based on the foundations of the patient safety collaborative programme and the likely requirements needed to support local improvement.

A first draft of this paper was provided for discussion at the Measurement Strategy Group meeting on 20<sup>th</sup> April 2015 and the principles and proposals further developed in light of this.

Sign Up to Safety have also been discussing their own central measurement needs, and this paper provides an opportunity to join up this thinking and identify areas of common need.

## PURPOSE OF THIS PAPER

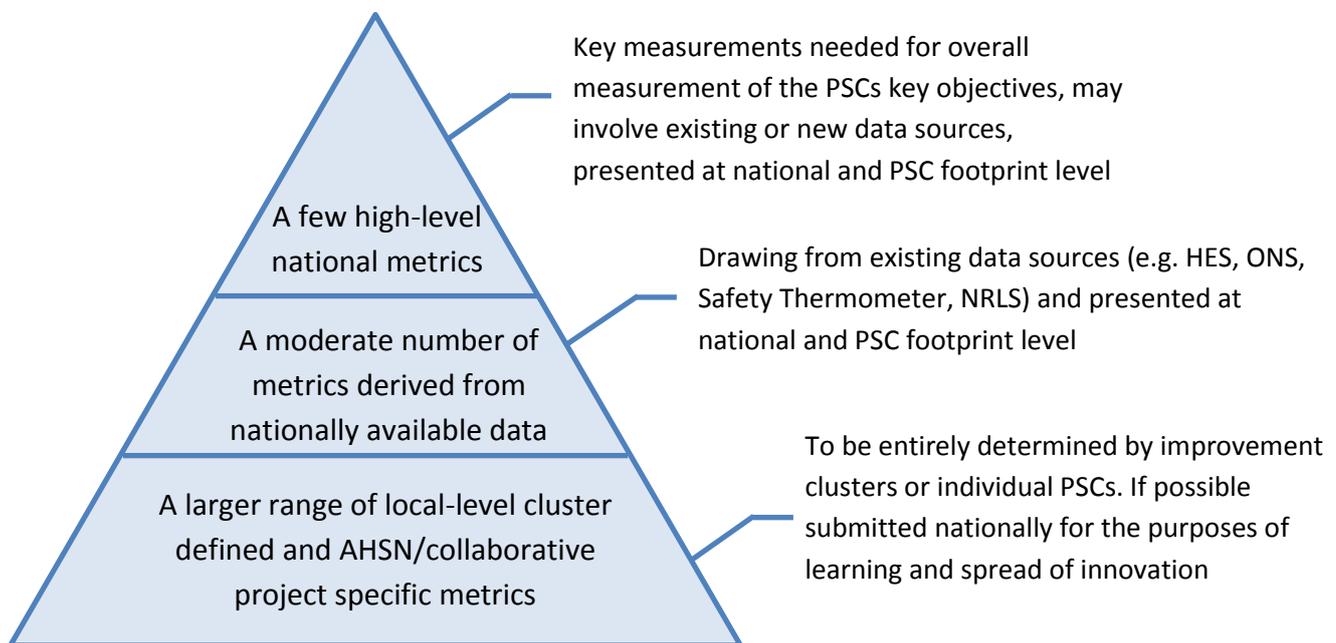
To seek feedback from all key stakeholders on the proposals for a measurement unit, particularly in terms of:

- Do you support the establishment of a central measurement unit?
- If so, is the proposed balance between local and national measurement responsibilities appropriate?
- If so, are the proposed arrangements for the independence and governance of the unit appropriate?
- Should broad principles on type of measurement the unit would deliver be established in advance?
- If so, are the principles outlined below the right principles?

## RELATIONSHIP BETWEEN LOCAL MEASUREMENT & THE MEASUREMENT UNIT

All Patient Safety Collaboratives should be developing local measurement strategies. The purpose of the unit is to support, not replace, local strategy by analysing, interpreting and providing information that can be most cost-effectively managed by a single group. We anticipate that the provision of national data to each PSC will assist in the alignment of PSC programmes and the establishment of clusters. We recognise however that while all PSCs share the objective of reducing harm, very different approaches to harm reduction are being taken by different PSCs. The sharing of common data does not imply that approaches to implementation need to be the same.

