DEMYSTIFYING AMEQUIS

WEBINAR

15.06.2022

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Agenda

Duration Total: 45 mins	Topics	Lead
5 mins	Introduction	Ines Hernando
5 mins	Overview of AMEQUIS	Matt Bolz-Johnson
5 mins	Part 1: Assessment	
5 mins	Part 2: Monitoring	
5 mins	Part 3: Evaluation	
5 Min	Part 4. Quality Improvement	
15 mins	Questions & Answers	All

Introduction

Ines Hernando

Overview for AMEQUIS

Matt Bolz-Johnson

Core Reference Documents: Overview

4.4.2011 EN Official Journal of the European Union L 88/45

DIRECTIVES

DIRECTIVE 2011/24/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 9 March 2011
on the application of patients' rights in cross-border healthcare

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Articles 114 and 168 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Economic and Social Committee (1),

Having regard to the opinion of the Committee of the Regions (2),

Acting in accordance with the ordinary legislative procedure (3),

Whereas:

(1) According to Article 168(1) of the Treaty on the Functioning of the European Union (TFEU), a high level of human health protection is to be ensured in the definition and implementation of all Union policies and activities. This implies that a high level of human health protection is to be ensured also when the Union adopts acts under other Treaty provisions.

(2) Article 114 TFEU is the appropriate legal basis since the majority of the provisions of this Directive aim to improve the functioning of the internal market and the free movement of goods, persons and services. Given that the conditions for recourse to Article 114 TFEU as a legal basis are fulfilled, Union legislation has to rely on this legal basis even when public health protection is a decisive factor in the choices made. In this respect, Article 114(3) TFEU explicitly requires that, in achieving harmonisation, a high level of protection of human health is to be guaranteed taking account in particular of any new development based on scientific facts.

(3) The health systems in the Union are a central component of the Union's high levels of social protection, and contribute to social cohesion and social justice as well as to sustainable development. They are also part of the wider framework of services of general interest.

(4) Notwithstanding the possibility for patients to receive cross-border healthcare under this Directive, Member States retain responsibility for providing safe, high quality, efficient and quantitatively adequate healthcare to citizens on their territory. Furthermore, the transposition of this Directive into national legislation and its application should not result in patients being encouraged to receive treatment outside their Member State of affiliation.

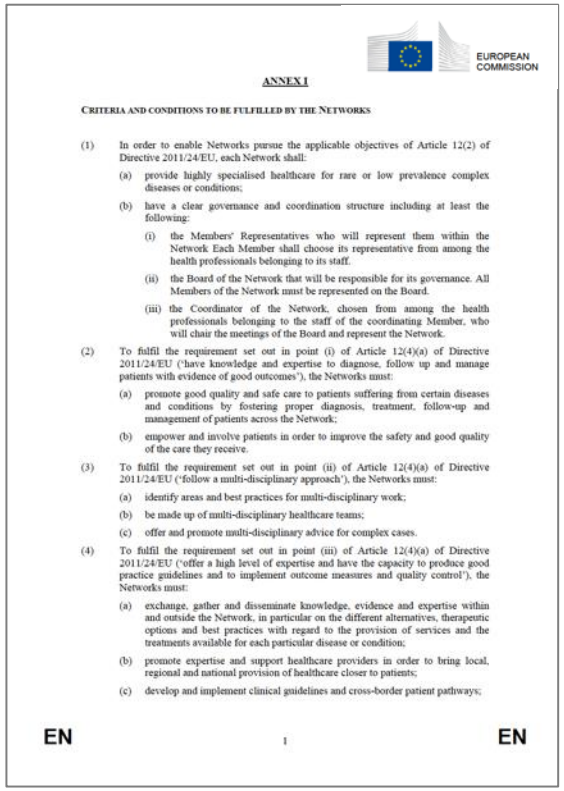
(5) As recognised by the Council in its Conclusions of 1-2 June 2006 on Common values and principles in European Union Health Systems (4) (hereinafter the 'Council Conclusions') there is a set of operating principles that are shared by health systems throughout the Union. Those operating principles are necessary to ensure patients' trust in cross-border healthcare, which is necessary for achieving patient mobility as well as a high level of health protection. In the same statement, the Council recognised that the practical ways in which these values and principles become a reality vary significantly between Member States. In particular, decisions about the basket of healthcare to which citizens are entitled and the mechanisms used to finance and deliver that healthcare, such as the extent to which it is appropriate to rely on market mechanisms and competitive pressures to manage health systems, must be taken in the national context.

(6) As confirmed by the Court of Justice of the European Union (hereinafter the 'Court of Justice') on several occasions, while recognising their specific nature, all types of medical care fall within the scope of the TFEU.

(1) OJ C 175, 28.7.2009, p. 116.
(2) OJ C 120, 28.5.2009, p. 65.
(3) Position of the European Parliament of 23 April 2009 (OJ C 184 E, 8.7.2010, p. 368), position of the Council at first reading of 13 September 2010 (OJ C 275 E, 12.10.2010, p. 1), position of the European Parliament of 19 January 2011 (not yet published in the Official Journal) and decision of the Council of 28 February 2011.

(4) OJ C 146, 22.6.2006, p. 1.

Cross-border Healthcare Directive (2011/24/EU)



EUROPEAN COMMISSION

ANNEX I

CRITERIA AND CONDITIONS TO BE FULFILLED BY THE NETWORKS

(1) In order to enable Networks pursue the applicable objectives of Article 12(2) of Directive 2011/24/EU, each Network shall:
- (a) provide highly specialised healthcare for rare or low prevalence complex diseases or conditions;
- (b) have a clear governance and coordination structure including at least the following:
  - (i) the Members' Representatives who will represent them within the Network Each Member shall choose its representative from among the health professionals belonging to its staff.
  - (ii) the Board of the Network that will be responsible for its governance. All Members of the Network must be represented on the Board.
  - (iii) the Coordinator of the Network, chosen from among the health professionals belonging to the staff of the coordinating Member, who will chair the meetings of the Board and represent the Network.

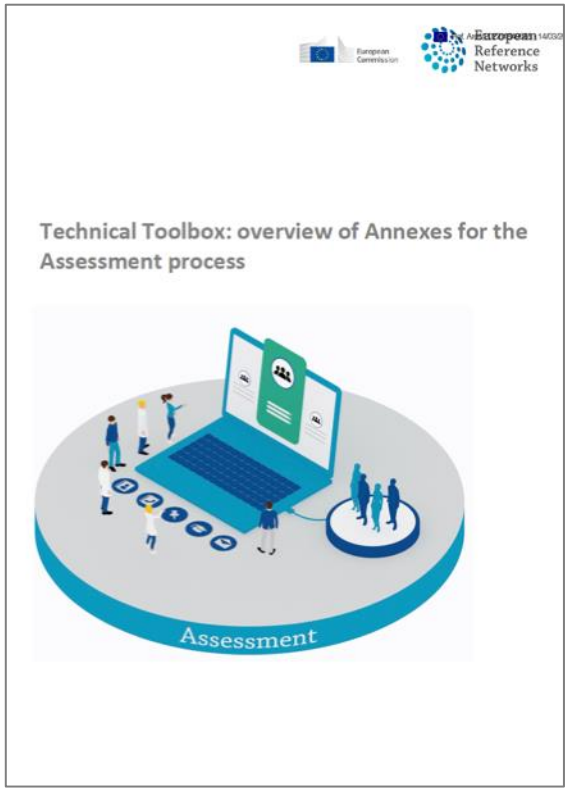
(2) To fulfil the requirement set out in point (i) of Article 12(4)(a) of Directive 2011/24/EU ('have knowledge and expertise to diagnose, follow up and manage patients with evidence of good outcomes'), the Networks must:
- (a) promote good quality and safe care to patients suffering from certain diseases and conditions by fostering proper diagnosis, treatment, follow-up and management of patients across the Network;
- (b) empower and involve patients in order to improve the safety and good quality of the care they receive.

(3) To fulfil the requirement set out in point (ii) of Article 12(4)(a) of Directive 2011/24/EU ('follow a multi-disciplinary approach'), the Networks must:
- (a) identify areas and best practices for multi-disciplinary work;
- (b) be made up of multi-disciplinary healthcare teams;
- (c) offer and promote multi-disciplinary advice for complex cases.

