

Telehealth quality of care tool



Abstract

This first version of the Telehealth quality of care tool (TQoCT) is intended to be used by Member States (namely by focal points for patient safety and quality of care (QoC) and all other relevant parties of national telehealth ecosystems) or by individual health-care provider organizations.

As more health and care moves to digital-based service provision, including the use of digital tools for supporting health interventions and care services provided at a distance, the quality of the care that is provided becomes more relevant. The quality of telehealth ultimately matters for increasing the adoption of this new paradigm of care because significant patient safety or QoC issues will ultimately undermine the trust populations and professionals have on this still somehow new way of practicing medicine and supporting the provision of modern and integrated care. Approaches to such quality standards benefit from common reference materials, and the TQoCT aims to aggregate these in a manner that stimulates reflection and action, helping countries and health-care organizations on their journey to mature, safe and high-quality telehealth service provision.

KEYWORDS:

TELEHEALTH, TELEMEDICINE, SAFETY, EFFICIENCY, PATIENTS, QUALITY IMPROVEMENT, QUALITY OF HEALTH CARE

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Telehealth quality of care tool

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Abbreviations

HRQoL	health-care-related quality of life
MoH	ministry of health
OECD	Organisation for Economic Cooperation and Development
QoC	quality of care
TTP	Taskforce on Telehealth Policy
TQoCT	telehealth quality of care tool
IT	information technology
IHI	Institute for Healthcare Improvement

Executive Summary

Quality of care (QoC) in services provided at a distance through modern telehealth technologies and methodologies is ever more relevant as this growing approach to the provision of health care, including its application in health promotion and disease prevention, has seen an exponential increase during and after the COVID-19 pandemic. Such fast growth calls for attention to quality, and so, it is critically important to implement appropriate audit and quality assurance in telehealth. This tool is part of and contributes to the implementation of the WHO Regional digital health action plan for the WHO European Region 2023–2030.

The evaluation of telehealth services may require comparisons of health and health-care outcomes between the new telehealth service and the service provided in person, as well as an evaluation of the conditions and processes, which are unique to it.

Quality strategies can assess or measure; assure by avoiding risk and error; and improve the quality of care by striving for change. Regarding quality assurance, the enabling service that needs to be set in place is that which assures high levels of care are offered via telehealth solutions.

Based on previous recommendations and assessment frameworks, the WHO Regional Office for Europe developed a tool that serves as both a guidance and self-assessment instrument for telehealth services quality improvement that is useful at local, regional and national levels.

The Telehealth quality of care tool (TQoCT) was created through an iterative process, combining desk research and gathering knowledge from topic and country experts, and using a set of validation exercises. It is work-in-progress, to be used now by Member States, and it can benefit from their feedback for further improvements. An initial alignment with the ISO 13131:2021 standard was ensured as this guidance was regarded highly by several experts. However, more detailed work to integrate it would have required a longer period and further iterations.

This tool should not be used or implemented by one individual in isolation. We envision that using the tool requires gathering a group of stakeholders to agree on the maturity level of a telehealth system through three components of QoC – people centricity, clinical effectiveness and safety – be it at the national, regional or organizational level. The creation of a network or ecosystem for telehealth, and a common understanding around quality of telehealth, are immediate quick wins that can foster strategies for continuous improvement.

The Excel version of the TQoCT to be used for self-assessment exercises is available online (see web-annex). The WHO Office on Quality of Care and Patient Safety will also provide support to Member States and organizations in Europe willing to use the tool.¹

1 To contact the Office please write to euqualityofcare@who.int.

Section 1

Setting the stage
for the Telehealth
quality of care tool

1.1 Introduction

1.1.1 Quality of care offered using telehealth technologies and methodologies

WHO defines telehealth as “the delivery of health-care services, where distance is a critical factor, by all health-care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment, and prevention of disease and injuries, research and evaluation, and for the continuing education of health-care providers, all in the interests of advancing the health of individuals and their communities”. Quality of care (QoC) is defined as the degree to which health services for individuals and populations increase the likelihood of desired health outcomes. QoC in telehealth is highly related to digital service quality. Therefore, it is critically important to implement appropriate audit and quality assurance methods. The evaluation of telehealth services requires a comparison of health-care outcomes between the new telehealth service and the service provided in person, but in other cases where telehealth services are added to in-person services – known as hybrid set-ups – the value of these additional telehealth services needs to be verified against health outcomes or service utilization.

Telehealth services include a variety of activities, such as the use of mobile health applications to track and manage individuals’ health, virtual consultations, remote monitoring of patients, and electronic prescribing (1). Other examples of activities provided through telehealth services include remote mental health care and the education of patients and health-care providers (1). The services are delivered through video conferencing, remote monitoring devices, messaging platforms and a wide range of other platforms and tools having in common the distance between health actors and the use of technologies (2). This tool focuses on the aspect of care provision through telehealth services.

