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Assessing organisational development in European primary care using a group-based method

A feasibility study of the Maturity Matrix

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Abstract

Purpose – The Maturity Matrix is a tool designed in the UK to assess family practice organisational development and to stimulate quality improvement. It is practice-led, formative and undertaken by a practice team with the help of trained facilitators. The aim of this study is to assess the Maturity Matrix as a tool and an organisational development measure in European family practice settings.

Design/methodology/approach – Using a **c**onvenience sample of 153 practices and 11 facilitators based in the UK, Germany, The Netherlands, Switzerland and Slovenia, feasibility was assessed against six criteria: completion; coverage; distribution; scaling; translation; and missing data. Information sources were responses to evaluation questionnaires by facilitators and completed Maturity Matrix profiles.

Findings – All practices taking part completed the Maturity Matrix sessions successfully. The Netherlands, the UK and Germany site staff suggested including additional dimensions: interface between primary and secondary care; access; and management of expendable materials. Maturity Matrix scores were normally distributed in each country. Scaling properties, translation and missing data suggested that the following dimensions are most robust across the participating countries: clinical performance audit; prescribing; meetings; and continuing professional development. Practice size did not make a significant difference to the Maturity Matrix profile scores.

Originality/value – The study suggests that the Maturity Matrix is a feasible and valuable tool, helping practices to review organisational development as it relates to healthcare quality. Future research should focus on developing dimensions that are generic across European primary care settings.

Keywords Organizational development, Primary care, Quality improvement, Europe

Paper type Research paper

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Introduction

As health care becomes increasingly globalised, it is desirable to develop agreed standards, benchmarks and means to compare organisations internationally (Chen *et al.*, 1999; Frenk and Gomez-Dantes, 2002; Kearny AT, 2001). Primary care plays an important healthcare role. Primary care orientation is more likely to produce better population health outcomes at lower cost and with greater user satisfaction (Starfield, 1992). In the last decade, primary care is, like the whole healthcare system, under

pressure from population aging, scientific and technological progress, chronic disease burdens, individualisation, increasing patient participation and public involvement, increasing cultural and ethnic diversity (Health Council of The Netherlands, 2004). Primary care development is more likely to be driven by common global pressures such as cost containment and patient expectations than by historical differences in social and political landscapes (Krosnar, 2003; Sheldon, 2003a; Tuffs, 2003, 2004a). This is particularly the case in Europe where increasing mobility exists among EU citizens who expect similar healthcare quality standards (Sheldon, 2003b). Additionally, rising public service expectations often accompany European Union accession, resulting in a demand for healthcare standards that are comparable with other EU countries (Kanavos and McKee, 2000; Mossialos and McKee, 2001).

One way of improving care against is to focus on organising preventative care for specific patient populations such as those at risk from chronic diseases (van Drenth, 1998). An alternative is to improve generic practice systems that support care of the total practice population (van den Hombergh, 1998). Implementing this second approach is often achieved by a practice visit from an assessor, usually a peer who appraises the practice against a set of standards (Engels, 2005). A successful assessment may result in accreditation, regulation and licensing as well as quality improvement (Buetow and Buetow, 2003; Eliasson *et al.*, 1998; van den Hombergh, 1998). This externally led assessment can raise standards particularly when linked to incentives. However, research (Geboers, 2002), organisational change theories (Rhydderch *et al.*, 2004; van de Ven and Scott-Poole, 1995) and commentators (Shaw, 2001; Walshe and Walsh, 2000) suggest a need to develop complementary methods to stimulate improvement that are led by the practice team rather than by an external organisation. Organisational development theory suggests that it is people who motivate and create change and systems that embed it in structures and processes (Rhydderch *et al.*, 2004). Strategies that combine continuing education, audit, assessment and quality improvement, linking learning to daily routine, may have a greater chance to lead to sustained changes in behaviour (Calman, 1998). It has been argued that both externally-led and practice-based approaches are needed for a co-ordinated quality assurance system of a country's health care (Buetow and Buetow, 2003; Walshe and Walsh, 2000). While there is increasing literature into practice-led approaches that are country specific (Macfarlane *et al.*, 2004; Miller *et al.*, 2002; Mohr and Batalden, 2002; Nelson *et al.*, 2002), there is little published about equivalent international approaches. This can be contrasted with the increasing literature on international approaches to externally led quality improvement (Engels, 2005; Grol *et al.*, 2005).

