HealthPros

International Training Network for
Healthcare Performance Intelligence Professionals

POLICY GUIDANCE ON THE USE OF PREMS TO IMPROVE HEALTH SYSTEM PERFORMANCE

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PREFACE

HealthPros is a H2020 Marie Sklodowska-Curie Innovative Training Network for Healthcare Performance Intelligence Professionals under grant agreement No 765141, running from January 2018–April 2022. Healthcare performance intelligence can be defined as a structured approach to acting on health policies, using knowledge and information generated through scientific methods and health data to systematically measure indicators of health system performance. The network set out with the aim to train a first generation of Healthcare Performance Intelligence Professionals (HealthPros Fellows) that can make effective use of available healthcare performance data in countries to improve integrated services delivery, patient engagement, equality in access to healthcare, health outcomes and reduce waste in healthcare.

Since 2018, HealthPros Fellows have completed innovative research and multidisciplinary training in Canada, Denmark, Germany, Hungary, Italy, the Netherlands and the United Kingdom. As part of their training, Fellows also completed secondments at partner organizations as an opportunity to obtain local guidance and conduct applied research.

Throughout the programme, HealthPros Fellows have worked to develop tools and implement methods to streamline healthcare performance measurement, develop and apply performance-based governance mechanisms and optimize the use of healthcare performance intelligence by different end-users. Topics explored through a healthcare performance intelligence lens in their work include: actionability of performance indicators; composite measures; integrated care; corporate governance tools; patient and citizen engagement; nudging; use of routine databases for performance improvement; and, long-term care. As the COVID-19 pandemic paralleled the HealthPros programme, many Fellows and the network at-large, sought opportunities to conduct a number of COVID-19-related studies at pace with the pandemic's changing context.

Outputs of the HealthPros programme have continuously been published as open access studies in international, peer-reviewed journals. Additionally, Fellows have actively contributed to webinars, conferences, the delivery of courses, policy dialogues, direct country support, and media engagements, among other types of dissemination to continuously share new findings throughout the programme.

This **Healthcare Performance Intelligence Series** represents the culmination of key research findings by the network into a collection of reports providing methodological, practical, and policy guidance. Reports in the series are tailored to different audiences, ranging from policy-makers, hospital

managers, clinicians, and the general public. The development of each report in the series has relied on close collaboration across the HealthPros network. The range of topics and resources making up this series includes the following:

- Practical experience with implementing disparity and composite measures in large-scale routine quality improvement work to support transferability to other HC systems (No. 1.2 2022)
- A practical guide towards actionable healthcare performance indicators: Selecting healthcare performance indicators that are fit for purpose and use for various stakeholders (No. 1.3 2022)
- Policy guidance on advancing the performance assessment of integrated healthcare systems (No. 1.4 2022)
- Policy guidance on the use of PREMs to improve health system performance (current)
- Policy summary report on the value of results-based tools in health care management-Lessons learned from COVID-19 dashboards (No. 2.3 2022)
- Business model for effectively involving patients in the financial decision-making of health insurance funds- A guide to health care insurers on fostering the engagement of citizens based on recent experiences in the Netherlands. (No. 2.4 2022)
- Policy summary report on best practices for linking financial incentives to health care performance at individual health care provider, institutional and regional level- A business case for value-based health care systems based on performance intelligence (No. 2.5 2022)
- Policy recommendations on the role of nudging for health care performance assessment agencies (No. 3.2 2022)

The full series of reports can be found online (https://www.healthpros-h2020.eu/). For questions related to the series or HealthPros network please contact Dionne Kringos, PhD (d.s.kringos@amsterdamumc.nl).

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1. A brief introduction to PREMs

Patient Reported Experience Measures (PREMs) are survey tools which seek to record, from the patient's perspective, what happened during a given interaction with health and care providers (Jenkinson, Coulter, & Bruster, 2002).

Within each PREM survey, items collect information about different elements of patients' experiences. Depending on the survey, patients may be asked to provide information about the process of admission to a hospital, the physical surroundings of a primary care provider, the frequency and clarity of provision of information by doctors and nurses, and whether patients felt treated with dignity and respect by different professional groups (Jenkinson et al., 2002). In this way the surveys can be used to recreate, from the patient's perspective, what happened during their interaction with health and care professionals.