(4) To fulfil the requirement set out in point (iii) of Article 12(4)(a) of Directive 2011/24/EU ('offer a high level of expertise and have the capacity to produce good practice guidelines and to implement outcome measures and quality control'), the Networks must:
- (a) exchange, gather and disseminate knowledge, evidence and expertise within and outside the Network, in particular on the different alternatives, therapeutic options and best practices with regard to the provision of services and the treatments available for each particular disease or condition;
- (b) promote expertise and support healthcare providers in order to bring local, regional and national provision of healthcare closer to patients;
- (c) develop and implement clinical guidelines and cross-border patient pathways;

EN 1 EN

ERN Delegated Decision (2014/286/EU)



Application Form, Grant Agreements & Operational Criteria

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Cross-border Healthcare Directive

ERNs' Objectives

European Reference Networks shall have **at least 3 of the following objectives:**

1. help realise the potential of European cooperation regarding highly specialised healthcare for patients and for healthcare systems;
2. contribute to the pooling of knowledge regarding sickness prevention;
3. facilitate improvements in diagnosis & delivery of high-quality, accessible and cost-effective healthcare for patients with conditions requiring a particular concentration of expertise domains where expertise is rare;
4. maximise the cost-effective use of resources by concentrating them where appropriate;
5. reinforce research, epidemiological surveillance and provide training for health professionals;
6. facilitate mobility of expertise, develop, share and spread information, knowledge and best practice and foster developments of the diagnosis and treatment of rare diseases, within and outside the networks;
7. encourage the development of quality and safety benchmarks and to help develop and spread best practice within and outside the network;
8. help MS with an insufficient number of patients with a particular medical condition or lacking technology or expertise to provide highly specialised services of high quality.

"Quality Improvement" as a Learning System

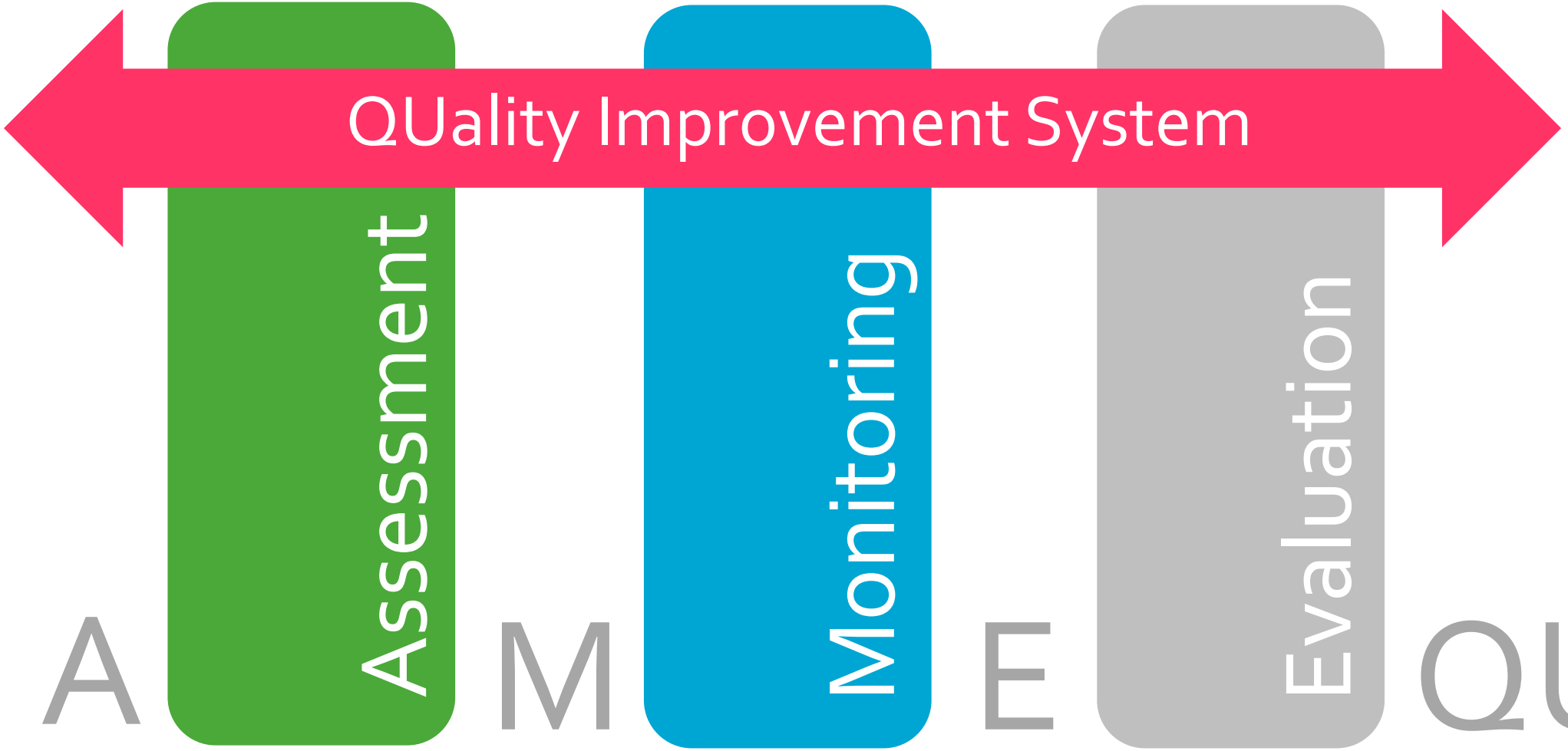
QI Guiding Principles:

1. Improvement Should be Continuous and Incremental (Process)
2. Everybody is responsible for Quality Improvement (Culture)
3. Goals & Metrics must be clear and aligned (Measures)
4. Respect for people is Indispensable (Partnerships)
5. Standards are necessary, but always changing (Standards)
6. Focus on patient experience across the care continuum. (Patient-Centred)

QI Approaches

- Plan-Do-Study-Act (PDSA) cycle
- Six Sigma
- Lean
- Donabedian (structure-process-outcome model)

Overview of AMEQUIS



‘A’ is for Assessment

Evidence-base

- Dynamic process to stimulate quality improvement, rather than a snapshot standalone activity[1].
- Promote improvements by applying standards and providing feedback[2].
- Strong association with improved quality, patient outcomes and reduce clinical variation[3].
- Predictor of clinical and service performance[4].
- All assessment methods have their strengths and limitations, multiple methods allows triangulation of evidence[5].
- Patient involvement improves the relevance of the assessment to care[6].

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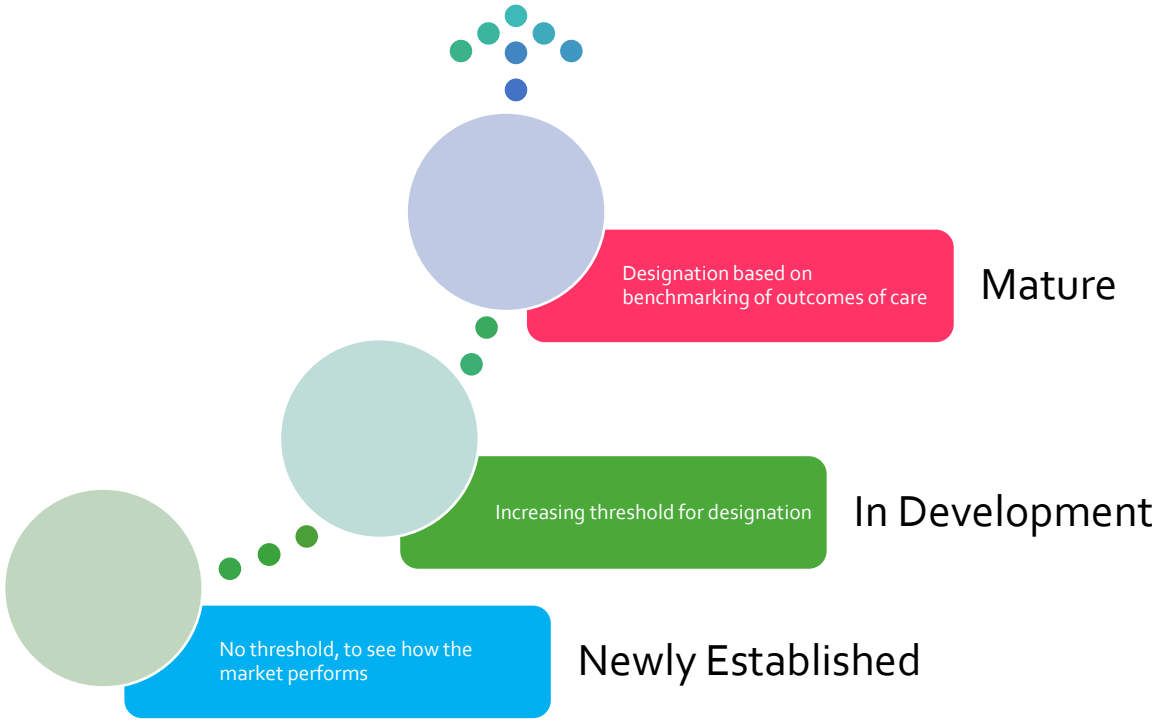
Assessment as a Dynamic Quality Improvement Framework

Clinicians and hospitals see accreditation as:

- A 'hurdle' to cross at a single point in time
- administrative burden with little value to their clinical services

However, published evidence positions it as:

- 'continuous quality improvement schemes' which over time
- the threshold for endorsement is dynamic and increases, year on year
- requiring hospitals to continuously drive quality improvements to their services
- variability in the maturity of assessment