The Maturity Matrix is an example of a tool designed in the UK for practice staff to review local services. The overall purpose and process using the 11 dimensions is summarised in Table I; details of the ordinal scales for five dimensions are shown in Table II. It encourages self assessment, aided by a trained facilitator, using a group process to measure family practice organisational development, which also involves identifying targets for future improvement (Elwyn *et al.*, 2004). The Matrix is based on organisational development theory, which emphasises the need to involve and engage local staff. The Maturity Matrix's unique feature is that it is a process-based measure and as such provides clear and immediate feedback about what teams are actually doing whatever their starting point (Mant, 2001; Rubin *et al.*, 2001). It has been

The Maturity Matrix and the role of the facilitator: an overview

In total, 11 areas, known as dimensions, are covered by the Maturity Matrix, and these are listed below. Each dimension consists of eight stages that describe progression from basic practice to more developed arrangements. For example, the first dimension, clinical data, describes how practices typically progress from having paper- to computer-based systems capable of storing and analysing information about prescribing, referrals and diagnostic coding

Dimension	*Description*: organisational activities that:
1. Clinical data	Describe the development of a clinical records system
2. Audit of clinical performance	Support practice staff undertaking audits
3. Use of guidelines	Describe the way practice staff use clinical guidelines
4. Clinician access to clinical information	Ensure that health professionals have access to clinical information
5. Prescribing	Support the proactive use of prescribing data as a mechanism for quality improvement and cost containment
6. Human resources	Ensure attention to policies and systems to support staff management
7. Continuing professional development	Ensure that education and training for practice staff are based on an organisational development plan.
8. Risk management	Support clinical and non-clinical risk identification, analysis and management
9. Practice meetings	Enable effective team meetings
10. Sharing information with patients	Support patient information that is evidence-based and tailored to their personal needs and contexts
11. Learning from patients	Recognise patients as an important source of feedback on service organisation and provider performance

Facilitator role and training

The facilitator liaises with practice staff to arrange for as many members of the practice team as possible to be present. A session typically lasts one to 1.5 hrs. The facilitator introduces the Maturity Matrix, talks about the process and takes questions or comments. He or she then gives the instrument to each practice team member, asking them to complete the Maturity Matrix individually. It takes approximately ten minutes for participants to decide where they think their practice is regarding each of the 11 dimensions. The facilitator then initiates a discussion about each dimension, encouraging participants to move from individual perspectives to reach a team consensus about the practice's existing levels of organisational development and how they would like to improve. At the end of the session, the facilitator summarises the main points and agrees the next steps. Facilitators attend a standardised training programme combining didactic input about the Maturity Matrix with simulated practice using role plays, video feedback and facilitated discussion

Table I.
The Maturity Matrix

validated using 55 UK general practices (Elwyn *et al.*, 2004). A number of other tools and approaches designed to stimulate practice-led assessment and improvement exist, such as the Visit in Practice Method (van den Hombergh, 1998) or the UK Royal College of General Practitioners Quality Practice Award < www.rcgp.org.uk/continuing_the_gp_ journey/team_quality/qpa.aspx > . However, these are principally accreditation-driven and not based on promoting formative, self-assessment. To our knowledge, none of the other instruments available (Rhydderch *et al.*, 2005) has been validated for international purposes (Campion-Smith and Riddoch, 2002; Crabtree *et al.*, 2001; Miller *et al.*, 2002; Mohr and Batalden, 2002).