Telehealth services are delivered by an effective ecosystem. A telehealth ecosystem is the interconnected network of organizations and their actions and technology solutions related to telehealth that include individuals, patients, caregivers, telehealth and technology providers, regulatory bodies, financiers, health-care providers and governmental bodies, such as medical boards and/or federal agencies (3). It is critical for a successful ecosystem to have effective collaboration between all stakeholders. Health-care providers have an essential role in providing remote care, so that patients can receive care from the comfort of their home or a place of their choosing. Technology providers are responsible for the existence of the necessary tools and infrastructures to support those services, and insurance and governmental companies for financing or reimbursing the telehealth services provided. Now, more than ever, telehealth is expanding, which will affect telehealth ecosystems as they become more interconnected and complex with new stakeholders and technologies created to improve the delivery of telehealth services (4). Some countries have already established their own norms and recommendations, such as Portugal (5) and Spain (6). However, the absence of a European standard makes the process of benchmarking and learning from each country’s or organization’s experiences more difficult.

The main goal of this tool is to allow Member States to formulate a collective response from their country, to create an internal common understanding of the telehealth system in their country and how it ensures high-quality telehealth is affordable and offered to individuals. The tool can also be equally useful for one or many health institutions, such as a hospital or primary care center or group, to guide their work in the area of QoC and patient safety applied to the telehealth services that they provide. All are invited to revisit the tool every two years to track improvements, given the dynamic nature of telehealth and its fast-paced level of innovation, which may lead to risks and new QoC challenges.

According to the WHO and Organisation for Economic Cooperation and Development (OECD), health-care quality can be defined as the degree to which health services for individuals and populations are effective, safe and people-centred. In doing so, the concept of health-care quality was clarified and distinguished from health system performance. This tool is focused on three core dimensions of QoC. These are i) people centricity, which is the capacity of a service or system to design and provide care taking into account the needs, wants and preferences of each person; ii) clinical effectiveness, or the capacity of the service to resolve the clinical

case, prevent, diagnose and monitor, and provide some treatment support; and iii) safety, which is the attribute of a service or system that represents the avoidance of harm, or the risk of harm, further damaging health (e.g. adding psychological damage) or any personal status. Under each dimension, several domains and subdomains have been identified.

For each subdomain, two types of questions were created – one designed for the organizational level and one for the governmental level. The first set at the organizational level addresses telehealth providers, after which the governmental set is formulated, taking into consideration ways in which a government can influence an organization. The rating system used ranges from the lowest maturity (1) to the highest (5) to cover the spectrum of maturity, so that a Member State or organization can self-assess itself against the description of an ideal optimal scenario. To simplify the evaluation, the discrete points 1, 2, 3, 4 and 5 are associated with a description of their own, but since it could be possible that respondents feel maturity is somewhere in-between, or close to one of these but not completely equivalent, decimals (e.g. 1.7, 2.3, 4.5) can be used to allow these intermediate positions to be captured.

1.2 Methodology

Using extensive desk research, ISO standard 13131:2021 (7) was used alongside a set of guidance documents and reports on quality and telehealth, mostly from the United States of America and European Union. The sources for the work underlying the guidance incorporated in this document and self-assessment are summarized in Table 1. These were integrated with other inputs from the literature and ISO standard 13131:2021 recommendations, when they were applicable, into blocks of guidance culminating in self-assessment questions.

Four workshops were held to refine questions, gather essential context data, and prepare the TQoCT. This meant the creation of two types of focus groups: one with informal experts and one with country experts. The two informal expert workshops were conducted to validate the content of the tool, including language, terminology, structure and syntax of the questions, and vocabulary. The two workshops with country experts were based in Greece (one in person and one online) and were then complemented with an online presentation and inputs gathered from several Member States' representatives (online and during the hybrid event entitled "OpenQuality Day") on 4 July 2023.

Table 1: A short description of the six frameworks that were identified and integrated into the self-assessment tool

Framework	Description
Telehealth questionnaire for care delivery (8)	The framework was created for companies to assess clinical care delivery through telehealth services. It also offers telehealth providers suggestions on how to improve their services to achieve a patient-centred telehealth service.
Taskforce on Telehealth Policy (TTP). Findings and recommendations (9)	The National Committee for Quality Assurance created the TTP, where industry specialists met and developed a consensus with recommendations for policy-makers to implement nation-wide quality and safety standards for digital health-care delivery. One of the main results of the consensus was that telehealth is the natural evolution of health care in the digital age and not just an added type of care.
Telemedicine: Ensuring safe, equitable, person-centred virtual care (10)	The white paper suggests a framework for safe, equitable and people-centred care focused mainly on telemedicine. It also provides suggestions for including safer methods in telemedicine modalities. The authors suggest that the framework could also be applied to broadly address telehealth across health care.
Creating a framework to support and measure the development for telehealth (11)	This is a framework directed at quality measurement. It was designed to identify measures and measurement areas, and to be used as a conceptual framework for new measures that will assess the QoC provided through telehealth. The framework focuses on evaluating telehealth as an existing part of the health-care system for delivering better care rather than a new type of care.
Model for Assessment of Telemedicine Applications (12)	The MAST model is a telemedicine evaluation framework for assessing the readiness of health-care organizations to adopt and effectively use telehealth services as well as the contribution of telemedicine applications to QoC. The model provides a multidisciplinary assessment to define and evaluate the different aspects of telemedicine services. It suggests evaluating the outcomes of a telemedicine service compared with one or more alternatives, based on the seven domains of the model. The aim of the model is to provide a framework that assesses efficacy and the contribution of telemedicine services to QoC.
TeleSCoPE: Telehealth Services Code of Practice for Europe (13)	The framework was produced for evaluating telehealth services in Europe. It allows for planning and managing telehealth services by enabling and encouraging service providers and stakeholders to be inclusive and ethical. The framework can also be used as a benchmark for telehealth services to be assessed and accredited. The domains included in the framework do not address the responsibilities of providers when they are regulated by a country's legislation. However, when implemented, most of the clauses in this code of practice would require mandatory compliance from all service providers somehow, thereby limiting its applicability at scale.