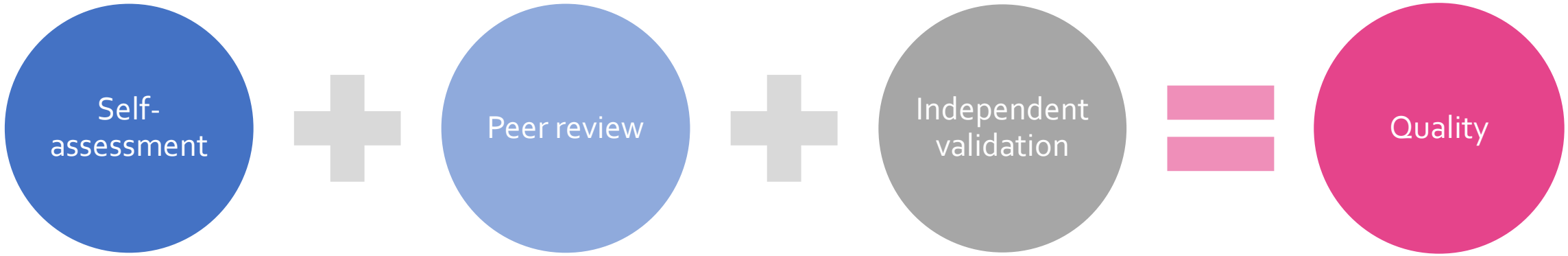


Summary of Assessment Methods Ability to Assess Structure, Processes and Outcomes

Location	Effort/ intensity	Structure	Processes	Outcomes	
Routine health system	Remote	+	+	+	+
Service specific	Remote	++	++	++	++
Service Based					
Visit	Local	++	+++	+++	+
Staff Interviews	Local	+++	+	+++	++
Patient Interviews	Local	+++	+	+++	++
Questionnaires					
Service Survey	Remote	+	++	++	+
Staff	Remote	+	++	++	+
Patient	Remote	+	+	+++	++
Case Review					
Medical Record Review	Local	+++	+	+++	+++
2nd Opinion	Remote	++	+	+	+++

Reference: EC literature review on the Assessment Methods for healthcare

Assessment Methodology – Mixed Model



Effectiveness of technical assessment is dependent on using multiple methods to assess quality

- Self-assessment which is peer reviewed and with external validation optimise efficacy and improve the quality of the services
- Documentation review followed by a sample of on-site visit using a patient tracker system to validate self-assessment
- Patient involvement in the process of assessment improves the relevance of the assessment to patient care
- Effectiveness of mix-model is dependent on the sampling methodology (!)

TYPES OF OPERATIONAL CRITERIA TO ASSESS (NEW) NETWORKS & QUALITY AND EXPERTISE OF HCPS

Networks

GENERAL Criteria and Conditions to be fulfilled:

1. Highly Specialised Healthcare
2. Governance and Coordination
3. Patient Care
4. Multidisciplinary Approach
5. Good Practice, Outcome Measures, and Quality Control
6. Contribution to Research
7. Continuous Education, Training, and Development
8. Networking and Collaboration

Defined in the Network proposal, Fulfillment assessed for each applicant healthcare provider. Based on the evidence and consensus of the scientific, technical and professional community

Healthcare Providers

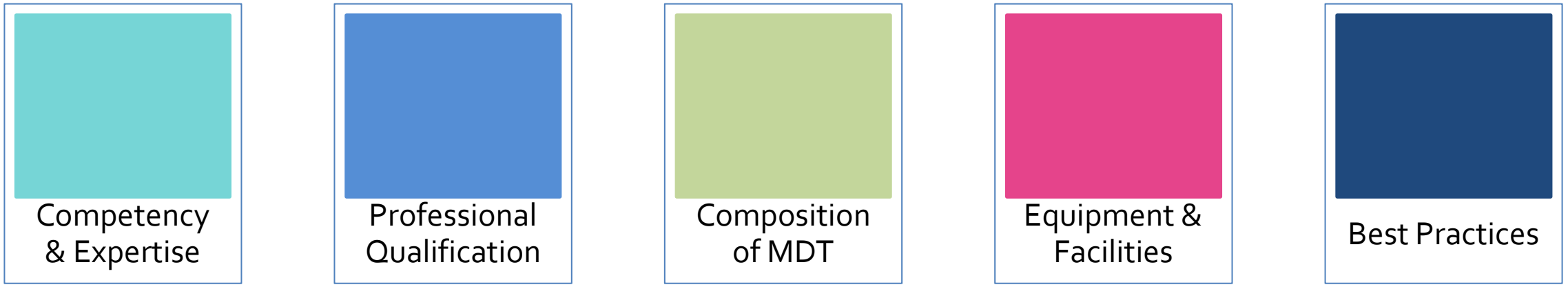
GENERAL Criteria and Conditions to be fulfilled:

1. Patient Empowerment and Patient-Centred Care
2. Organisation, Management, and Business Continuity
3. Research, Education and Training
4. Expertise, Information Systems, and e-Health Tools
5. Quality and Safety

SPECIFIC Criteria and Conditions to be fulfilled:

1. Competence, Experience and Outcomes of Care
2. Human Resources
3. Organisation of Patient Care
4. Facilities and Equipment

Specific Criteria for HCPs - Evidence



Competency & Expertise (examples):

- **No. of Interventions**: 50 bone sarcoma surgeries and 100 soft tissue surgeries per year
- **No. of Patients**: Caseload of 250 people with NF2
- **Treatment Outcome**: 5 positive diagnosis of Primary Ciliary Dyskinesia
- **Benchmarking Outcomes**

Operational Criteria & Core Measures

Networks

AREA	No. CRITERIA	No. MEASURES	No. Core MEASURES**
Establishment of an ERN	1	1 (*1)	-
Highly Specialised Healthcare	1	3	3
Governance & Coordination	1	7 (*2)	4
Patient Care	2	10	1
Multi-disciplinary Approach	1	3	1
Good Practice, Outcome Measures & Quality Control	4	8	6
Contribution to Research	1	4	1
Continuous Education & Training	1	3	1
Networking & Collaboration	1	3	2
Total	**13**	**42**	**19**

(*) This symbol is used to designate those measures identified as a minimum requisite for eligibility.

(**) This symbol is used to designate those measures that are considered “core measures”.
For the initial application, some of the measures have been designated as core measures. For these measures, Network Applicants must ensure that they are in compliance with these requirements by either having it in place or addressed within a detailed and well-defined implementation strategy within one year of the formal establishment of the Network.

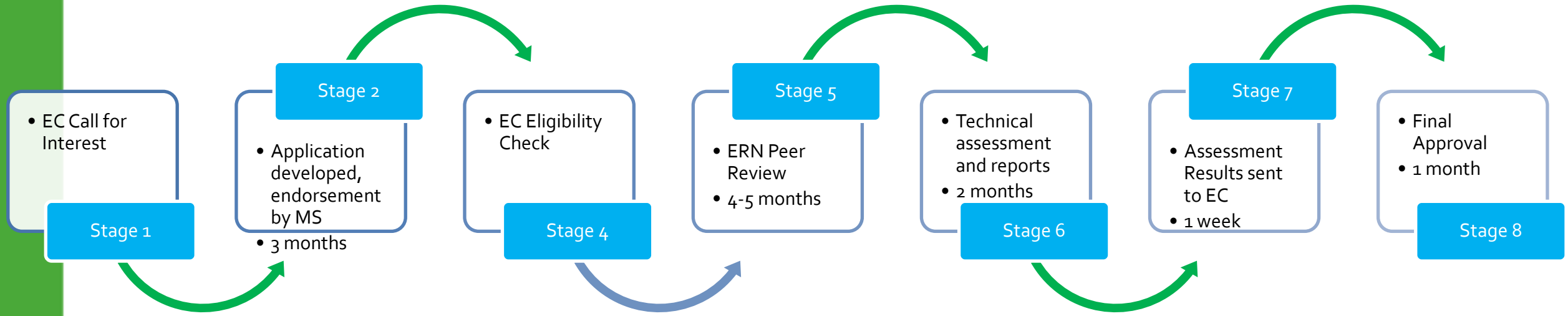
HCP Members

General Criteria	No. CRITERIA	No. MEASURES	No. Hospital MEASURES
Patient Empowerment & Patient Centred Care	7	15	5
Management & Business Continuity	6	10	1
Research, Education & Training	2	11	1
Expertise, Information Systems & eHealth Tools	4	5	-
Quality & Safety	3	9	1

Specific Criteria			
Competency, Experience & Outcomes of Care	2	4	-
Human Resources	1	4	-
Organisation of Patient Care	1	6	-
Facilities & Equipment	1	4	-
Total	27	68	8

Overview of Assessment Process for new HCPs

- National Endorsement
- Objectives of process
- 8-Stage Process that takes minimum 12 months
- Tools: HCP Members Operational Criteria, Check list