This is distinct from a satisfaction survey, which are a summary measure shaped by patient expectations as well as by the actual service delivery (Male, Noble, Atkinson, & Marson, 2017). They are also distinct from surveys asking about patients' health status, quality of life or wellbeing, including Patient Reported Outcome Measures (PROMs) (Black, 2013).

PREM surveys will however typically include one or more items measuring overall satisfaction with the service to accompany the more granular measures of experience and may be collected alongside measures of health or wellbeing. There are many surveys in use, some which are intended for wide use, and some which are focused on specific population groups or settings like inpatient care or mental health services (Klazinga & Fujisawa, 2017).

PREMs are developed and tested by expert teams, to ensure that they provide valid and reliable measures of the intended phenomena. A number of surveys are available in multiple languages and used in several countries (Jenkinson et al., 2002; Lungu, Pennucci, De Rosis, Romano, & Melfi, 2019). In these cases, surveys are separately tested and validated for the different translations and cultural contexts. There is also a significant body of research and practice developing and testing different methods of data collection and analysis (Bjertnaes, Iversen, & Skrivarhaug, 2018; Ferrè et al., 2021; Withers, Puntoni, O'Connell, Palmer, & Carolan-Rees, 2018).

Overall, PREMs provide a valid and valuable source of information which cannot be collected at scale through other means, and which can lead to insights not available through routinely collected data. They are a necessary ingredient in creating people-centred health systems, by capturing information about what matters most to people, directly reported by patients themselves.

Accordingly, their collection and use is ever growing, encompassing new settings and additional countries. A number of countries mandate the collection of PREMs, supported by international efforts

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to increase and standardize their use (Agency for Healthcare Research & Quality, 2020; Australian Commission on Safety and Quality in Health Care, n.d.; Slawomirski, L., van den Berg, M., & Karmakar-Hore, 2018). Once collected, PREMs are used in health system performance assessment, may be publicly reported, are used in incentive and payment models, and are used to identify and evaluate improvement actions in healthcare providers (De Rosis, Cerasuolo, & Nuti, 2020; Gleeson et al., 2016; Nuti, Noto, Vola, & Vainieri, 2018; OECD, 2019).

Numerous PREMs have been developed (Bull et al 2019). To give an indication of what PREMs cover and how they are used, Table 1 provides a high-level overview.

Table 1: A high-level overview on PREMs

Domain	*Selected* examples
Well-established PREMs	Consumer Assessment of Healthcare Providers and Systems (CAHPS) – Hospital survey (HCAHPS) (Elliot et al, 2005); Consumer Quality Index (CQI) – Palliative Care (CQI-PC) (Claessen et al, 2012); UK National GP Patient Survey (GPPS) (Campbell et al, 2009); The Nordic Patient Experiences Questionnaire (NORPEQ) (Oltedal et al, 2007)
Settings	Hospital, primary care, palliative care, integrated care, pediatric services, emergency services, disease-specific (cancer, irritable bowel syndrome) (Klazinga & Fujisawa, 2017)
Typical domains of PREMS	physical access to the facility, organizational access to the facility, waiting times, communication with nurses, communication with doctors, responsiveness of hospital staff, trust, communication about medicines, discharge preparation, cleanliness of hospital environment, quietness of hospital environment, overall hospital rating, recommendation of the facility (Jenkinson et al., 2002)
Purpose	Use by providers for quality improvement purposes Mandated by purchasers or government for accountability purposes Mandated by purchasers or government to inform patient choice (public disclosure)
Administration	paper, online, face-to-face interview
Countries, where PREMs are widely used	USA, UK, Italy (Tuscany), the Netherlands, Australia
PREMs question and scaling	**When a new drug is prescribed, does your physician explain in a way that you can understand:** always / often / sometimes / rarely / never / not applicable **... why you should take it?** ❑1 ❑2 ❑3 ❑4 ❑5 ❑6 **... when you should alert you physician (e.g. re-actions, symptoms after taking the drug)?** ❑1 ❑2 ❑3 ❑4 ❑5 ❑6 **... how you should take it (dosage, timing, e.g. before or after a meal)?** ❑1 ❑2 ❑3 ❑4 ❑5 ❑6 (Stahl & Groene 2021)

This report provides a guide for managers, health professionals and policymakers about the use of PREMs for health system improvement. It will set out the uses of PREMs at different levels in health

systems, from ward-level improvement initiatives to system-wide uses in accountability mechanisms. Further, this report will provide guidance and information about the use of PREMs as a measurement tool, in governance frameworks, and in stimulating actions. These points will be summarized in a series of overarching lessons for the use of PREMs in health systems.