1.3 How to use the tool

Reading this document as a form of education and awareness-raising is one immediate way to use the TQoCT. A second way is the application of the self-assessment exercise. An Excel version has been made available that accompanies this publication, which can be used together with this guidance for experimenting, and for national or organizational self-assessment. It is named "WHO_Europe_Telehealth_Quality_of_Care_Tool_v.1_self-assessment questionnaire_3.02.2024".

This can be filled in collectively or used online as a shared file among the group of people contributing to the self-assessment exercise in support of an online remote collaboration environment. With the launch of the stable version of the tool, known as TQoCT.v.1, an online digital solution will be made available for Member States or organizations to load and upload their responses and attachments. This will support communities of people interested in the topic of quality of telehealth, and also allow the real-time comparison of results with other Member States and organizations, contributing to estimations of averages per subdomain. In addition, the TQoCT will support the gathering of telehealth experiences by Member States or organizations and the collection of relevant associated documents, such as frameworks, guidelines and policy documents, from the national, regional or organizational levels.

The results from applying the tool as a self-assessment exercise can be displayed graphically as illustrated in Fig. 1, where the scores for each question/subdomain are easily visualized. This will make it possible to compare responses with the average for the WHO European Region, based on data made available as other Member States and organizations participate.

Fig. 1: Illustrative example of how Member State or organization results can be displayed in a simplified manner and compared to the average of accumulated results



A usable Excel version is available with the self-assessment questions and should be used together with this guidance for easy application of the TQoCT in concrete cases. It can be used to support self-assessment exercises and is named "WHO_Europe_Telehealth_Quality_of_Care_Tool_v.1_self-assessment questionnaire_3.02.2024" and can be obtained by reaching out to the WHO Athens Quality of Care and Patient Safety Office by email (to: euqualityofcare@who.int with a reference in the subject of the email starting with "TQoCT"). The Office will also provide support to Member States and organizations in Europe willing to use the tool.

1.3.1 Levels of usage and self-assessment questions

This tool can be used for general guidance on aspects to follow when considering the improvement of care provided through telehealth services. In this case any individual working in this area can benefit from it. Due to its self-assessment nature, it can also be used at both national and organizational levels for evaluation purposes or simply for awareness-raising. In the case that it is used for self-assessment, it is not adequate that one single individual tries to answer the questions in isolation. Ideally, a group of experts in telehealth or the national/organizational representatives should be considered based on the level for which the tool will be used (see section on Contributors for more details). For each self-assessment question, the answer should be provided using a rating from 1 to 5 but decimals (e.g. 1.1, 1.5) can also be used (Fig. 2).

An example of a question follows.

For each question, be it at the national or organizational level, the following steps should be considered.

1. The question description is presented in the first three columns – firstly by the question domain (e.g. “Patients’ perspective”) followed by the question identification (“PP1”) and subdomain (e.g. “Satisfaction/experience and acceptance”).
2. The question number is followed by the letter “a” when it is to be answered at the national level and “b” when answered at the organizational level.
3. For each question there is associated background, scope and definition text, which is similar for both the national and organizational level, and guidance and/or recommended actions specific for each level.
4. Answering the question includes filling three columns. The first column (“Maturity level”) presents options through a drop-down menu from 1 to 5 with different descriptions based on the question, with a reference to “Guidance and expected actions”.
5. The next column (“Supporting information/relevant links”) is to be completed with links to useful documents that already exist or that will be created, such as guidelines and procedures.
6. The last column (“Best practices”) provides space to describe or add links to national or organizational examples of best practices in telehealth.
7. The results from the tool are expressed numerically and in a graph for each dimension, so they can be easily presented and discussed as part of strategies for improvement.

Fig. 2: Screenshot of the Excel version of the TQoCT to be used to support a self-assessment exercise