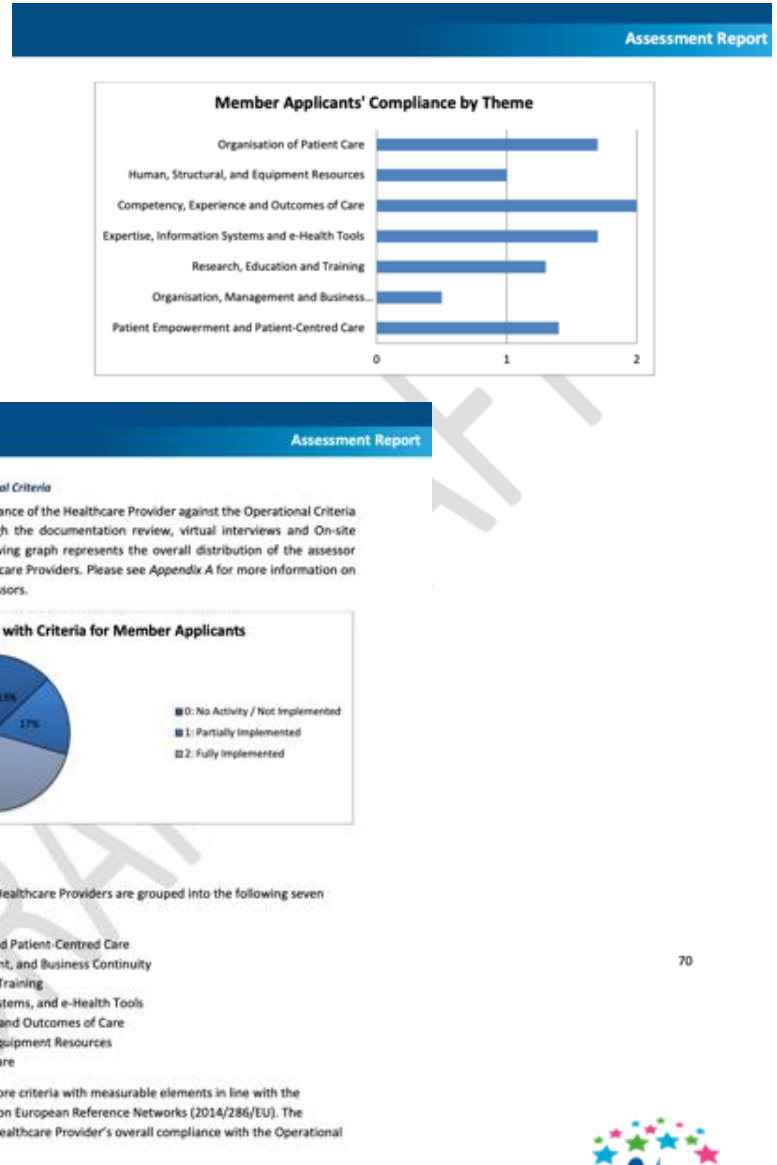
Threshold for Positive Assessment

Positive Assessment for Networks:

- An overall compliance rate of 50% of the maximum score (previously 70%) must be achieved.
- At least 10 Healthcare Provider Applicants from 8 Member States must receive a positive assessment

Positive Assessment for HCP Applicants:

- A minimum of 70% of the general operational criteria
- A minimum of 80% of the specific criteria.



‘M’ is for Monitoring

Evidence-base

- The act of measuring alone is viewed as a stimulus for quality improvement[7].
- Provides an opportunity to consider the results of monitoring, take timely action and learn from experience along the lifecycle of the service[8].
- Important to secure agreement on outcomes in advance rather than being imposed[9].
- Indicators to raise the awareness of quality issues, alert stakeholders to specific areas and provide an opportunity to improve practice[10].

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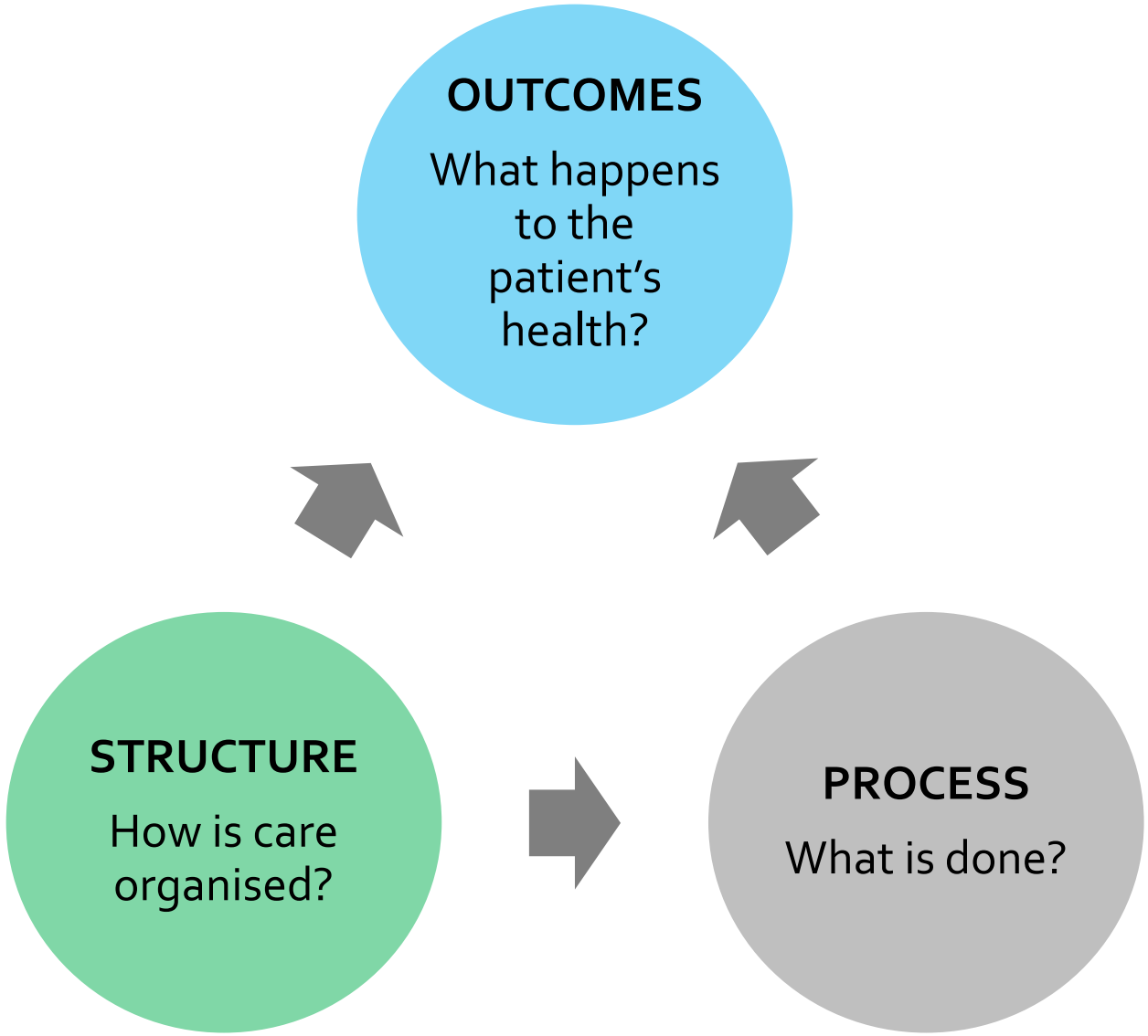
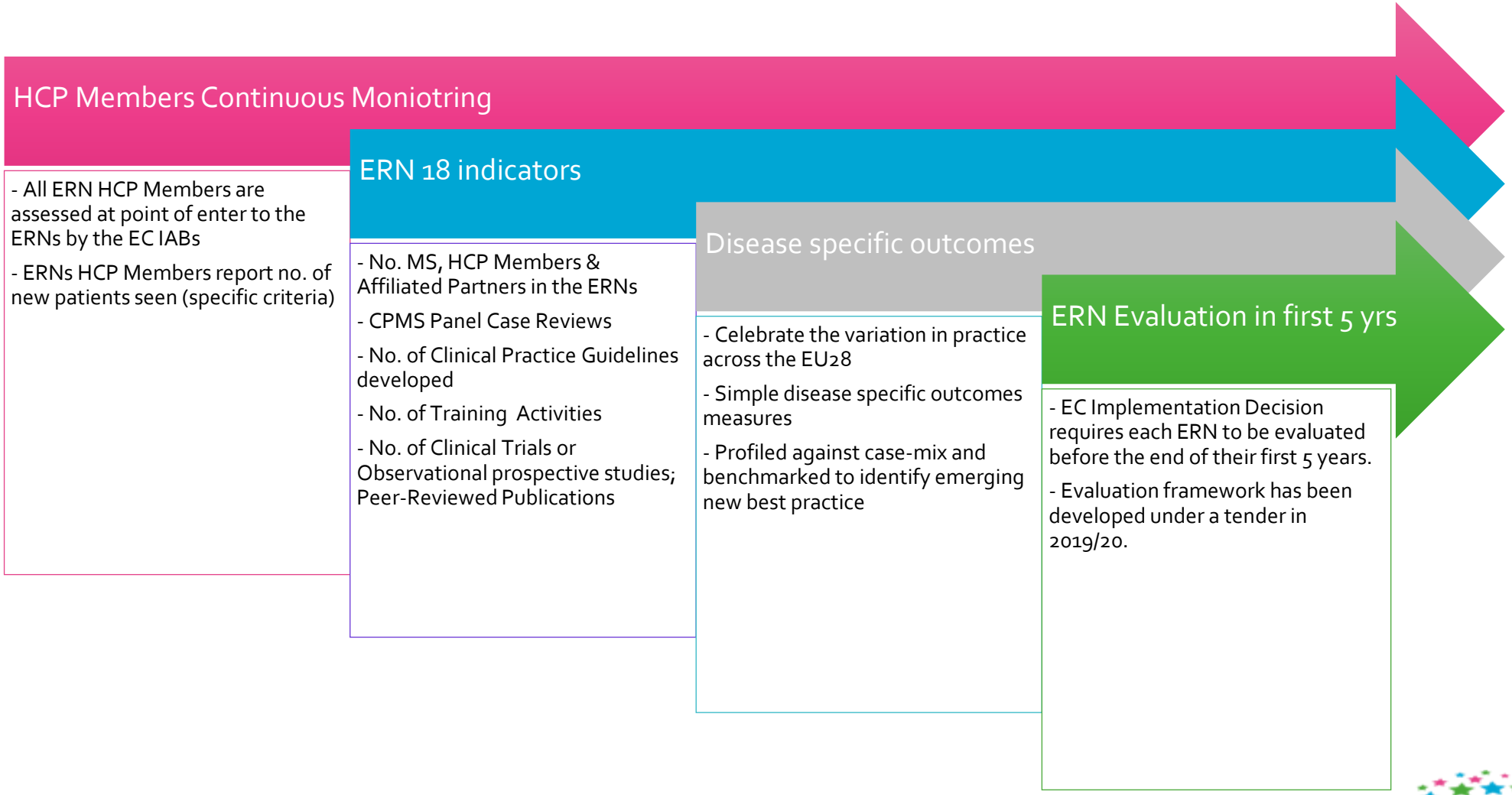
Donabedian Model