2. How PREMs can be used in healthcare systems at macro, meso, micro level

In the following pages, the uses of PREMs in healthcare systems are described according to the system level at which they are used. Three levels are discussed: micro, meso, and macro. We use the common understanding of these levels, which broadly speaking address:

1. At the ***micro*** level, uses of PREMs which relate to individual professionals, such as in providing feedback to clinicians about how patients report their experiences in consultations.
2. At the ***meso*** level, uses of PREMs which relate to groups of professionals, or organisations, for example in reporting ward-level data back to the relevant professionals to inform improvement actions, or in reporting organisational performance on patient surveys to the board.
3. At the ***macro*** level, uses which relate to healthcare systems, or the oversight of those systems, for example the use of PREM scores as a performance measure in healthcare provider reimbursement models, or the public reporting of PREM scores by national bodies to inform patients and encourage downstream actions.

Further discussion and examples of these uses are set out below.

2.1. Use of PREMs at micro level

The use of PREMs at the micro-level focuses on observations of care processes and direct feedback to professionals in order to inform dialogue between professionals and patients (Ishaque et al 2019). The use of PREMs in everyday clinical practice is considered promising for optimizing and individualizing quality of care. The use of such tools has the potential to positively impact physician-patient communication, facilitating clinical decision-making, discharge planning or medication adherence. Observations about failures in communication processes or medication instructions can be identified earlier and thus counteracted (Frost et al 2007). PREMs data from the patient's perspective, together with the clinicians' clinical assessments and experiences, form a holistic picture of the care pathway. Through the use of PREMs, the quality of care can be assessed comprehensively,

and weaknesses in patient care can be uncovered and counteracted (Weingart 2005, Lawton 2015, Stahl et al 2021).

The science on how PREMs support physician-patient communication and care at the microlevel is still emerging. Greenhalgh et al (2018) identify two basic assumptions in relation to patient-reported outcome measures, which can be transferred to the PREM context: First, patient collection of data increases their self-reflection about their care process and supports them in addressing issues important to them in the consultation (Santana & Feeny 2014, Feldman-Stewart & Brundage 2009). Second, data collected from patients help physicians better assess important components of care, such as the patient´s understanding of the health problem, understanding of instructions why and how to take medications or what to do in case certain symptoms occur (Lohr & Zebrack 2009, Kotronoulas et al 2014).

However, the empirical literature on these assumptions is not without contradictions: PREMs do not always reflect what patients or clinicians consider important. PREMs may also be perceived as disruptive in existing effective physician-patient communication and may limit empathic communication. Further, they do not always provide new information and assume in their approach that motivation and time are available to collect and discuss the data, as well as that measurement tools are sensitive enough to indicate changes relevant from the patient's and physician's perspective (Weenink et al 2014, Miller Daniel et l 2014, Steet et al 2009). In addition, collecting and reflecting on PREMs data is not a purely cognitive process, but should take into account what all users expect from it and how expectations affect use (Greenhalgh et al 2018).

In essence, in contrast to PROMs where stronger arguments have been made to use such measures for patient-professional interaction, PREMs are not widely used at micro level. This may change as mHealth Applications increasingly embed both PROM und PREM measures and patients would like to have the opportunity to discuss such data with their professionals.

2.2. Use of PREMs at meso level - by organizations / professionals

PREMs are widely collected and used at the level of provider organizations, including secondary care, primary care, and community settings. In fact, their archetypal function may be as an organizational feedback survey, collected at periodic intervals and reported to staff as a performance measure. Within this broad approach there are different possibilities, offering different considerations for managers and professionals.

Firstly, it is important to consider that the collection and reporting of PREM data is not an end in itself. Clearly, such efforts should have a more fundamental intended purpose. This might be to

identify specific areas of operation where improvements could be made to provide a better patient experience; it might be to provide feedback to celebrate staff efforts and support their further professional development; board level executives may wish to understand how patient experience and satisfaction differs between hospital sites or service lines; ward-level managers and healthcare professionals may want to see how their PREM scores change over time. Many of these use-cases have different requirements for the collection and reporting of PREMs.