Table II. Maturity Matrix: first five dimensions

1 Clinical data	2 Audit of clinical performance	3 Use of guidelines	4 Access to clinical information	5 Prescribing
1.1 Reliance on written patient records	2.1 No clinical audit	3.1 No policy to follow guidelines	4.1 No system for storing and locating clinical information	5.1 No prescribing data are available
1.2 Patient registration data on computer	2.2 Data collection exercises conducted but incomplete audit cycles	3.2 The practice team discusses the suitability of guidelines for use in the practice	4.2 Textbooks at limited locations	5.2 An analysis of prescribing data is available
1.3 Registration and repeat prescribing on computer	2.3 Occasional audit cycles	3.3 The practice team adapts guidelines for use in the practice	4.3 Textbooks and peer reviewed journals available at limited locations	5.3 Prescribing data are discussed by the practice team
1.4 Combination of computer and paper records for consultation data	2.4 Regular audit cycles completed but only for one or two chronic conditions	3.4 The practice team takes steps to implement the use of guidelines in the practice	4.4 Textbooks, peer reviewed journals and evidence-based clinical information available at limited locations	5.4 Prescribing discussions result in changes to therapeutic policies
1.5 Majority of consultations coded on computer	2.5 Regular audit cycles completed for three chronic conditions	3.5 Guidelines are integrated into clinical information systems	4.5 Internet-based information available at limited locations	5.5 A local formulary guides prescribing
1.6 Majority of consultations and investigations recorded on computer	2.6 Regular complete audit for a wide range of chronic conditions	3.6 Use of specific guidelines is reviewed by clinical audit	4.6 Internet-based information available at the clinical desktop	5.6 Prescribing patterns are regularly monitored by the practice team
1.7 Majority of consultations and investigations, plus external correspondence recorded on computer	2.7 Regular complete audit for a wide range of chronic conditions and reviewed by external agency	3.7 Guideline-based audits for a wide range of chronic conditions and reviewed by external agency	4.7 Clinicians use the internet to find clinical information in consultations	5.7 A prescribing specialist provides practice-specific advice on an occasional basis
1.8 Coded data on consultations, investigations and correspondence available for audit	2.8 Systematic audits are shared with the public	3.8 Guideline-based audits are shared with the public	4.8 All clinicians are skilled at using the internet to find clinical information during consultations	5.8 A prescribing specialist provides regular practice-specific advice

Study aim and method

Our aim was to assess the Maturity Matrix's feasibility in an international context. We sought to establish if the Matrix helps primary care staff in different European countries to assess their organisational development and planned improvements. The practices participating in our study were taking part in a wider European project looking at practice assessment (the EPA project) to design an international practice visit survey instrument led by the Centre for Quality of Care Research (WOK) in The Netherlands (Engels *et al.*, 2005). Table III describes participating countries' healthcare characteristics.

Translation and facilitator training

Staff in each country translated the Maturity Matrix in 2003, discussing the items and concepts in small groups in research institutions. Backward translations were subsequently prepared and compared to the original UK version. A lead facilitator was nominated for each country and a training session consisting of a manual, a video and discussion, led by a UK facilitator, was held at an international conference in Slovenia, June 2003.

Sample and data collection

The European Practice Assessment (EPA) study is based on data collected from convenience samples in each country. The target sample consisted of approximately 30 practices per country stratified into equal numbers of single-handed, dual- and group practices, and an approximately equal distribution between practices in rural and urban areas. The Maturity Matrix was offered to practices in the same sampling frame, the only difference being that practices were categorized as single-handed or group (dual practices and larger). The Matrix was completed during the EPA visit.

Questionnaires to facilitators

Following data collection, an evaluation questionnaire was sent to 11 facilitators asking them to provide their experiences: The Netherlands (5), Switzerland (2), the UK (3) and Slovenia (1) (see the Appendix for the questionnaire).

Data analysis

Maturity Matrix feasibility, as a measure of organisational development suitable for international use, was assessed according to the following criteria:

- *Completion*: how many practices completed the Maturity Matrix?
- *Coverage*: did the dimensions provide adequate coverage of the areas considered important to participants?
- *Hierarchy of scale items:* were the dimension scales considered to be ordinal (i.e. sequential) by the practice staff?
- *Translation and wording:* was phrasing and language in the translated Maturity Matrix straightforward, understandable and interpretable in the context of each country's primary care system?
- *Distribution*: did the global Maturity Matrix scores each country generate approximately normal distributions? The 11 dimensions were treated as ordinal scales. Scores between 0-8 were allocated to each practice on each of the 11

	Slovenia	Switzerland	The UK	The Netherlands	Germany
GP density = no. of GPs per 1,000 people[a]	0.5	0.6	0.6	0.4	1.0
Reimburse-ment mechanisms[b]	Capitation and fee for service	Fee for service	Capitation and fee for service	Capitation and fee for service	Fee for service
Gatekeeping[c]	Yes	No	Yes	Yes	No
List system	Yes	No	Yes	Yes	No
Funding (Bocken *et al.*, 2001)	Two health insurance funds	100 health insurance funds	Government	30 statutory and 50 private insurers	Several hundred public or private health insurance funds
Features	Centralised system, no regional tier. Multidisciplinary teams based at network of health centres. Strong CPD system (WHO, 2002)	Open competition. Very few practices have electronic medical records (WHO, 2000)	National Health System. Team working with skill mix; contract with government determines service (WHO, 1999)	Healthcare is perceived as government and insurer responsibility, a national system (WHO, 2004)	Little acceptance of guidelines and audit. 40 per cent of primary care service provided by GPs. 25 per cent of GPs remain single-handed (Tuffs, 2004b)

Notes: [a]Data from OECD database (OECD Health Data, 2000). [b]Data from 1993 (Boerma *et al.*, 1994). [c]Data from 1996 (OECD Health Data, 2000)

Table III.
Participating countries' healthcare system characteristics

dimensions. A global score was calculated (between 0-88) for each practice, and skewness tests were undertaken.