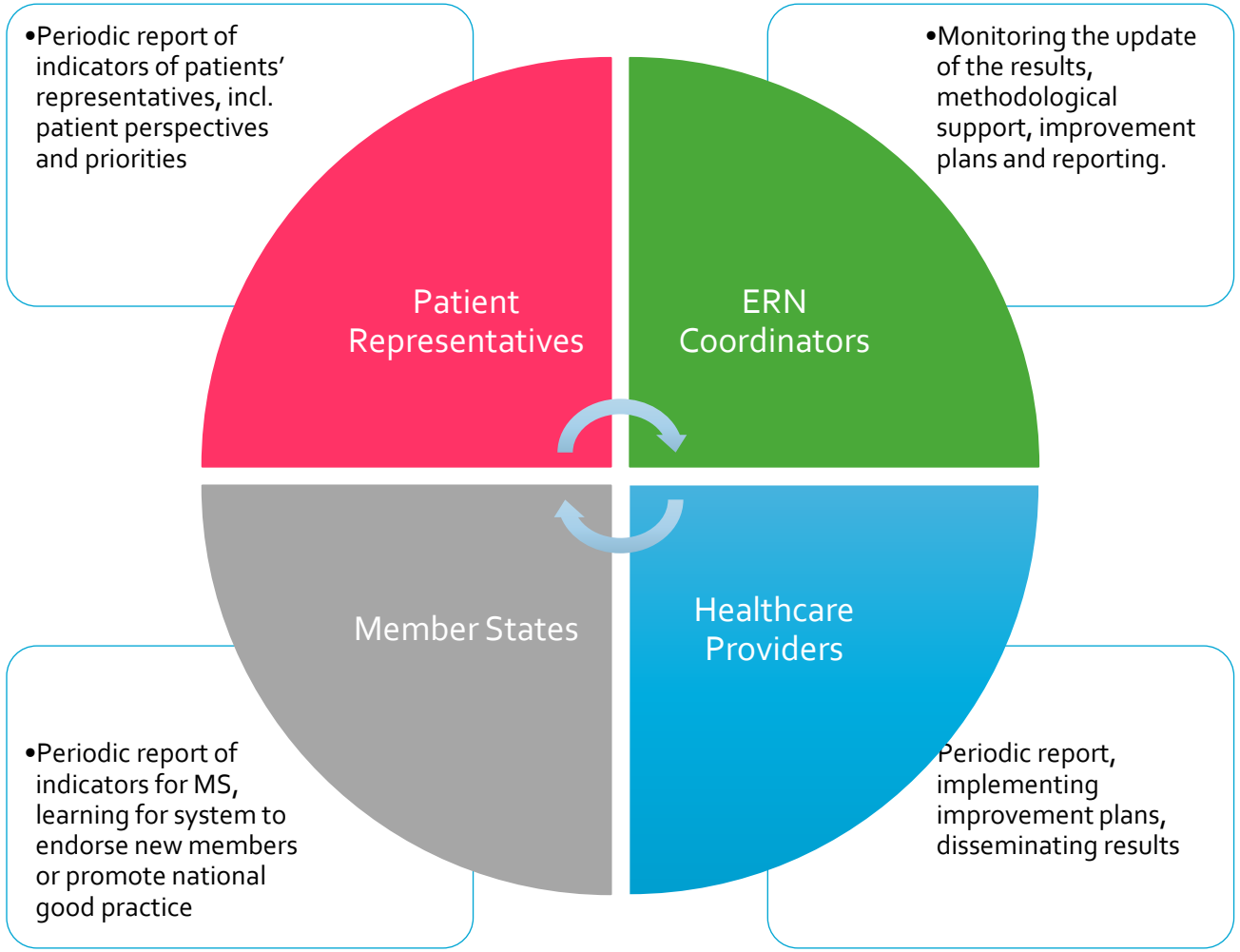
ERN Monitoring Framework



Original ERN Continuous Monitoring - 18 Indicators

Domain	Indicators
Coverage & Membership	1. No. MS represented in the ERN as full HCP Members – Structure (S) 2. No. of HCP Members - S 3. No. of Affiliated Partners (AP) represented in the ERN - S 4. No. of PO in the ERN Meetings – S
Expert Advice	5. Total No. of New Patients referred to HCP Members – Process (P) 6. No. of Patients entered into CPMS (total volume) - P 7. No. of Panel Case Reviews - P 8. Delay to provide multidisciplinary clinical advice: Non-emergency cases - P
Patient Satisfaction	9. Level of patient satisfaction – Outcomes (O)
Education Activities	10. No. of Educational Webinars for healthcare professionals - P 11. No. of Formal Educational Activities for healthcare professionals - P
Research	12. No. of Clinical Trials or Observational prospective studies within ERN - P 13. No. of Peer-Reviewed Publications in scientific journals – P
Clinical Guidelines	14. No. of Clinical Practice Guidelines adopted – P 15. No. of new ERN Clinical Practice Guidelines - P 16. Health Care Provider Compliance to Clinical Guideline - P
Dissemination Knowledge	17. No. of Congresses/Conferences/Meetings where ERN activities and results were presented - P 18. No. of individual ERN website hits – P

All Stakeholders Involved in Monitoring



Monitoring Domains

No.	Indicator Domains	No.	New Indicator Domains
4 (-)	Coverage & Membership	2 (-)	Organisation and coordination
4 (-)	Expert Advice	2 (4)	Patient Care
		2 (4)	Multidisciplinary approach and sharing of knowledge
1 (-)	Patient Satisfaction	4 (-)	Patient-Centred care
2 (-)	Education Activities	2 (-)	Professional's training
2 (-)	Research	3 (6)	Contribution to research & innovation
3 (-)	Clinical Guidelines	3 (-)	Clinical guidelines
1 (-)	Dissemination Knowledge	1 (-)	Dissemination & Communication
		1 (-)	Integration in the National System
Total:	**18 (-)**	**Total**	**20 (27)**

‘E’ is for Evaluation

Evidence-base

- Evaluation goes beyond simple judgement of achievement of objectives and standards. Evaluation outcomes need to stimulate improvement in quality across all stakeholder levels[11].
- Leverage data that has been collected under different contexts to evaluate added value[12].
- Motivates achievement of best practice credibility for current practice and future direction[13].
- Patient experience and satisfaction of service quality is important enough that it is a predicator of survival[14].

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Evaluation Elements – EURORDIS approach

1. Structure

- How is the ERN covering the areas it stated it would - including geographical, diseases and conditions, and patient population.