Patients' perspective	Satisfaction/experience and acceptance	Maturity level	Supporting information/relevant links	Best practices
Source(s)	Model for Assessment of Telemedicine Applications (MAST)		Link to guidance documents that exist at the national or international level or are to be created, and national or international guidance inspired by ISO 13131.	Describe or add a link to a publication that could constitute a best practice related to this aspect of quality of care in telehealth.
Question 1a	<p>Different factors, such as personal preparedness, predisposition, timing, and technological solutions and their usability, can influence a patient's experience and her/his willingness to embrace telehealth (14). There are different principles and rules in the usability and design of digital solutions that should be considered by the telehealth solutions industry and service providers (15). These will partly determine a patient's experience, which needs to be captured, and they can equally influence patient and professional acceptance of the telehealth tools offered to them.</p> <p>Ensuring culturally competent care in telehealth is paramount for establishing a trusted and high-quality health-care encounter. The incorporation of social, cultural, and linguistic considerations not only enhances the effectiveness of telehealth services but also holds significant potential in advancing health equity (16).</p> <p>Engaging different stakeholder groups in processes for the co-creation of digital health solutions, including those for telehealth, is fundamentally important for developing solutions that garner trust and acceptance for their use by maximizing their value to individuals, and in mitigating against digital exclusion. Practical actions can be taken towards building a culture of trust at every level of the health system. Routine activities, such as encouraging civic participation, practicing community engagement, running consultations, and publishing transparency, help engender trust and the engagement of individuals in the use of digital health services, thus making their use a cultural norm (17).</p>	<p>Considering the guidance and expected actions presented in column E, the following maturity levels are suggested and can be used for self-assessment.</p> <p>1.No guidance exists. 2.Guidance is being created on patient experience metrics. 3.General guidance on patient experience metrics exists that partially covers telehealth. 4.General guidance on patient experience metrics exists, includes comprehensive details on telehealth, and some data is collected at the national/regional level. 5.Guidance on patient experience with telehealth services exists and related data is collected at the national/regional level on a regular basis and via a digital interoperable platform.</p>		
Scope and definition	For countries to have assurance that patient experience is considered by organizations when offering high-level telehealth services, some form of metrics should be systematically collected, and results should be used to inspire quality improvement. If the metrics are different between institutions and/or regions, it is very difficult to compare findings and create aggregated quality indicators, identify which organizations or regions are performing better or worse through benchmarking, or find examples of best practices. Organizational adoption of the guidance, as well as the implementation of processes to measure the indicated metrics – automatically via the digital solutions in use, whenever possible – should follow and adhere to national norms.	Rate (using the grey cell below) your maturity level compared with the guidance and expected actions. Rating is from 1 to 5, and decimals can be used (e.g. 1.1; 1.2; 3.2), taking into account the descriptions above for each number: 1, 2, 3, 4 and 5.		
Guidance and expected actions	Guidance on how to collect metrics about patient experience and the level of acceptance of telehealth services needs to be created at the national or regional level. Organizations can put monitoring and appraisal mechanisms in place, taking such guidance into account, and be prepared to report related data at the regional and national level in a harmonized manner – through a digital platform, and ideally one that can be integrated with local IT systems – and present this information to the public/patients for wider accountability.			

1.3.2 Holistic approach and contributors

There is a need to create a holistic perspective when looking at QoC, especially care through telehealth services. The same need arises when the TQoCT is applied at the organizational level or national level. The approach and contributors will inevitably be different and are highly context-dependent.

While anyone working in telehealth and QoC can benefit from reading this guidance document, we would strongly discourage the use of this guidance, and particularly the self-assessment questionnaire, by one individual alone who is perhaps working at the national level (e.g. national insurance, ministry of health (MoH), or a health quality agency) or in any given health-care organization who may want to test and use the TQoCT. Inversely, we propose the creation of a so-called response team that can meet online and collectively discuss answers based on collectively obtained data and documents that can support the answers and, in some cases, can be provided as part of the answer. The other advantage of this holistic approach is that this team will gain socialized knowledge, or common knowledge that has a shared meaning, of the state-of-play (i.e. the level of QoC in telehealth in each domain) of this topic in their country or organization, and the approach promotes mutual understanding, collective awareness and engagement for joint action.

For assessment at the national level, for the best use of this tool, it is important to gather a diversity of stakeholders and responsible entity perspectives (Table 2). A systematic approach is essential to improve information gathering and the accuracy of results. An in-person or virtual meeting needs to be scheduled and attended by the participants noted in Table 2, although there are different levels of necessity for attendance (see first column), and specifications can be found in the participant profile description.

This tool can also be used for assessing organizational maturity regarding QoC assurance in a hospital or other health-care organization or local service. To be effective, it is important to gather a diversity of perspectives from people within the same organization and eventually from organizational stakeholders (Table 3). This holistic approach is essential to improve information gathering and the accuracy of results. An in-person or virtual meeting needs to be scheduled and attended by participants noted in Table 2 or 3, although there are different levels of necessity for attendance (see first column), and specifications can be found in the participant profile description.

Table 2: List of contributors who should be included when applying the tool at the national level, and their role descriptions

National level		
Attendance	Contributors	Description
Mandatory	Member State focal point for QoC and patient safety	Member State focal point for the WHO Athens Quality of Care and Patient Safety Office (QoC office), or someone working in telehealth-related matters, who submits information to WHO and is also a follow-up contact who collects additional feedback and links with the QoC office
Mandatory	MoH representative (technical policy officer)	MoH technical person in charge of the telehealth policy
Mandatory	MoH representative (legal officer)	MoH technical person with knowledge of the relevant legal documents, including those for telehealth, if they exist
Mandatory	Funding authority for the national health service	Contact person for the authority who provides the main funding for telehealth in the country
Mandatory	National insurance organization	Contact person for national Insurance if it funds the telehealth system
Mandatory	Private insurance organization or a large company deploying telehealth	Contact person for a private insurance/large company that is a large contributor to funding the telehealth system
Mandatory	Health inspection agency	Contact person for the health inspection agency
Optional	Public health authority	Contact person for the public health authority
Mandatory	Quality agency or structure with similar characteristics	Produces guidelines and conducts quality assurance work
Optional	Doctors' professional association	Contact person from the doctors' professional association
Optional	Nurses' professional association	Contact person for the nurses' professional association
Mandatory/ Recommended	One highly active patient association is mandatory, and two is recommended	Contact person from an active patient association (1–2 people)
Recommended	Telehealth industry representation from an industry chamber or association	Contact person from the industry chamber or association, who can represent the interests of telehealth companies, but who cannot be the sole representative of an individual organization/company
Mandatory	One public health-care provider	Health-care provider with extensive experience: telehealth services offered for more than 5 years, or large number of patients per year (i.e. more than 1000)
Mandatory	One private health-care provider	Health-care provider with extensive experience: telehealth services offered for more than 5 years, or large number of patients per year (i.e. more than 1000)
Optional	Well-known academics in the field of telehealth	1–2 people (maximum) that must have at least two published papers as first author in the field of telehealth