Current proposals for the approach to measurement support the following model that stratifies the measures selected as below, so that there are a small number of national programme metrics, a greater number of national measures used to inform and contextualise PSC activity, and a larger range again of locally defined metrics used for the purposes of local improvement programmes:



## MEASUREMENT UNIT GOVERNANCE/PROVIDER/HOST

Discussions at the Measurement Strategy Group meeting suggest that because the core purpose of the unit is to provide a service to the PSC programme and to support the aims and objectives of their programmes, and those of the overarching national programme of safety improvement, it needs to be accountable to the PSCs via the national programme board and thus to the leadership of patient safety for the NHS. The annual work programme needs to be agreed with these groups and monitored regularly, and is likely to need a measurement steering group whose membership is not necessarily equivalent to the current Measurement Strategy Group. Updates on likely procurement methods and governance structures will be presented separately to this principles paper. The Measurement Strategy Group meeting recommended the unit should not have any role in evaluating the individual or combined achievements of the PSCs (and the measurement unit itself should be considered within any such separately commissioned evaluation).

The unit host would need to be an organisation which already holds appropriate permissions to access and store data, e.g. 'safe haven' status. The unit would not be solely an analytical function, but would need to incorporate expertise in the clinical, practical and cultural aspects of data sources as well as measurement for improvement expertise, in order to inform the design and interpretation of measures it produces (e.g. deriving measurement for sepsis from existing data sets requires insight into current changes in clinical practice and HES coding).

## **PROPOSED CORE PRINCIPLES**

The nature of the measurement outputs of the unit are inextricably interlinked with its ethos. Whilst detailed agreement on what measurement outputs are most helpful would be for PSCs and the national PSC programme board to determine, broad principles agreed in advance would help shape expectations for those commissioning and delivering the unit. The following principles have been derived following discussion at the Measurement Strategy Group meeting, where there was strong support for taking a principles approach.

These principles propose a broad general direction for the measurement unit over the next four years; steps that are feasible in the first year follow in the next section.

### **1. The primary focus of the measurement unit needs to be measuring improvement over time, and comparative data would not generally be provided**

The aim of the PSCs and the Patient Safety Domain is to drive improvement, so the primary focus of the unit should be to support measurement for improvement and to track progress over time in order to aid dissemination of key learning to wider NHS.

The unit will not generally provide comparative organisational level data unless requested for a specific purpose by the PSCs, because many other national outputs already exist for this (CQC Intelligent Monitoring, my NHS, NHS Choices, etc.) Additionally, comparative data that truly identifies those with better safety (as opposed to different demographics or data collection) is extremely hard to find, and avoiding the routine production of comparative data will provide reassurance to all partners that the outputs of the unit could not be misinterpreted for regulatory or performance management purposes. There may be occasions where the PSCs would want to understand variation for a specific purpose, but the purpose would be clearly articulated and consideration given as to whether comparative data is the best way to meet those needs (e.g. comparative data might help identify who is doing best to visit and learn from, but a conference poster style sharing of initiatives may better achieve that purpose).

Given the major patient safety challenges are common to all PSCs, measurement to better understand the scale and nature of problems (in order to focus and prioritise improvement efforts) may also be an area where PSCs and the national programme board see the central measurement unit as having a role. This would also provide insight for use more widely outside the PSC programme.

### **2. Measurement should generally be at the PSC footprint and national level**

It is accepted that not all improvement over time will be directly attributable to the actions of the PSCs, or even a current focus of their work programmes, but measuring improvement over time for their healthcare communities (rather than per organisation) is proposed as the appropriate focus given the aims of all PSCs and partners on the national programme board. This gives the measurement unit a genuinely unique offer. Nearly all the 'priority wall' harms are affected by cross-organisational patient pathways and measuring improvement over time at PSC level helps emphasise the principle that these should be true collaboratives.

There may be occasions where the PSCs would want to understand organisational level improvement for a specific purpose (e.g. when improving the safety issue is solely in the gift of individual organisations), but the purpose would be clearly articulated and measurement developed to meet that purpose. The Measurement Strategy Group suggested avoidance of organisation level data as a routine output is important to ensure the data are not seen as a resource by bodies with regulatory and performance management responsibilities.

Understanding improvement at the national level (all PSCs combined) is important to the overarching national programme of safety improvement and the aims and objectives of the PSC programme.

### **3. The unit should provide clarity on how the measurement it produces should be interpreted and used**

Data sources the unit will draw from will have strengths and limitations that affect how suitable they are for particular types of measurement, and whether they are meaningful at national or PSC scale. The unit would need to be mindful of varying levels of understanding of measurement in individuals, teams and organisations collaborating to improve patient safety, and would endeavour to present measurement in ways that are clinically meaningful, accessible to all and give clarity on how the measurement can be used for improvement (and may need to develop a variety of routes to help its outputs to be understood, e.g. data packs with commentary, slide sets with speaker notes, WebEx, etc.)