2. Maturity

- At what stage of development is the network at regarding its purpose, governance, leadership, learning and sustainability
- Level of integration into national health systems

3. Activity

- To what degree has the ERN completed the activities it planned to perform
- Scale and ambition of the achievements

4. Impact

- What has been the value added to the patients' experience, both receiving services with each member, and their pathway through the network
- Impact locally, use of ERN tools

Reference:

- The Health Foundation, "Effective networks for improvement: Developing and managing effective networks to support quality improvement in healthcare", p.11.
- EURORDIS recommendations

Objectives of the Evaluation process of ERNs and HCPs

The general objective of the evaluation process is to verify and assess:

1. The accomplishment of the objectives set out in the Cross-border healthcare Directive
2. The fulfilment of the criteria and conditions set out in the Delegated Decision for ERNs and HCPs (2014/286/EU)
3. The outcomes and performance of the Network and the contribution of each Member
4. The achievement of the objectives and quality of the deliverables produced within the ERNs Grant Agreements

The evaluation of the individual Members of the Network should assess:

1. If the HCP continues to provide specialised and quality care
2. If the HCP team maintains the necessary levels of activity and experience
3. What has been the contribution of the HCP team to the Network
4. The value of the ERN for the HCP

Evaluation Criteria & Measurement Elements – proposed by the AMEQUIS Consortium

EVALUATION CRITERIA FOR NETWORKS			
AREA	**No. CRITERIA**	**No. ME**	**No. core ME**
Governance and coordination	4	15	10
Clinical care	3	9	5
Quality and patient safety	2	3	0
Patient centred care	3	6	3
Contribution to research	3	7	4
Education and training	2	6	4
Networking and dissemination	3	6	4
TOTAL	20	52	30

- The evaluation criteria is mainly based on verifying to which extent the Networks and their Members meet quality requirements related to the achievement of the objectives for which they were constituted.
- Quality requirements are formulated as criteria, which describe an "enhanced practice" which is both aspirational and achievable.
- The measurable elements (ME) are used to access the aspect or level of performance under each criterion.

- Some measurable elements are considered "**core**" and should have been implemented at the time of evaluation.
- Remaining measurable elements are important areas as they can serve as an indicator of their **maturity status**.
- The findings obtained to fulfilment of the criteria will serve to draw conclusions about the performance of the Network & HCP Members in the last 5 years

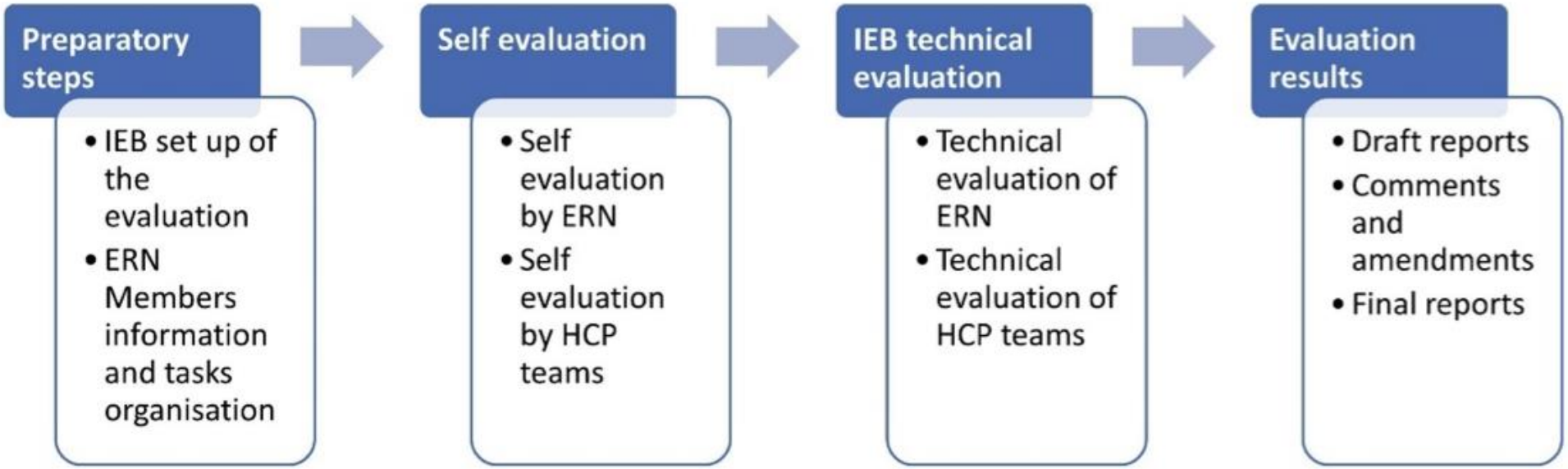
EVALUATION CRITERIA FOR HCP TEAMs			
AREA	**No. CRITERIA**	**No. ME**	**No. core ME**
Patient centred care	9	19	8
Organisation and management	5	10	4
Research, education, and training	2	11	6
Exchange of expertise, ICT, and eHealth	3	7	3
Quality and safety	2	9	2
Competence, experience, and outcomes of care	1	4	4
Human resources	2	4	2
TOTAL	24	64	29

Timeline for the Evaluation Process

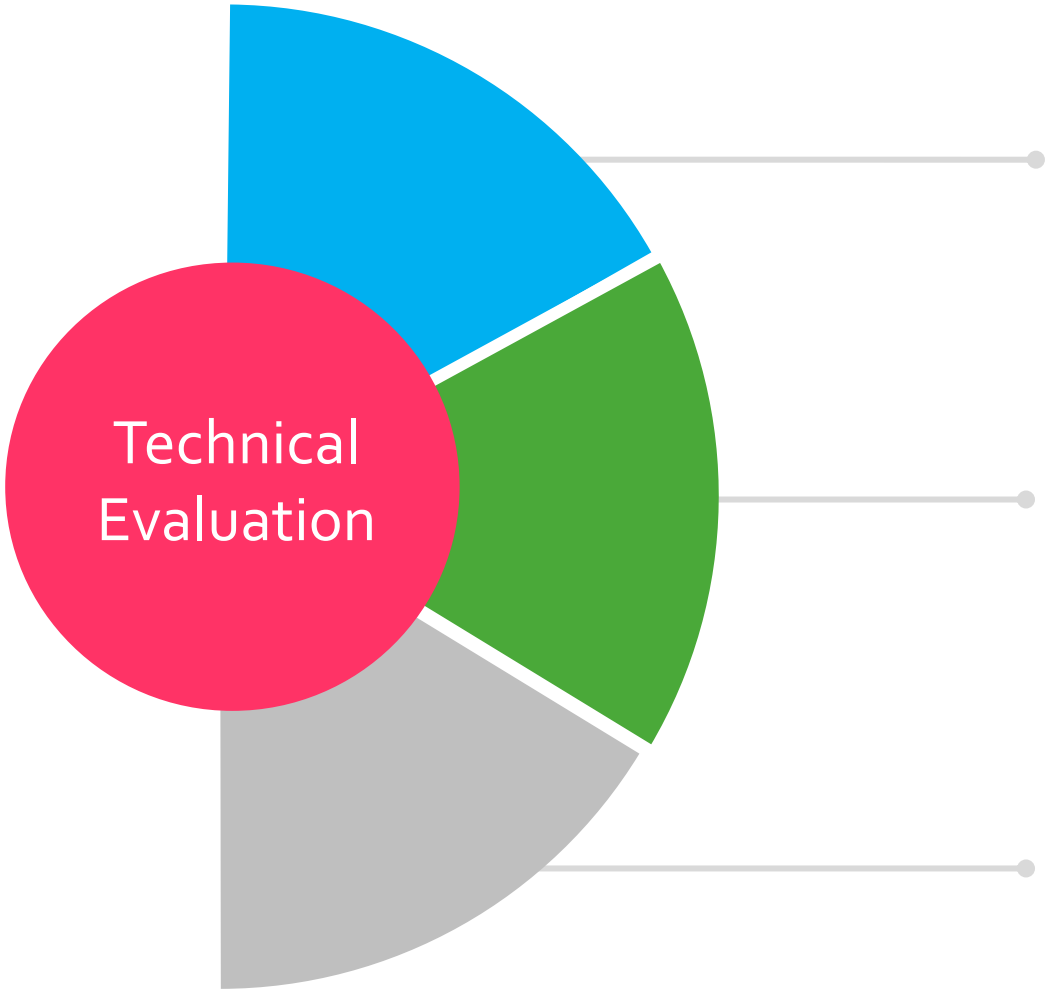
1. ERN Coordinators requests the EC to be evaluated and the EC appoints the Independent Evaluation Body.

2. The evaluation process may take between 10 to 12 months, from the appointment of the Independent Evaluation Body to the issuance of the final evaluation reports.

Phases of the evaluation process:



Technical Evaluation of the Networks



Online meeting with ERN and WPs Coordinators

- Conduct one or more interviews with the Network Coordinators & Coordinators of the EU Funded Project.

Self-Evaluation & Documentation Review

- Self-evaluation: Review each of the criteria and measurable elements, and justify level of compliance and providing corresponding evidence

- Documentation Review: Initial assessment application, monitoring indicators, grant reports, sample of deliverables and the self evaluation

Online meeting with patient representatives

- Level of participation in the different actions of the Networks including governance and strategic planning.