A key lesson to ensure that PREMs are meaningful and useful for improvement teams and professionals is that they are available at suitable levels of granularity. Usually, this means the level of individual wards. If data are only available at the level of whole hospitals, they are not perceived as relevant by ward-level teams. It is therefore essential that the infrastructure for data collection and analysis allows this level of disaggregation. Data can then be aggregated for other purposes such as board level or public reporting.

Textbox 1: Use of PREMs for benchmarking

Collecting comparable PREM data between different providers enables benchmarking and shared learning. One quality improvement collaborative of emergency departments used this approach to identify and deliver a range of patient-centered improvement efforts including changes to supervision and training, new approaches to managing pain, and including additional refreshment points for food and drink (Schwappach et al., 2003).

Timely data collection of PREMs

The timeliness of PREM data is also a key factor in ensuring it is valued and used. Where data are reported several months after their collection, professionals understandably have doubts about how far they reflect the current situation, and therefore how robust they are in identifying and delivering improvement actions. New technologies provide a route to near-real time data availability, overcoming the necessary delays inherent in sampling approaches based on postal or telephone data collection. In Italy, for example, some regions have adopted a model of ongoing, continuous PREM data collection, drawing on an Application Programme Interface (API) between hospital systems and a bespoke observatory managed by a research team. Patients are invited to respond to PREM surveys by email or text messages, in a fully digital model. The aggregate data is available in real-time through a web platform, enabling relevant managers and professionals to see reports from the preceding days, and at the level of individual service lines or wards. This technology-enabled approach enables data to be framed around patients associated with specific professionals or teams, delivered in the preceding days; this helps build interest and trust in the data, helping overcome an important hurdle in enabling improvement actions (Davies, Meterko, Charns, Seibert, & Cleary, 2011; De Rosis et al., 2020). An additional important feature of such models is that data can be viewed longitudinally,

enabling exploration of changes in scores over time and in response to specific initiatives. This can be provided through continuous collection models as in Italy, or through regular repetition of surveys over time.

Stimulating improvement

Finally, it is important to note that simply providing data to professionals and managers is insufficient in stimulating improvement actions. Evidence from clinical teams suggests that they have favourable opinions of patient experience surveys, including that they provide valid measures of quality. Nonetheless, such data is not automatically discussed at ward level, and is not necessarily used to identify and deliver changes to improve quality. A lesson from numerous case studies is that dedicated meetings and resources are needed to ensure quality improvements are made from PREM data. This requires support and focus from very senior levels in organisations, providing senior sponsorship and focus to encourage and enable actions. Implementation team members need to be empowered to take actions based on data.