- *Missing data:* the Maturity Matrix profiles were analysed for missing data, seeking a threshold less than 5 per cent missing information.

Results

In total, 153 practices from five countries participated in the study: 26 The UK (17 per cent); 30 Slovenian (19.6 per cent); 30 The Netherlands (19.6 per cent); 22 Swiss (14.4 per cent); and 45 German (29.4 per cent). Nearly twice as many group practices (103) took part as single-handed sites (50) and nearly a third more were based in urban settings (92) than in rural settings (61). Most group practices were two-partner (58); the remainder consisting of three or more (45).

Feasibility

Feedback from facilitators suggested that practice staff found the Maturity Matrix useful for reviewing organisational developments:

> Both sessions went very well. The group was very enthusiastic because it gave them a very good overview about their position and level (Facilitator (HK), The Netherlands).

Completion: in each participating country, every practice concluded the Maturity Matrix assessments and agreed profiles with their facilitator. These practices were already taking part in the EPA project. This entailed a considerable data collection workload and their additional participation in the Maturity Matrix indicates the ease with which the Maturity Matrix can be undertaken.

Dimension coverage of organisational activities: facilitator feedback from the Netherlands suggested that the tool could also usefully include dimensions describing the interface between primary and secondary care. The UK facilitators suggested that "access" for patients should be included and German facilitators suggested that "managing expendable materials" (i.e. stock control) could be added.

Maturity Matrix global score distribution: Table IV summarises the distributions. Values for the standard error of skewness varied between 0.43 (UK) to 0.49 (Switzerland). This indicates that the Maturity Matrix achieved normal distribution for each country's sample. The UK achieved the highest mean score, reflecting that the Maturity Matrix was developed for UK practices and includes organisation elements demanded in the "new" 2003 GP contract (General Practitioner Committee, 2003). Practice size did not make a significant difference to Maturity Matrix profile scores.

Table IV. Maturity Matrix score distribution by country

	The UK	Slovenia	The Netherlands	Germany	Switzerland
Mean	69.19	46.8	55.7	50.3	43.55
Minimum	48	32	34	27	24
Maximum	84	60	87	71	60
Variance	82.1	41.2	114.4	135.0	88.8
Std deviation	9.1	6.4	10.7	11.6	9.4
Standard error of skewness	0.46	0.43	0.43	0.43	0.49

Scale properties: the dimension scales were ordinal (i.e. Guttmann scales). Facilitators said that, when the following dimensions were discussed by practice staff, there was debate about ordering items:

- *Dimension 1*: Clinical data (Switzerland and Germany).
- *Dimension 4*: Clinician access to clinical information (Germany, The UK, The Netherlands).
- *Dimension 6*: Human resource management (The UK and Germany).
- *Dimension 9*: Risk management (Germany).
- *Dimension 10*: Sharing information with patients (Germany).
- *Dimension 11*: Learning from patients (Germany).

The commonest scoring problem was in the clinical data dimension. In Germany for example, only a small number of practices have electronic medical records and clinical data are often recorded on computer but not coded.

Translation and conceptual issues: participating countries sometimes had different perceptions about the meaning of particular dimensions. Dutch practices felt that the second dimension (auditing clinical performance) might be more valuable to practice staff if it focused more broadly on quality improvement cycles. This indicated that the UK is probably unique in the way audit cycles are precursors to clinical quality indicators (Baker *et al.*, 1995; Shelkelle, 2003). Additionally, Swiss and German practice staff had difficulty with the third dimension (using guidelines), possibly owing to a German facilitator's observation that only a few formal guidelines have been developed and implemented. Swiss practice staff said that there was some difficulty with the wording as a result of using the German translation.

Missing dimension scores: a few dimension scores missing and in two countries. Only five practices submitted incomplete profiles, representing 3.2 per cent of the total sample. Missing scores were recorded from practices in Germany for the following dimensions:

- clinical data, one practice;
- auditing clinical performance, one practice;
- prescribing, one practice; and
- risk management, one practice.

In Switzerland, one practice was unable to complete the "continuing professional development" dimension. All other practices submitted complete profiles.