Table 3: List of contributors who should be included when applying the tool at the organizational level, and their role descriptions

Organizational level		
Attendance	Contributors	Description
Mandatory	Quality or QoC lead	Leads the organizational efforts in quality, or more specifically, QoC; submits information to WHO; and is also a follow-up contact who collects additional feedback and links with the QoC office
Mandatory	Chief Medical Officer or Clinical Director	Lead person that represents doctors in the organization
Mandatory	Chief Nursing Officer; Nursing Director	Lead person from nursing that oversees the nursing practice in the organization
Mandatory	Telehealth internal champion/ lead responsible for telehealth	Person who coordinates telehealth efforts in a large health-care provider organization ²
Mandatory	Chief Financial Officer/ Financial representative	Contact person for the financial management of telehealth in the organization
Mandatory	Chief Information Officer; information technology (IT) Director	Lead person for information and communication technologies and systems
Mandatory	Data protection officer	Contact person that is responsible for the organization's data protection assurance
1 Mandatory/ 2 Recommended	Representatives of patients served by the organization	Contact person from the organization's patient committee or patient representatives, if this exists, or from the unit of the organization responsible for patient satisfaction/interaction
Optional	Health services financing or reimbursement organization	Contact people from the organization that are the main financers or are responsible for reimbursement (e.g. large contributors that fund the organization, if they exist)
Optional	Main providers of telehealth	1–2 persons who represent industry perspectives, in particular the main telehealth providers of the organization
Optional	External health-care professionals	1–2 persons who have interest in telehealth and are involved in health-care but are external to the organization

² Health-care providers that have extensive experience (i.e. telehealth services offered for more than five years) or serve a large number of patients per year (more than 1000) should have a dedicated staff member for coordinating telehealth efforts.

1.4 Overview of the structure

The structure of the tool is divided into three main dimensions commonly associated with QoC. These are: i) people centricity, which is the capacity of a service or system to design and provide care taking into account the needs, wants and preferences of each person; ii) clinical effectiveness, or the capacity of the service to resolve the clinical case, prevent, diagnose and monitor, and provide some treatment support; and iii) safety, which is the attribute of a service or system that represents the avoidance of harm, or the risk of harm, further damaging health (e.g. adding psychological damage) or any personal status. Under each dimension, several domains have been identified and, within these, subdomains are listed that are not fully comprehensive, but which do represent a first set of guidance. For each subdomain, two questions are presented, corresponding to the two levels – national and organizational – of targeted guidance and possible self-assessment. Table 4 illustrates the structure of the TQoCT, and Fig. 3 depicts questions organized by dimension, domain and level.

Table 4. Structure of the Telehealth Quality of Care Tool (TQoCT)

Dimensions	Domains	Subdomains
People – centricity	Patients' perspective	Satisfaction/experience and acceptance
		Understanding of information and trust
		Capacity to use the application/accessibility
	Access	Appropriate technological infrastructure
		Digital literacy
	Communication	Communication
	Access to care	Access for patient, family, and/or caregiver
	Experience	Care team member experience
Financial impact/cost	Financial impact to health system or payer	
Ethical principles	Promotion and marketing	
Clinical effectiveness	Care management and population health	Workforce preparedness
	Diagnostic accuracy	Diagnostic accuracy
	Clinical effectiveness – effects on patients' health	Effects on mortality, morbidity, health-related quality of life (HRQoL), and habits and behaviours
	Use of health-care service	Use of health-care service
Safety	Operational and infrastructure integrity	Privacy and security
	Psychological and emotional safety	Psychological and emotional safety
	Governance and financial issues	Governance
Business continuity		

Considering the work that is ongoing by the WHO Regional Office for Europe on a guideline for telemedicine assessment and strategy development tool to promote telehealth adoption, two possible subdomains, which were identified from sources used to create the first list of domains and subdomains, were found to be quite generic and not specifically or directly related to QoC – rather, they were more directly related to the overall telehealth implementation approach. As a result, these subdomains were not explored further nor were questions developed with regards to these subdomains. The two subdomains included:

1. financial impact/cost, which, while this is relevant for how a health system or organization makes use of telehealth, whether this has a higher or lower financial impact is less relevant to the QoC that must be ensured; and
2. business continuity, in which case this was considered to be no different from requiring organizations to have business continuity plans in case of IT or electricity failures or other major disruptions; and if related national level guidance exists, it is likely to be generic and does not benefit from being specific to telehealth services.

Member States and organizations are invited to use other tools to complement their assessment and approach to telehealth in a broader sense.