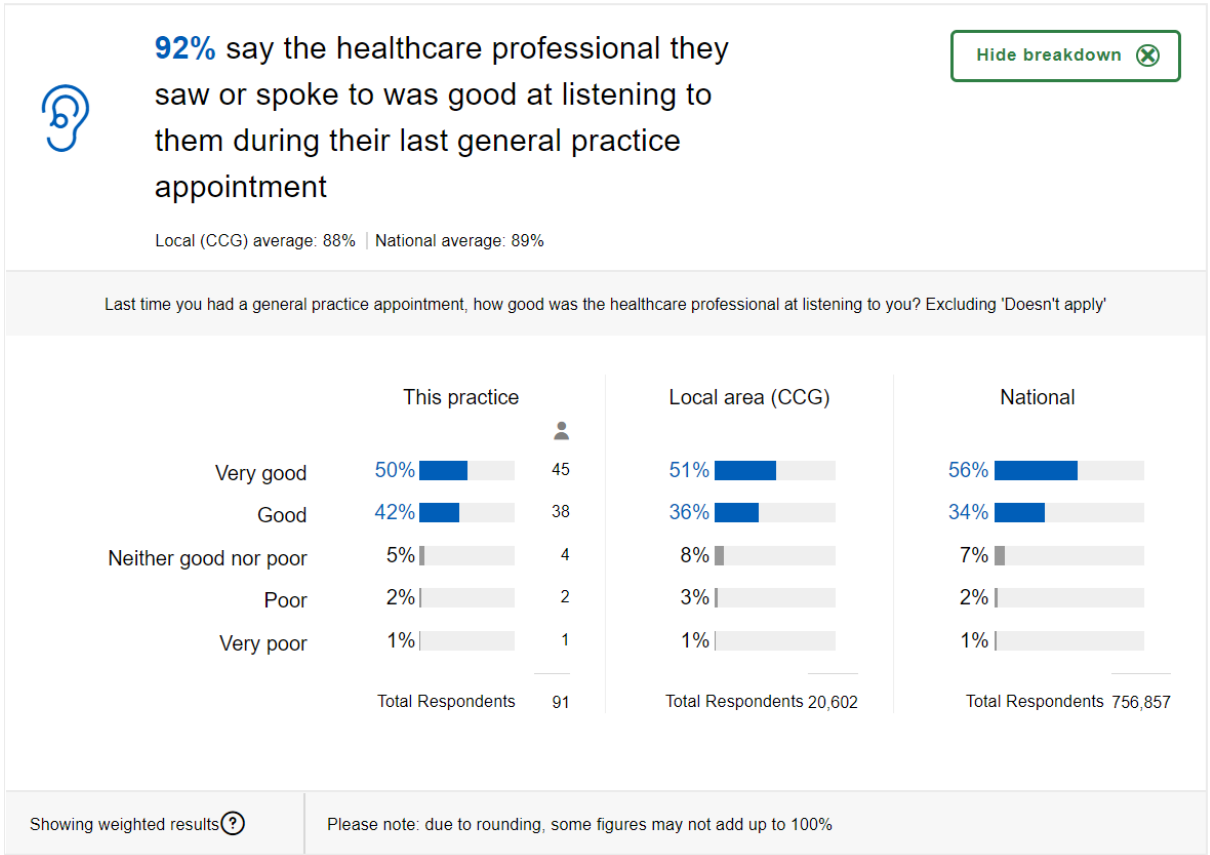
Textbox 2: Use of PREMs to stimulate improvement

In a large hospital in the USA, senior management identified a need to improve patient experience. Data were collected in line with patients' priorities, and included in the hospital productivity and quality measurement system, with repeated measurement over time to track progress. Including data in governance processes and discussing this at board meetings helped build and sustain senior interest in and sponsorship of subsequent improvement efforts, adding additional accountability for staff – alongside their accountability to patients. This approach led to significant changes in the way staff were recruited, trained and supported, as well as physical changes to the environment in line with patient feedback. PREM scores significantly increased as a result of these efforts. (Craig, Crane, Hayman, Hoffman, & Hatwig, 2001)

2.3. Use of PREMS at macro level

The use of PREMs at macro level refers to the systematic development and implementation of large-scale systems, such as at national level, to inform health policy and governance / accountability. Applications of PREMs at this level may include PREM reports making providers accountable about specific PREM domains to government, the public report of PREMs to inform citizens and patients and pay for performance initiatives linking PREMs results to the reimbursement of health care providers. Some examples of uses are included in Table 2 below.

Figure 1: Example of PREM report for a single practice based on a national PREM survey, including comparative information on PREM results of practices in the local area and national averages (GP Patient Survey, https://www.gp-patient.co.uk/PatientExperiences?practicecode=E83050)



The use of PREMs in governance mechanisms can directly stimulate improvement actions closer to providers. Several improvement programmes described in academic papers or case studies explicitly note that they are in response to the public release of PREM data, or the inclusion of PREM data in reimbursement models. For example, in the English NHS the nationally mandated collection and reporting of PREM scores led to their use in quality improvement planning in hospitals, while in the USA, primary care providers were seen to implement quality improvement initiatives including individual physician training, sharing of results in feedback sessions, and process redesign.