The following dimensions appear robust across participating countries:

- auditing clinical performance;
- prescribing;
- meetings; and
- continuing professional development.

Using guidelines, risk management, sharing information with patients and learning from patients were problematic in one country (Germany) and personnel management, clinical data, clinician access to clinical information were problematic in more than one country.

Discussion

Our findings suggest, with caution, that it is feasible to use the Maturity Matrix method with family practices based in European primary care settings with different health care systems. The Maturity Matrix does not attempt to measure specific organisational structures that vary from country to country; rather, it focuses on more general organisational processes relevant to most health care practices and teams. Certainly, those dimensions with more robust scaling and content described general processes whereby practice teams collectively considered developing an area, which might change that area and link changes to other practice processes. Less robust dimensions tended to describe specific developments in UK practices as outlined by the UK GMS contract (General Practitioner Committee, 2003) and thus these dimensions were sometimes perceived as less relevant or more difficult from a scaling perspective by other countries. There was no indication that staff in different sized practices experienced dissimilar levels of feasibility when using the Maturity Matrix.

Study strengths and limitations

The findings should be interpreted with caution because convenience samples were used and thus cannot be generalised. Additionally, the study took place within a wider European study, which may have biased the sample; especially practice staff choosing to complete the Maturity Matrix profile. We note that these practices were already under a burden prior to participation in the Maturity Matrix study. Finally, the translation process did not always follow a standard procedure for instrument certification (dual independent forward and backward translations) in all countries.

Implications

However, data provided information about how to refine the Maturity Matrix in order that dimensions become more generic to primary care practice organisational development in different countries less specific to the UK context. In doing so, like other international measures such as the European Practice Assessment tool, it has to strike a balance between containing dimensions that pick up difference between countries, without being perceived as irrelevant. Thus for example, the clinical record dimension needs to reflect both the current situation and relevant scope for "development", and not, for instance, assuming that electronic (often shared) records are always attainable or desirable. In this way the instrument could show different performance levels among countries that highlight potential to improvement and engage in cross-national learning.

While there is an increasing body of literature about professionally-led practice assessments and practice-based approaches that are country specific (RACGP (Royal Australian College of General Practitioners), 1996; RNZGP (Royal New Zealand College of General Practitioners), 2002; Booth *et al.*, 1998; Eliasson *et al.*, 1998), there is little published about international approaches to practice-based quality improvement. It has been argued that both externally-led and practice-based approaches are needed as separate but co-ordinated parts of a country's quality assurance system (Buetow and Buetow, 2003; Walshe and Walsh, 2000). The tool may serve as a guide for international discussions about improving service quality, as with the guideline availability and use in Germany example. International, particularly European, initiatives would also then be well informed to implement specifically tailored quality improvement strategies.

Practice staff increasingly found themselves part of a wider primary care organisation network, linking also to international insurance companies, other primary care physicians and local management units. The Maturity Matrix provides a valuable tool for formative self-assessment and a framework for dialogue with stakeholders. This may be particularly so if the facilitator is from one of these groups, as with many of those in this study. When such links are in place, the opportunity to benchmark data for identifying practice development is also potentially valuable.

Conclusion and recommendations

More work is needed to develop an international version of the Maturity Matrix to highlight learning opportunities from cross-national experiences. Our study demonstrates that it is feasible to use the Maturity Matrix to review family practice development using a facilitated group process. Developing an international version needs to account for three issues:

(1) Creating core dimensions that are equally relevant to different primary care contexts.

(2) Creating items that reflect ordinal scaling in different primary care contexts.

(3) International use demands a more rigorous approach to translation and training, ensuring that organisational concepts described by the Maturity Matrix are consistently interpreted and applied.

These issues point to an evolving Maturity Matrix using consensus methods to realise its full potential as an international quality improvement instrument.

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Appendix

Maturity Matrix – evaluation questionnaire sent to each facilitator

- Facilitator's name.
- In how many practices did you use the Maturity Matrix?

Instrument characteristics

- Problems at the item level?
- Problems at the dimension level?
- Dimensions that was not incremental?
- Problems with overall areas measured; for example, missing or inappropriate areas?
- Areas where the Maturity Matrix does not work in your country setting?

Maturity Matrix manual

- Problems identified in the manual?
- Suggestions for improving the manual?
- Problems with the process.
- How could conducting the Maturity Matrix session be improved? For example, should an information package be sent in advance?
- Describe your best Maturity Matrix session and why it went well.
- Describe your worst Maturity Matrix session and how to avoid similar problems.

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