Evaluation Reports

Evaluation Report for Networks:

- Conclusions of the evaluation team
- Overall compliance with the operational criteria by the ERN and the HCPs
- Results of the Network in the measurable elements (MEs) from each area
- Detailed results of each criterion and areas for improvement
- Evaluation of the achievement of the objectives and quality of the deliverables produced within the ERNs Specific Grant Agreements.
- Summary of the evaluation results of the Members of the Network
- Outcome of the evaluation:
  - Scoring table of operational criteria for the ERN (including specific score of core MEs)
  - Qualitative assessment of the accomplishment of the objectives initially selected by the ERN
  - Result of the evaluation according to the **decision guidelines:** satisfactory or needing improvement

Evaluation Report for HCPs:

- Conclusions of the evaluation team
- Overall compliance with the operational criteria
- Results of the HCP in the measurable elements from each area
- Detailed results of each criterion and areas for improvement
- Outcome of the evaluation (scoring table): indicating the specific score of core MEs and score of those MEs that identify HCP contribution to the mission of the Network
- Result (according to the **decision guidelines**): satisfactory or needing improvement.

Outcome

- Not intended to obtain a "positive" or "negative" result
- Just "satisfactory" or "needs improvements"
- One year improvement plans

‘QUIS’ is for QUality Improvement System

Evidence-base

- A dynamic and responsive system that drives a culture of continuous quality improvement and enhanced patient safety by leveraging the lessons and experiences of ERN stakeholders.
- Assessment, monitoring and evaluation connected seamlessly to form a dynamic learning culture focused on quality improvement; and not conceptually standalone, static actions.
- The *AMEQUIS* model promotes improvement through small, actionable cycles that, over time, assemble into a continuous thread of quality improvement based on evidence, best-practice, and past-experience.

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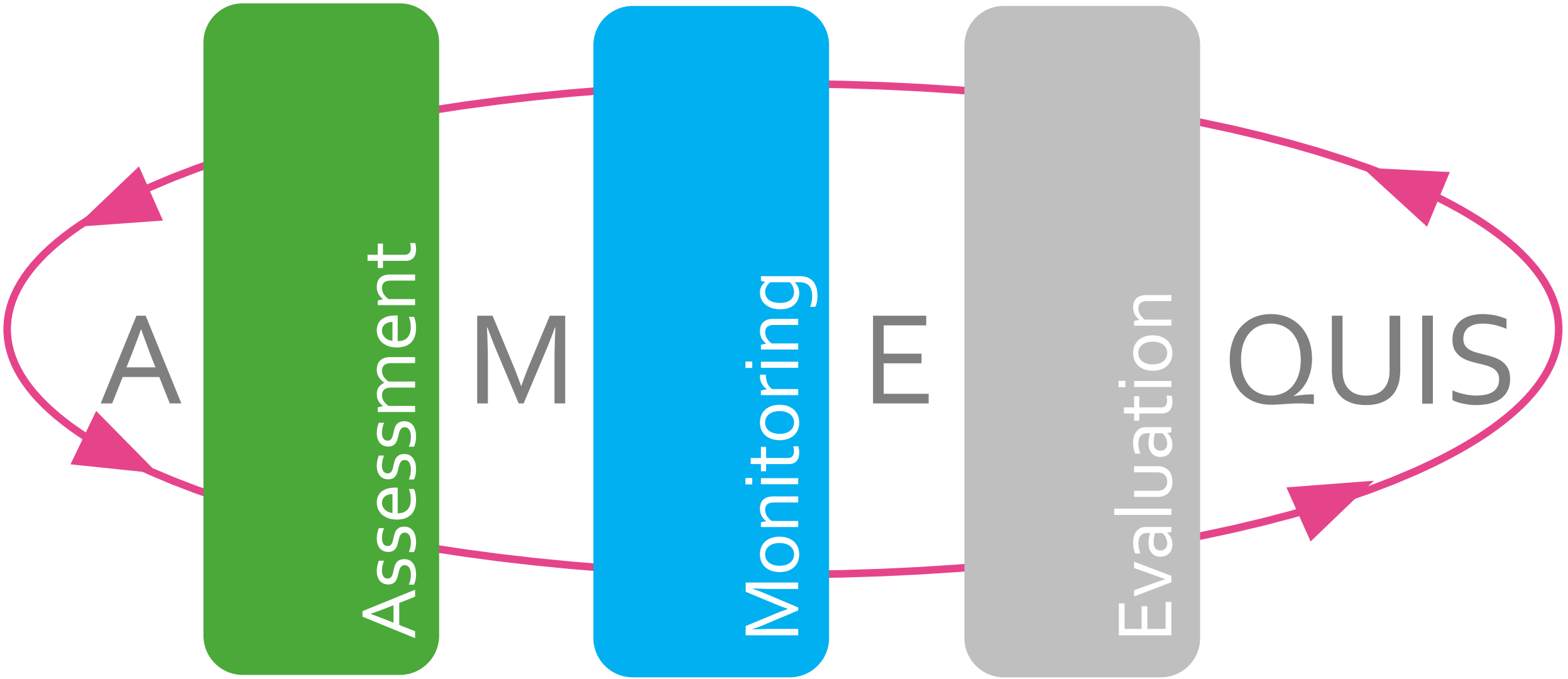
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Assessment
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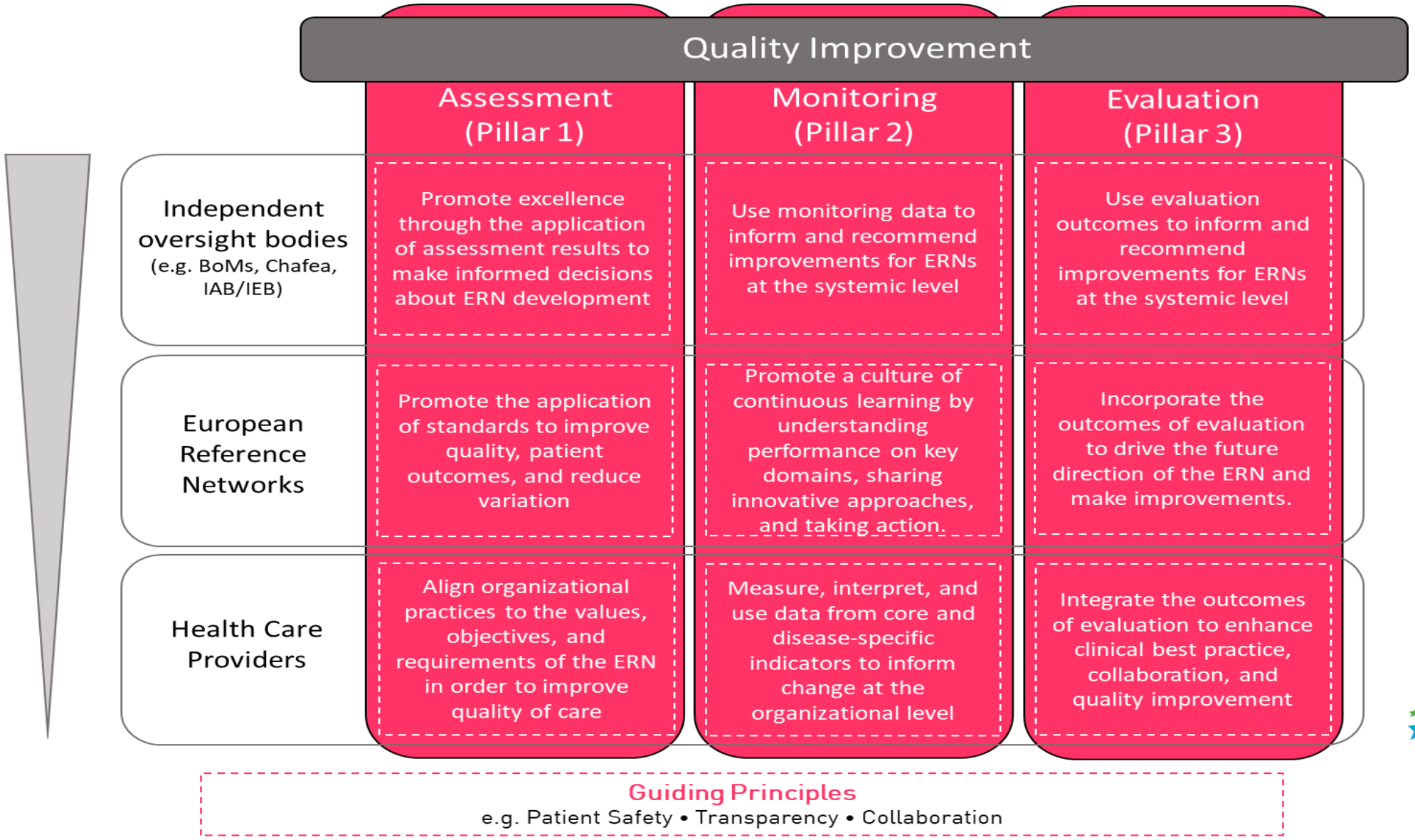
AMEQUIS System – EURORDIS approach



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Objective #1: Facilitate mobility of expertise & help MS with insufficient number of patients to provide HSS

ERN Example

Assessment

Network Application Form:

- Rational for the Network

- Rarity of diseases and complexity

Monitoring

No. of Panel Case Reviews

No. of Patients entered into CPMS

MS represented in the ERN as **Affiliated Partners**

Evaluation

2.2.1 ERN has implemented a process for offering advice for complex patient cases

7.1.2 Collaboration strategies with Affiliated Partners

7.2.1 accessible information referrals

QUIS: Optimised the availaibility of expertise (and knowledge) that can be accessed locally to all

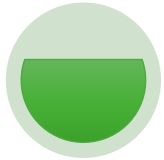
Objective #2: **facilitate improvements in diagnosis & delivery of high-quality and accessible healthcare** requiring a **particular concentration of expertise**

HCP Example

Assessment

Specialist Criteria:

Number of Patients - Caseload of 250 people with NF2



Monitoring

Total No. of New Patients:

Referred to HCP Members

Over 5 yrs.