Table 2: Example of PREMs used at macro level

Mechanism	Country	Initiative
Accountability	Germany the Netherlands	Germany: https://www.bertelsmann-stiftung.de/de/unsere-projekte/weisse-liste
Public reporting	England, Italy (Tuscany, Veneto), USA	England: https://www.gp-patient.co.uk/
Pay for performance	USA	USA: https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/Hospital-Value-Based-Purchasing-

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The OECD's Patient-Reported Indicator Surveys

Another example for the use of PREMs on a macro level is the OECD initiative named PaRIS (Patient Reported Indicator Surveys) aiming to make health systems more people-centred. The PaRIS survey is an international survey of the outcomes and experiences of patients with one or more chronic conditions in 22 countries. The newly developed survey includes both PROMs and PREMs for patients with chronic conditions who are treated in primary health care or other ambulatory health care settings. Examples for PREMs included refer to peoples' experiences with healthcare, such as experienced waiting times and communication with healthcare providers. The results of the survey will provide essential information on the outcomes of care for patients with chronic conditions and how users of health services experience care, helping policy makers to better understand the performance of their health system and how it can be improved.

Apart from the use for the macro level, the PaRIS survey is also a useful tool for quality improvement approaches on the meso level. Health care providers who participate in the PaRIS survey will receive feedback information. This aggregated information shows them the outcomes and experiences of their patient populations and how these compare to peers. It might also be a useful tool on the micro level during the physician-patient communication since patients get the chance to express their outcomes and experiences.

The PaRIS survey is developed and implemented in three phases: (1) Development of a survey instrument for primary health care users and providers including translations in the national languages of the participating countries and an extensive cognitive debriefing exercise; (2) Testing of all survey operations and the questionnaires in a field-trial in all participating countries; (3) Implementation of the main survey in all participating countries including an extensive analysis and dissemination of results. To date, phase one has been completed and the field trial will start in March 2022, running for three months (PaRIS-survey-Patients-with-Chronic-Conditions-June-2019.pdf (oecd.org)).

3. Practical implications for the use of PREMs

3.1. Build on existing surveys where possible

As noted above, the development of PREMs is typically conducted by multidisciplinary teams of expert researchers, working with patients and other professionals to ensure that surveys are fit for purpose. The process of development requires skills and experience in social research, survey design, healthcare domain expertise, statistics, and methodological issues in data collection. The expert input from patients themselves is also crucial. The process is labour intensive, with multiple stages of testing and refining, including a formal validation process involving testing in a patient population. When

surveys have been developed in one language or cultural context, there should be a period of retesting and validation (perhaps with some modifications) to provide assurance that it is valid and reliable in other circumstances.

There are a number of domains commonly included in PREM surveys, determined through engagement with patients and healthcare experts to identify the most important and relevant topics for patients. Typical domains include: communication with the patient; provision of information; being treated with dignity and respect; being given appropriate privacy; having one's fears and anxieties managed by the provider: being treated with kindness and courtesy; pain management; being involved in decisions; and the physical environment, including noise and cleanliness. Other topics can also be included, and questions can refer to specific points of the care journey like the admission or discharge processes. Groups of items relating to the same domain (e.g. communication, or the admission process) can be grouped together to provide a composite measure of performance, for functions where the granularity provided by separate items is not required.

A number of surveys containing these and other domains are available, and can be used under licence, either through a paid subscription or, depending on the developer and purpose of use, free of charge. A 2019 review identified 88 PREM surveys in use (Bull, Byrnes, Hettiarachchi, & Downes, 2019). Aside from the benefits of avoiding a complicated and intensive process of survey development, using preexisting measures also enables comparisons between different providers, regions, and even countries. In this way, health systems can learn from their constituent providers and from other systems. If, for example, one provider is consistently receiving poor PREM scores for items relating to the discharge process, they can approach and learn from another provider which scores well in this area. In this way, benchmarking and improvement efforts can be directly enabled by standardised PREM collection.

Textbox 3: Build on existing survey measures

Before intending to develop a new survey, it is strongly recommended to consult the literature to assess whether an appropriate survey has already been developed elsewhere, ideally in the same setting and cultural context. Cross-culturally adopting a questionnaire is often more efficient than intending to develop a new measure.

3.2. Focus on the ultimate purpose of PREMs to facilitate quality improvement

The ultimate purpose of any process involving PREM collection and use is to improve the quality of care for patients. Even very high-level actions such as international comparisons between countries can ultimately lead to practical changes to improve quality and patient-centredness: comparing

countries enables identification of domains with scope for improvement, and domains of excellence to learn from; drilling down within these areas can identify sub-national variation; data may be included in incentive and accountability frameworks to stimulate provider level action; learning networks can be established to share best practice and provide peer support; provider level data can be further interrogated to identify and measure improvements at ward level or for individual professionals; practical changes in process, ways of working, and the physical environment can be made to improve quality for patients; the impact of these changes can be measured, with changes made or wider rollout subsequently carried out using a plan-do-study-act model.