This should include aligning to principles already established by the data sources it draws from (e.g. the principle that NRLS data should never be used as a measure of actual harm, only as a measure of reporting culture, and that Safety Thermometer data should not be used for comparison because of differences in local data collection). The measurement unit should avoid terminology that could lead to misinterpretation of its outputs as performance management focused (e.g. 'better than/worse than', 'dashboards' etc.)

The unit should be mindful of the general expectation of data transparency for the NHS, and the pragmatic consideration that routine publication of core outputs is less likely to lead to misinterpretation than Freedom of Information requests for data that would have to be provided without commentary.

The outputs of the unit could aid the spread of good practice and identify improvement opportunities, but it would not exercise the wider role of collating and sharing best practice between collaboratives, except best practice in measurement.

### **4. The unit should work towards a balanced set of measurements , including:**

- a. measures for all the 'priority wall' areas**
- b. measures that are relevant to all care settings**
- c. measures of structure, process and culture as well as outcomes where appropriate**

Working towards measures for all major areas of avoidable harm is important because PSCs will not be able to effectively deliver quality improvement programmes on topics where they cannot measure improvement.

Much existing measurement focus in the wider NHS is currently concentrated on acute hospital care and a more comprehensive approach is needed to ensure all collaborative partners (including ambulance services, mental health and learning disability services, primary and community care, etc.) are fully engaged.

Safety outcome measures that can be derived without new data collections may be relatively few (see Appendix) but where a process is evidence-based and has a known impact on outcomes, the harms avoided/lives saved can be extrapolated, and process measurement can help demonstrate improvement before changes in outcomes are visible. Without structure measures we may be measuring processes that are not 'improvement ready' (e.g. if a falls risk assessment format is not compliant with NICE Clinical Guideline 161, there is little point in measuring how reliably the risk assessment is being completed). Improving patient safety culture is a core aim of the PSCs and therefore needs to be a measurement focus.

'Balanced set of measurement' is used in the sense of distribution across major harms, care settings and measurement types; given the complexity of healthcare. Identifying balancing measures, in the sense of measures that could indicate unintended adverse consequences of improvement efforts, would also be an important aspect.

The unit would not propose new data collections that applied to all PSCs except on topics where all PSCs had improvement aims (e.g. safety culture and leadership) and where no existing data source could be utilised.

Therefore no PSC would be required to set up new data collections on anything the PSC was not aiming to improve.

Whilst the measurement unit should work within a broad definition of patient safety (as do the PSCs and the Patient Safety Domain) it should retain its focus and not become a measurement resource for the entire AHSN agenda. It should also ensure the volume of measurement produced is kept to levels that are manageable and useful.

## **5. The unit should encompass measurement of engagement in collaboration**

Constant improvement in patient involvement, cross-care setting involvement and multidisciplinary engagement need to be seen as core to the spirit and aims of the PSCs rather than something used to manage their performance; making this aspect of measurement part of the PSCs' own measurement unit would help ensure that emphasis. The unit may also be able to support measurement of social media impact or other aspects of collaborative engagement.

### **PROPOSED YEAR ONE FOCUS**

The unit would seek to deliver measurement using data sources that are already accessible (see Appendix) working within the principles above.

In the first year the unit will be mainly reliant on **data sources** that are already available, but would not necessarily have to rely on **measures** that are already in existence. For example, the unit may find new ways of using HES/ONS data to track improvement in sepsis pathways.

Once this work is underway, other year one priorities (such as measures of engagement in collaboratives, and the potential to agree a common data collection for baseline measurement of leadership and culture) can be addressed.

Metrics within clusters are likely to be set locally – although the unit may also aim to provide some support for clusters of PSCs seeking to align measurement within their cluster topic.

### **NEXT STEPS**

The unit would have a continuing focus on 'improving the measurement of improvement'. Whilst the detail would need agreement with PSCs and the national programme board, this might include supporting PSCs to assess if measures/data collections that are being used by are 'good enough', reducing data collection burden whilst increasing the perceived value of local measurements, identifying measurement that does not add value and could be discontinued, and assessing/validating/recommending for wider use local measurement formats and tools developed by individual PSCs or by other organisations.

The development by PSCs of local and cluster measurements is likely to produce a natural piloting and refinement process that informs improved national measurement.

The unit would work towards providing a facility for submitting, storing and sharing data useful to more than one PSC (e.g. cluster measurements or locally collected data that could inform priorities elsewhere).

## **POTENTIAL ADDITIONAL SUPPORT OFFERED BY THE MEASUREMENT UNIT**

Although the current allocated resource would not allow for this, further discussions should be held to identify if, as the measurement unit develops, there is a need for the measurement unit to provide bespoke measurement expertise as a supportive function to individual PSCs and clusters.