Evaluation

7.1. The HCP has a team of trained professionals with the required competencies within the ERN's area of expertise.

QUIS: Increase in volume of cases leads to improved outcomes of care

Evidence-Base & References

Assessment

- Dynamic process to stimulate quality improvement, rather than a snapshot standalone activity[1].
- Promote improvements by applying standards and providing feedback[2].
- Strong association with improved quality, patient outcomes and reduce clinical variation[3].
- Predictor of clinical and service performance[4].
- All assessment methods have their strengths and limitations, multiple methods allows triangulation of evidence[5].
- Patient involvement improves the relevance of the assessment to care[6].

Monitoring

- The act of measuring alone is viewed as a stimulus for quality improvement[7].
- Provides an opportunity to consider the results of monitoring, take timely action and learn from experience along the lifecycle of the service[8].
- Important to secure agreement on outcomes in advance rather than being imposed[9].
- Indicators to raise the awareness of quality issues, alert stakeholders to specific areas and provide an opportunity to improve practice[10].

Evaluation

- Evaluation goes beyond simple judgement of achievement of objectives and standards. Evaluation outcomes need to stimulate improvement in quality across all stakeholder levels[11].
- Leverage data that has been collected under different contexts to evaluate added value[12].
- Motivates achievement of best practice credibility for current practice and future direction[13].
- Patient experience and satisfaction of service quality is important enough that it is a predicator of survival[14].

Quality Improvement System

- A dynamic and responsive system that drives a culture of continuous quality improvement and enhanced patient safety by leveraging the lessons and experiences of ERN stakeholders.
- Assessment, monitoring and evaluation connected seamlessly to form a dynamic learning culture focused on quality improvement; and not conceptually standalone, static actions.
- The *AMEQUIS* model promotes improvement through small, actionable cycles that, over time, assemble into a continuous thread of quality improvement based on evidence, best-practice, and past-experience.

References for this diagram can be found in Appendix I

References

Beutler, L. E. 2001. Comparisons among quality assurance systems: from outcome assessment to clinical utility. J Consult Clin Psychol, 69, 197-204.

Bowie, P., Mckay, J., Murray, L. & Lough, M. 2008. Judging the quality of clinical audit by general practitioners: a pilot study comparing the assessments of medical peers and NHS audit specialists. J Eval Clin Pract, 14, 1038-43.

Braithwaite, J., Shaw, C. D., Moldovan, M., Greenfield, D., Hinchcliff, R., Mumford, V., Kristensen, M. B., Westbrook, J., Nicklin, W., Fortune, T. & Whittaker, S. 2012. Comparison of health service accreditation programs in low- and middle-income countries with those in higher income countries: a cross-sectional study. Int J Qual Health Care, 24, 568-77.

Braithwaite, J., Greenfield, D., Westbrook, J., Pawsey, M., Westbrook, M., Gibberd, R., Naylor, J., Nathan, S., Robinson, M., Runciman, B., Jackson, M., Travaglia, J., Johnston, B., Yen, D., Mcdonald, H., Low, L., Redman, S., Johnson, B., Corbett, A., Hennessy, D., Clark, J. & Lancaster, J. 2010. Health service accreditation as a predictor of clinical and organisational performance: a blinded, random, stratified study. Qual Saf Health Care, 19, 14-21.

Brewster, L., Aveling, E.-L., Martin, G., Tarrant, C. & Dixon-Woods, M. 2015. What to expect when you're evaluating healthcare improvement: a concordat approach to managing collaboration and uncomfortable realities. BMJ Quality & Safety, 24, 318-324.

Chang, H. S. & Lee, S. H. 2012. Establishment, present condition, and developmental direction of the new Korean healthcare accreditation system. J Korean Med Sci, 27 Suppl, S61-9. 24

Charles, K., Mckee, L. & Mccann, S. 2011. A quest for patient-safe culture: contextual influences on patient safety performance. J Health Serv Res Policy, 16 Suppl 1, 57-64.

Collins, N., Miller, R., Kapu, A., Martin, R., Morton, M., Forrester, M., Atkinson, S., Evans, B. & Wilkinson, L. 2014. Outcomes of adding acute care nurse practitioners to a Level I trauma service with the goal of decreased length of stay and improved physician and nursing satisfaction. J Trauma Acute Care Surg, 76, 353-7.

Foster, T. C., Johnson, J. K., Nelson, E. C. & Batalden, P. B. 2007. Using a Malcolm Baldrige framework to understand high-performing clinical microsystems. Qual Saf Health Care, 16, 334-41.

Greenfield, D., Kellner, A., Townsend, K., Wilkinson, A. & Lawrence, S. A. 2014. Health service accreditation reinforces a mindset of high-performance human resource management: lessons from an Australian study. Int J Qual Health Care, 26, 372-7.

Gupta, D., Lis, C. G. & Rodeghier, M. 2013. Can patient experience with service quality predict survival in colorectal cancer? J Healthc Qual, 35, 37-43.

Gupta, D., Rodeghier, M. & Lis, C. G. 2014. Patient satisfaction with service quality as a predictor of survival outcomes in breast cancer. Support Care Cancer, 22, 129-34. 25

Harnett, M. J., Correll, D. J., Hurwitz, S., Bader, A. M. & Hepner, D. L. 2010. Improving efficiency and patient satisfaction in a tertiary teaching hospital preoperative clinic. Anesthesiology, 112, 66-72.

Hsee, L., Devaud, M. & Civil, I. 2012. Key performance indicators in an acute surgical unit: have we made an impact? World J Surg, 36, 2335-40.

Jones, L., Pomeroy, L., Robert, G., Burnett, S., Anderson, J. E. & Fulop, N. J. 2017. How do hospital boards govern for quality improvement? A mixed methods study of 15 organisations in England. BMJ Quality & Safety, 26, 978-986.

Kenny, T. D., Jessop, E. G. & Gutteridge, W. H. 2008. Monitoring clinical quality in rare disease services--experience in England. Orphanet J Rare Dis, 3, 23.

Kirschenbaum, L., Kurtz, S. & Astiz, M. 2010. Improved clinical outcomes combining house staff self-assessment with an audit-based quality improvement program. J Gen Intern Med, 25, 1078-82.

Lemos, E. F., Alves, A. M., Oliveira Gde, C., Rodrigues, M. P., Martins, N. D. & Croda, J. 2014. Health-service performance of TB treatment for indigenous and non-indigenous populations in Brazil: a cross-sectional study. BMC Health Serv Res, 14, 237.

Mannion, R. & Goddard, M. 2001. Impact of published clinical outcomes data: case study in NHS hospital trusts. BMJ, 323, 260-3.

Maramba, T. P. 2002. Accreditation of clinical laboratories in the Philippines. Southeast Asian J Trop Med Public Health, 33 Suppl 2, 79-82.

Parry, G., Coly, A., Goldmann, D., Rowe, A. K., Chattu, V., Logiudice, D., Rabrenovic, M. & Nambiar, B. 2018. Practical recommendations for the evaluation of improvement initiatives. International Journal for Quality in Health Care, 30, 29-36.

Rejler, M., Tholstrup, J., Elg, M., Spangeus, A. & Gare, B. A. 2012. Framework for assessing quality of care for inflammatory bowel disease in Sweden. World J Gastroenterol, 18, 1085-92.

Tafese, F., Woldie, M. & Megerssa, B. 2013. Quality of family planning services in primary health centers of Jimma Zone, Southwest Ethiopia. Ethiop J Health Sci, 23, 245-54.

Tourigny, A., Aubin, M., Haggerty, J., Bonin, L., Morin, D., Reinharz, D., Leduc, Y., St-Pierre, M., Houle, N., Giguere, A., Benounissa, Z. & Carmichael, P. H. 2010. Patients' perceptions of the quality of care after primary care reform: Family medicine groups in Quebec. Can Fam Physician, 56, e273-82.

Valori, R., Rogers, C., Johnston, D. & Ingham, J. 2013. Developing a strategy for accreditation of clinical services. Clin Med, 13, 538-42.

Winship, K. & Lee, S. T. 2012. Using evidence-based accreditation standards to promote continuous quality improvement: the experiences of the San Mateo County Human Services Agency. J Evid Based Soc Work, 9, 68-86.

2015. Hospital Board And Management Practices Are Strongly Related To Hospital Performance On Clinical Quality Metrics. Health Affairs, 34, 1304-1311.