Section 2

TQoCT set of questions
for self-assessment

The set of 16 questions has been organized into the three dimensions. Please refer to Fig. 3 for the summary of the questions, their numbering, and their relationship with dimensions, domains and levels of application. These will be maintained, and if new questions are added to the tool, the original identification numbers for questions will be maintained. Question level “a” reflects national level questions and level “b” questions are for the organizational level.

Fig. 3: Screenshot of the Table of questions in the TQoCT, organized by dimensions, domain and level

Dimensions	Domains	Subdomains	National	Organizational
			Questions	Questions
People – centricity	Patients' perspective	Satisfaction/experience and acceptance	1a	1b
		Understanding of information and trust	2a	2b
		Capacity to use the application/accessibility	3a	3b
	Access	Appropriate technological infrastructure	4a	4b
		Digital literacy	5a	5b
	Communication	Communication	6a	6b
	Access to care	Access for patient, family, and/or caregiver	7a	7b
	Experience	Care team member experience	8a	8b
	Ethical principles	Promotion and marketing	9a	9b
	Clinical effectiveness	Care management and population health	Workforce preparedness	10a
Diagnostic accuracy		Diagnostic accuracy	11a	11b
Clinical effectiveness – effects on patients' health		Effects on mortality, morbidity, health care related quality of life (HRQoL), and on habits and	12a	12b
Use of health-care service		Use of health-care service	13a	13b
Safety	Operational and infrastructure integrity	Privacy and security	14a	14b
	Psychological and emotional safety	Psychological and emotional safety	15a	15b
	Governance and financial issues	Governance	16a	16b

2.1 People – centrality

The “People – centrality” domain includes seven subdomains:

- patients’ perspective
- access
- communication
- access to care
- experience
- ethical principles.

2.1.1 Patients’ perspective

The patients’ perspective about telehealth services and their quality may be related to different aspects. A key one is the patients’ perspective on their experience, which includes satisfaction but is somehow broader than that, as well as the extent to which the patient accepts care provided via telehealth services. A second one is how information about the services is provided in an understandable and trust-enabling manner. A third is patients’ capacity to use the applications and their level of accessibility and user-friendliness. Accordingly, this subdomain includes three questions on the following topics:

- PP1 Satisfaction/experience and acceptance
- PP2 Understanding of information and trust
- PP3 Capacity to use the application/accessibility.

i) PP1 Satisfaction/experience and acceptance

Background

Different factors, such as personal preparedness, predisposition, timing, and technological solutions and their usability, can influence a patient’s experience and her/his willingness to embrace telehealth (14). There are different principles and rules in the usability and design of digital solutions that should be considered by the telehealth solutions industry and service providers (15). These will partly determine a patient’s experience, which needs to be captured, and they can equally influence patient and professional acceptance of the telehealth tools offered to them.

Ensuring culturally competent care in telehealth is paramount for establishing a trusted and high-quality health-care encounter. The incorporation of social, cultural, and linguistic considerations not only enhances the effectiveness of telehealth services but also holds significant potential in advancing health equity (16).

Engaging different stakeholder groups in processes for the co-creation of digital health solutions, including those for telehealth, is fundamentally important for developing solutions that garner trust and acceptance for their use by maximizing their value to individuals, and in mitigating against digital exclusion. Practical actions can be taken towards building a culture of trust at every level of the health system. Routine activities, such as encouraging civic participation, practicing community engagement, running consultations, and publishing transparently, help engender trust and the engagement of individuals in the use of digital health services, thus making their use a cultural norm (17).

Main sources for this question

Model for Assessment of Telemedicine Applications (MAST) (17)

Scope and definition

For countries to have assurance that patient experience is considered by organizations when offering high-level telehealth services, some form of metrics should be systematically collected, and results should be used to inspire quality improvement. If the metrics are different between institutions and/or regions, it is very difficult to compare findings and create aggregated quality indicators, identify which organizations or regions are performing better or worse through benchmarking, or find examples of best practices. Organizational adoption of the guidance, as well as the implementation of processes to measure the indicated metrics – automatically via the digital solutions in use, whenever possible – should follow and adhere to national norms.

Question 1a. (national level)

Guidance and expected actions

Guidance on how to collect metrics about patient experience and the level of acceptance of telehealth services needs to be created at the national or regional level. Organizations can put monitoring and appraisal mechanisms in place, taking such guidance into account, and be prepared to report related data at the regional and national level in a harmonized manner – through a digital platform, and ideally one that can be integrated with local IT systems – and present this information to the public/patients for wider accountability.

Maturity level

Regarding the “Guidance and expected actions” presented above, the following maturity levels are suggested and can be used for self-assessment.

1. No guidance exists.
2. Guidance is being created on patient experience metrics.
3. General guidance on patient experience metrics exists that partially covers telehealth.
4. General guidance on patient experience metrics exists, includes comprehensive details on telehealth, and some data is collected at the national/regional level.
5. Guidance on patient experience with telehealth services exists and related data is collected at the national/regional level on a regular basis and via a digital interoperable platform.

Question 1b. (organizational level)

Guidance and expected actions

At the organizational level, it is important to have monitoring or appraisal mechanisms about patient satisfaction with each telehealth service provided. This may be included in other patient experience audit processes that are more broadly utilized by the organization. In the case of telehealth services, taking advantage of the technological milieu, ideally, such mechanisms would be integrated into the telehealth service interfaces themselves, thus allowing the appraisal of patients’ experience directly and more immediately, such as through a pop-up window requesting feedback upon closure of a video-consultation.