There are several important design features which are necessary to enable this cascade of actions. Many of these are already mentioned above: the need for timeliness of data; appropriate disaggregation so data are relevant at ward, team or individual professional level; the necessity of deliberate action, beyond simply sharing data; the importance of senior level support, and empowerment of improvement teams.

3.3. Consider the technical model for collecting PREMs

Having chosen the most suitable survey and determined the purposes of use, it is also important to ensure that the method of collecting PREMs can appropriately support these uses. For example, while a paper survey collected annually may be used for some purposes, it is unlikely to helpful for timely quality improvement activities at the service level.

Currently available technologies can provide a means to collect PREM data such that it is useful at micro, meso and macro levels in health systems. One model which has been implemented in Tuscany and Veneto regions of Italy comprises continuous systematic digital collection of PREMs, in which all patients are eligible to be enrolled, with an Application Programming Interface (API) enabling automatic sharing of personalized links to consenting patients. The patient survey responses are accompanied by certain data from the Electronic Medical Record (EMR) and hosted in a web-platform which provides real time visualisations and analysis for approved researchers and professionals to access (De Rosis et al., 2020). Because data are collected at the level of individual patients, if appropriate consent and data management is in place, they can be used for individual professionals (micro level), but also aggregated to the level of wards, providers, and whole health systems for quality improvement, benchmarking, in incentive models, and in policy and governance mechanisms (meso and micro). The continuous collection model also enables investigation of changes in survey scores in response to operational or policy changes.

PREM collection models – including that described above - can also include qualitative questions alongside the standardized items with fixed responses. Such data can provide additional richness to the quantitative data, helping identify and refine improvement activities. While large volumes of qualitative data are more time-consuming to sift and analyse than quantitative data, if specific time-periods of interest are selected, volumes of qualitative data become more manageable for review and the development of insight to support improvement, as well as providing opportunities to share positive comments back with front-line professionals to enable recognition and learning through positive reinforcement. Additionally, there is emerging evidence about the use of natural language processing to analyse large volumes of free-text responses in PREM surveys to provide sentiment labels and identify improvement priorities (Cammel et al., 2020).

3.4. Drawing on best practices to choose PREM feedback reports

An additional important - and often under-appreciated – point is in the design and presentation of feedback reports themselves. For this area, there are lessons from diverse academic fields ranging from management and economics to psychology and behavioral science. These insights have also been drawn on in the specific context of delivering feedback interventions to health professionals, which provides 15 recommendations which are relevant for designing PREM feedback reports. Several of these echo the points discussed above in the specific context of PREM utilisation, as well as providing additional insights from wider literature and good practice (Figure 4).

Table 3: 15 Suggestions for Designers of Practice Feedback (reproduced from Brehaut et al.)

Suggestion for Designers of Practice Feedback
Nature of the desired action
1. Recommend actions that are consistent with established goals and priorities
2. Recommend actions that can improve and are under the recipient's control (use baseline data)
3. Recommend specific actions (that take into account existing barriers)
Nature of the data available for feedback
4. Provide multiple instances of feedback
5. Provide feedback as soon as possible and at a frequency informed by the number of new patient cases
6. Provide individual rather than general data (professional-specific rather than department or hospital)
7. Choose comparators that reinforce desired behaviour change
Feedback display

8. Closely link the visual display and summary message
9. Provide feedback in more than 1 way
10. Minimise extraneous cognitive load for feedback recipients
Delivering the feedback intervention
11. Address barriers to feedback use (integrated in care pathway)
12. Provide short, actionable messages followed by optional detail
13. Address credibility of the information (relay feedback by local champion rather researcher)
14. Prevent defensive reactions to feedback (use positive messaging)
15. Construct feedback through social interaction (engage in dialogue with peers)

3.5. Use insights from behavioural sciences to support uptake of PREMs results

There are also a wider set of insights from behavioural sciences which are relevant in presenting PREM reports, outside of the context of feedback interventions for front-line professionals. Data reports to managers, board-level executives, or policymakers and financers should also be designed to ensure they are impactful and representative.