The unit could act as an enabling source for PSC access to national datasets that are not publically available but can be supplied or analysed on request (e.g. linked HES/ONS data).

The unit may have a role in supporting the estimation of 'return on investment' by identifying financial implications of observed improvement (whilst individual PSCs would probably remain best placed to estimate actual investment). This could contribute to a wider desire to deliver greater understanding of the health economics of patient safety.

## **LOCAL MEASUREMENT PRINCIPLES**

As each Patient Safety Collaboratives develops their own local measurement strategies, they can reinforce the overall ethos of the PSCs and the central measurement unit by aligning with the principles above.

## ***SIGN UP TO SAFETY***

It is anticipated that all measurement produced to demonstrate improvement over time at the national level would be useful for the measurement of *Sign up to Safety's* overall ambitions.

Many other aspects of the measurement unit could also potentially prove useful to informing the development of organisational improvement plans, and these are of course interlinked by PSC activity and a shared focus on reducing avoidable deaths and avoidable harm.

There could also be a potential for commissioning expert advice from the central measurement unit for individual providers who need to measure local improvement in specific areas for their *Sign up to Safety* plans.

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*Discussions with the Measurement Strategy Group summarised by Phil Duncan*

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**Appendix: key national data sources for measuring improvement over time likely to be accessible by a central measurement unit**

Data source	Strengths and limitations
<p>i. NHS Outcomes Framework: populated measures</p>	<p>These are the most robust measures of national improvement in outcomes that could be identified after three years of measurement refinement and two public consultations. Whilst Domain 5 measures are all relevant to the PSCs, other Domains contain measures they may also consider relevant (e.g. suicide after healthcare contact in Domain 1). Most are derived from data that could be accessed and analysed at PSC footprint level, and some are based on data sources where early access to data could give more timely indications of national improvement trends.</p>
<p>ii. NHS Outcomes Framework: death and severe harm due to problems in healthcare (measures under development)</p>	<p>Whilst the PRISM 1 and PRISM 2 studies of deaths in hospital due to problems in healthcare will not be directly comparable, it is likely that a continued national annual sample using PRISM 2 methodology will be developed to identify trends over time. It is unlikely that these data will be available at sub-national level however, due to logistical and cost barriers to undertaking these data collections on anything other than a sample basis.</p> <p>Research into extending similar methodology to severe harm and to primary care settings has been commissioned.</p>
<p>iii. HES data</p>	<p>HES data cannot be used to directly measure healthcare-acquired harm; there is no distinction between conditions acquired outside healthcare and those acquired after admission, and research indicates levels of recorded events that could be assumed to be usually healthcare related (e.g. pressure ulcers, surgical misadventure) are implausibly low. For many aspects of healthcare, interpretation of HES data is complicated by variations in coding practice between organisations and over time.</p> <p>However HES data may be a useful indicator of wider improvement efforts where a type of harm always needs hospital treatment and has a clear clinical diagnosis and diagnostic code (e.g. admissions and ED attendances with Colles' fracture and hip fracture can be used to indicate improvements to community falls prevention and bone health). HES data may also be used as an indicator of increasing awareness for conditions where improvement efforts are focused on increasing awareness and reducing missed diagnoses (e.g. increased identification of sepsis cases in response to improvement initiatives)</p> <p>HES data are used to infer conclusions about the quality of care, most notably via standardised mortality rates. However, while these do provide information on variation they are inherently comparative and do not allow for measurement of improvement over time (except in relation to decreasing variation between organisations). As such these breach the principles outlined above.</p>
<p>iv. ONS data</p>	<p>Death certification is also affected by awareness and reflects earlier diagnoses, so the same caveats as HES data apply. There are additional complexities in relation to analysis and interpretation as death certification uses a chain of causation; key patient safety harms are often neither primary nor underlying cause of death, but in the middle of the chain of causation (e.g. <i>multi-organ failure due to PE due to DVT due to varicose vein surgery</i>)</p>