Maturity level

After having considered the “Guidance and expected actions” text above, the user of the tool can choose from the following levels of maturity.

1. No guidance or mechanism exists.
2. Concrete organizational guidance on patients’ experience with telehealth services is in place and there is information for patients about health services.
3. Organizational guidance and patient information are aligned with national guidance, or a related reference exists in the organization, which is specific to telehealth services.

4. Guidance and a mechanism are in place to implement the collection of nationally approved metrics on patients' experience and acceptability.
5. The organization fulfils all criteria and is exploring or routinely using digital tools to capture patients' experience in addition to other forms of enquiry into patients' experience and acceptability.

ii) PP2 Understanding of information and trust

Background

Trust in and an understanding of telehealth services is important for patient experience and is related to patients' understanding of how telehealth services are provided to them. The risk of not achieving high levels of trust and understanding is that patients may refuse to use telehealth, or they may not be prepared for the telehealth experience – for example, they may not have a safe and secure environment for a teleconsultation, or the batteries or power supply for telemonitoring equipment have not been attended to. To mitigate, good quality information about the services can be provided to patients through multiple means, considering patients' and their caregivers' readiness and digital health literacy (17).

Main sources for the associated question

Model for Assessment of Telemedicine Applications (MAST) (17)

Scope and definition

In telehealth it is important that patients understand the services provided. Such understanding helps foster their trust in services. To achieve this, it is necessary to have good quality information about all telehealth services that are provided to patients. This understanding can be achieved when good quality information is made available to patients by health-care providers offering telehealth services. The channels to be used for providing such information should be adequate to patients' digital and health literacy levels, such as their ability to go online or use applications, or on paper or directly for persons with low digital literacy.

Question 2a. (national level)

Guidance and expected actions

It is important at the national level to have guidelines for what information about telehealth services should be made available to patients by health-care providers. How such information is made available – for example, in person, online, or through the telehealth services themselves – should also be included in the guidelines. A national-level mechanism to audit compliance with such guidelines by health-care providers should exist, and additionally it would ideally serve to identify and promote best-practice sharing.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidance exists.
2. Guidance is being created on patients' experience metrics.
3. General guidance on patients' experience metrics exists that partially covers telehealth.
4. General guidance on patients' experience metrics exists, includes comprehensive details on telehealth, and some data is collected at the national or regional level.
5. Guidance on patients' experience with telehealth services exists, and related data is collected at the national or regional level on a regular basis and via a digital interoperable platform.

Question 2b. (organizational level)

Guidance and expected actions

Organizations are responsible for providing information to the public about the telehealth services provided in order to build patients' trust. They should also have a mechanism that will evaluate patients' understanding of the information provided to them, including that which may be provided during those services.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. Little information is provided about telehealth services, and most is online.
2. Information about the telehealth services exists online and offline.
3. Information about telehealth services is provided and a related unstructured feedback mechanism exists.
4. Information is provided and a mechanism that allows the organization to obtain insights about patients' understanding of that information also exists.
5. Information about telehealth services is provided, patient understanding is measured, and trust [in telehealth services] levels are evaluated.

iii) PP3 Capacity to use the application/accessibility

Background

For patients to have an easy experience when being offered, or seeking, telehealth services, they need to have the capacity to use the application without a disproportionate effort or having too high a level of technical expertise. On the other hand, if the tools that are part of the telehealth service are not accessible (e.g. devices or services are very expensive, or devices are very difficult to manipulate and services are difficult to start and engage with) or they require high ability from patients, then their experience is compromised (17). As stated in the ISO Guidelines 13131:2021 (E 8.1.2), accessibility is a fundamental characteristic of quality, and the capacity of use ensures that resources are in place to respond to demands (7). Patients with disabilities can have further difficulties in accessing telehealth services – for example, those suffering from medical conditions including vision impairment, hearing and speech difficulties or mobility issues, as well as mental health conditions and psychosocial disabilities, or persons with developmental, intellectual, or learning disabilities (18). Accessibility guidelines for telehealth services also have to include details about electromagnetic compatible (EMC) equipment (19).

Main sources for the associated question

Model for Assessment of Telemedicine Applications (MAST) (17)

Scope and definition

Accessibility and the capacity to use the application from a patient's perspective refers to the ability to access and use telehealth services in an effective, secure, and efficient way. To ensure these for patients, it is important to have the necessary infrastructure developed and a user-centred design of the services and technologies available. The user's technical and functional abilities to use telehealth applications should be taken into consideration. It is also important to ensure accessibility for different populations, such as shortsighted individuals who may require large fonts in telehealth platforms, or minority populations who may require instructions available in specific languages or regional dialects. Following these, patient satisfaction and engagement can be improved.