For example, studies have shown that understanding and use of performance information is affected by a number of variables known to have predictable effects due to established cognitive features: priming, framing, prior beliefs, negativity bias, and institutional isomorphism. These effects can also apply differently according to the type and timing of performance information use. There is, for example, a distinction between statistical data (e.g. aggregate PREM reports) and episodic data (a single patient story): public managers have been found to prefer narrative and nonroutine data to routine quantitative performance reports, while features of episodic information are known to make it more persuasive, engaging, memorable, and retrievable compared to more abstract numeric data. In this way, including an unrepresentative patient narrative at the end of a quantitative report can distort individuals' perception of what the quantitative data says. It is therefore important for report compilers to consider such points as they design and present data for decision makers: the choices they make in presenting PREM data can affect how others interpret and understand the information, and therefore shape the actions they may take as a result.

There is also some relevant evidence from studies exploring PROM data presentation options – as noted above, this is a different type of survey, but has shared features to PREMs, and may be used alongside PREMs. These studies explored clarity of and preferences for different options for PROM presentation, for clinicians and patients. The key findings of relevance for the use of PREMs are that:

patients and clinicians both prefer line graphs for presenting data over time, whether relating to individual patients or to populations. Where data relates to populations, clinicians like to see additional statistical information, so it is helpful to include error bars and indications of statistical significance. Clarity is improved by including descriptive labels to provide context to quantitative scores, as well as colour coding (such as threshold lines or shading) to designate areas of concern. It is important to ensure the directionality is the same for all measures i.e., that higher scores always indicate the more desirable option. This may require adjustment of raw data before presentation, since some questions are framed in opposite directions.

4. Summary of guidance on the use of PREMs

1. PREMs provide a valid and valuable source of information which cannot be collected at scale through other means, and which can lead to insights not available through routinely collected data. They are a necessary ingredient in creating people-centred health systems, by capturing information about what matters most to people, directly reported by patients themselves.
2. PREMs can be used at *micro* level (in the patient-professional interaction), at *meso* level (for example for benchmarking and feedback to professionals on organisational performance) or at *macro* level (by informing citizens about the performance of providers).
3. Applications and evidence on the use of PREMs at micro level is still emerging. This may evolve quickly as mHealth Applications increasingly embed both PROM und PREM measures and patients would like to have the opportunity to discuss such data with their professionals.
4. PREMs are widely collected and used at the level of provider organizations (meso level), including secondary care, primary care, and community settings. In fact, their archetypal function may be as an organizational feedback survey, collected at periodic intervals and reported to staff as a performance measure. A key lesson is to ensure that PREMs are meaningful and useful for improvement teams and professionals is that they are available at suitable levels of granularity.
5. PREMs are also increasingly used at macro level, to inform citizens about the performance of health care providers and to increase accountability.
6. Key lessons for the use of PREMs are as follows:
    - Before intending to develop a new survey, it is strongly recommended to consult the literature to assess whether an appropriate survey has already been developed elsewhere, ideally in the same setting and cultural context. Cross-culturally adopting a questionnaire is often more efficient than intending to develop a new measure.
    - Feedback reports are an important component of utilising PREM data. For the design of such reports, lessons can be drawn from diverse academic fields ranging from management and economics to psychology and behavioral science. The understanding and use of performance information is affected by a number of variables known to have predictable effects due to established cognitive features: priming, framing, prior beliefs, negativity bias, and institutional isomorphism. The choices feedback report designers make in presenting PREM data can affect how others' interpret and understand the information, and therefore shape the actions they may take as a result.

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- The timeliness of PREM data is a key factor in ensuring it is valued and used. Where data are reported several months after their collection, professionals may have doubts about how far they reflect the current situation, and therefore how robust they are in identifying and delivering improvement actions. New technologies can provide a route to near-real time data availability.
- Dedicated meetings and resources are needed to ensure quality improvements are made from PREM data. This requires support and focus from very senior levels in organisations, providing senior sponsorship and focus to encourage and enable actions. Implementation team members need to be empowered to take actions based on data.
- Qualitative data can be embedded in feedback reports and provide additional richness to the quantitative data, helping identify and refine improvement activities.

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