	<p>Analysis of ONS alongside HES data can help explore if there has been improvement/deterioration in outcomes, or if patterns are more consistent with improved awareness and recording of conditions on admission and/or on death certificates. HES and ONS data can be linked at patient level (e.g. death from VTE within 120 days of any hospital admission) but access to analysis or data usually has cost implications.</p>
v. MH minimum dataset	<p>Like HES, the dataset has inherent limitations of data collected for administrative purposes then being reused for another purpose, but can contain fields informative for patient safety processes and can potentially be linked with other datasets for some outcome data (for example, current exploration of linking episodes to identify patients in MH services who have needed emergency department treatment for injury or poisoning).</p>
vi. National clinical audits/CORPs and clinical registries/databases	<p>National Clinical Audits can be rich sources of process measures relevant to patient safety, and in some cases also supply structure and outcome data. Some more recent audits contain observation of actual practice as well as case note review. NCAs tend to have relatively infrequent data publication, but in terms of the PSC five-year programme may have sufficient data points to measure improvement over time. Increasingly data are collected in more real-time databases (e.g. National Hip Fracture Audit, Neonatal database, AKI registry) that may provide more current and frequently updated data.</p> <p>Some clinical database data are very well suited to patient safety measurement (e.g. National Hip Fracture Database collects data on whether hip fractures occurred in hospital settings).</p> <p>CORPs can be useful source of outcome data (e.g. NCISH data on suicide) but also tend to be relatively historic data given the time needed to analyse and learn from deaths/poor outcomes.</p>
vii. Safety thermometer	<p>Safety Thermometers are tools designed to measure improvement at a local, health economy and national level. Variation will likely exist in application of definitions and data collection methods and between organisations therefore extreme caution should be taken when comparing data, however this does not prevent the use of the data to detect change over time at a PSC footprint or national level, although more stable sub-sets of organisations consistently submitting may be required. Any widespread changes to local data collection may confound measuring of improvement over time (e.g. if ST pressure ulcer data collection practice changes in a number of organisations in response to TVS skin survey study). Sample sizes and use will vary depending on which Safety Thermometer measures are used. The 'classic' Safety Thermometer is used to collect data on NHS funded patients including those in acute hospitals and community services including community hospitals, district nursing and nursing homes. The 'next generation' can also be used in these settings but may not currently be being used by all providers taking part in a PSC. The sample may also be changing as new organisations start to use it.</p>
i. NHS patient surveys	<p>Whilst primarily patient experience data, some questions give a useful perspective on aspects of safety (e.g. if staff washed their hands). Versions exist for various patient populations including MH.</p>

ii. NHS Staff Survey	This has a suite of questions that act as an indicator of safety culture and is likely to be a key source until bespoke safety culture measurement is developed. Other questions can shed light on specific safety processes (e.g. access to hand hygiene materials). The staff survey includes a question on having witnessed an incident that could have or did harm a patient in the past month, but this cannot be used to assess change over time in incidents, as the term 'witnessed' makes this problematic and levels reported (only around one in three staff say yes) are implausible given the overall evidence base on patient safety incidents.
iii. UNIFY	This is a data collection system used to measure a range of 'priorities' in the NHS, from numbers of nursing staff, through returns on organisations' planning assumptions, to data for incentive schemes/contractual requirements (e.g. VTE risk assessment completion, new CQUINs on sepsis screening, antibiotics for severe sepsis within one hour, discharge letters in AKI). Some of these can be combined to assess improvement over time at PSC/national level, albeit with awareness that the purpose for which these data are collected may affect them. Each UNIFY collection is relatively unique and should be considered on its merits and applicability to PSCs.
iv. STEIS	The purpose of STEIS is to enable oversight of incident investigation and it does not have a role in the measurement of actual harm. This is because fundamentally it is an incident management system used to facilitate communication between providers and commissioners and help with a shared understanding of the progress of the response to a particular serious incident - as opposed to being a comprehensive and searchable record of all incidents that happen. Equally it cannot be used to measure changes in reporting culture; the Serious Incident Framework seeks a focus on reporting the most appropriate incidents that merit a heightened managerial response as Serious Incidents, rather than a drive for higher levels of reporting overall. Whilst published data drawn from STEIS on declared Never Events may have a role in measuring national improvement, in the PSC context the numbers are likely to be underpowered.
v. NHSLA	Though NHSLA data may be useful for priority setting, litigation levels will be affected by factors other than safety of care and so are unlikely to be a source of measurement for improvement over time for the PSCs.
vi. NRLS	<p>The primary purpose of the NRLS is to allow learning and it is important to position it as an accurate source of what staff are willing to report, rather than a poor quality source of actual harm. Changes in numbers of incident reports should never be used to indicate any improvement in safety or harm over time, only changes in willingness to report.</p> <p>There is potential for local systematic processes of assessment of under-reporting to be used in combination with incident data for some tightly-defined groups of incidents. Examples would include the RCP's FallSafe measure of under-reporting used alongside incident data, and the Tissue Viability Society's technique of annual full skin surveys correlated locally at patient level to assess how many missed reports occurred over a year.</p>