Question 3a. (national level)

Guidance and expected actions

It is necessary that, at the national level, a body of one or many organizations is empowered to provide guidelines for telehealth application design, development and implementation that can ensure accessibility for all patients. A mechanism should also exist to ensure implementation of those guidelines by all telehealth providers. Furthermore, digital infrastructures should be developed to ensure equal access to telehealth services. Finally, awareness campaigns should be organized at the national level to educate users about the benefits and correct use of telehealth services. Metrics on patients' experience should be defined, collected and used to monitor progress.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidance exists.
2. Guidance is being created on patients' experience and its metrics.
3. General guidance on patients' experience and its metrics exists, and it partially covers telehealth.
4. General guidance on patients' experience metrics exists, it includes comprehensive details on telehealth, and some data is collected at the national or regional level.
5. Guidance on patients' experience with telehealth services exists, and data about this is regularly collected at the national or regional level and via a digital interoperable platform.

Question 3b. (organizational level)

Guidance and expected actions

To ensure accessibility and the capacity to use the services offered, organizations must also set in motion adequate actions. At the organizational level, it is important to design telehealth services and applications with a user-centred approach to ensure accessibility and easy-to-use applications for all users. It is also important to provide training and support to users, including health-care professionals who may require other types of skills. Patients should be supported with the necessary skills and knowledge to use services. Lastly, a mechanism to assess the accessibility of telehealth services by users should exist.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidance or mechanism exists.
2. General guidance on information for patients about health services exists.
3. Guidance for telehealth service providers and requirements for procurement exist.
4. Metrics are collected at the organizational level using national guidance.
5. Organizational data collection mechanisms for capturing patients' experience are connected to national platforms and full compliance with national guidance is in place.

2.1.2 Access

Access to telehealth is an essential requirement that allows for its implementation and use. It is related to two main subdomains that include having appropriate technological infrastructures available and ensuring users have adequate competencies in digital literacy:

- A1 Appropriate technological infrastructure
- A2 Digital literacy

i) Appropriate technological infrastructure

Background

Telehealth infrastructure includes equipment, software, telecommunications, and information networks that are used to support the provision of telehealth services. Infrastructural design and implementation should support interoperability, using standards, when they exist, and it should be easily usable, fit for purpose, communicable and financially efficient. The infrastructure should be stable and secure, and information needs to be transmitted effectively and efficiently over a distance (7,20).

The level of appropriateness between equipment and software, and between these and the particular case using telehealth, is the critical factor in creating conditions for high quality services. For example, a monitor with low resolution may be sufficient for a videoconference but inappropriate for a tele-radiology service.

Main sources for the associated question

Institute for Health Improvement – Telemedicine: Ensuring Safe, Equitable, Person-Centered Virtual Care white paper (20)

Scope and definition

Appropriate technological infrastructure is necessary for a telehealth system to operate correctly and, most importantly, for patients to have access to the services provided. This includes common computing devices, software, connectivity, and the necessary additional telehealth-associated devices, when appropriate – for example, tele-dermatoscopes or dedicated equipment for specific telemonitoring applications. The level of appropriateness between equipment or software and the particular telehealth use cases or services is to be defined in national guidelines, or telehealth service providers are to be directed to use adequate guidance, if it exists.

Question 4a. (national level)

Guidance and expected actions

At the national level, there should be guidelines for appropriate infrastructure for specific telehealth services. It is also important to have a health inspection agency or some other audit body activity that can assert that telehealth infrastructure is in place at the national level and in each organization.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidance or audit or inspection mechanism exists.
2. General guidance on health IT infrastructure exists.
3. General guidance on health IT infrastructure partially covers telehealth-specific infrastructure issues.
4. National guidelines on telehealth-specific infrastructure and a provisional mechanism for inspection and auditing exist.
5. National guidelines, a mechanism to audit and inspect, and the promotion of best-practice sharing exist.

Question 4b. (organizational level)

Guidance and expected actions

At the organizational level, it is important that the infrastructures, including physical infrastructures – such as having lighting or sound isolation in place, or dedicated rooms for teleconsultations – have been adapted to accommodate telehealth services. In more detail, there is dedicated software and rules for specific telehealth services that are available to professionals and the public.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No telehealth-specific infrastructure exists or has been identified as such.
2. A plan for characterizing and implementing further enhancement to the infrastructure has been drafted.
3. Infrastructures have been partly adapted to accommodate telehealth services.
4. Infrastructures have been adapted according to national and international guidance.
5. Infrastructures have been adapted according to national and international guidelines, and software and rules, which are specific for some telehealth services, exist.

ii) Digital literacy

Background

Despite technological improvement, telehealth implementation is dependent on the ability to use it, not only by the health-care workforce but also by patients. Digital literacy is a requirement for the effective implementation of telehealth; although telehealth has the potential to decrease inequalities, it may also deepen differences if literacy is not well-established within the population (20,21). A lack of confidence in digital solutions and lack of digital literacy are barriers in the process of moving from traditional models of care to newer approaches (22). Digital literacy that is relevant for telehealth is not limited to end-users – namely, patients and their support network – but also applies to health-care professionals who often were not educated in telehealth in their respective university education paths. However, data shows that only one in two countries in Europe have policies addressing digital literacy (23).

Main sources for the associated question

Institute for Health Improvement – Telemedicine: Ensuring Safe, Equitable, Person-Centered Virtual Care white paper (20)

Scope and definition

Digital health literacy refers to the degree to which individuals obtain, process and understand health-care information and display capabilities to use online services in order to make appropriate decisions related to their health or that of their family and friends.

Question 5a. (national level)

Guidance and expected actions

Countries should develop national policies and provide guidelines on digital health literacy, which can have specific sections on knowledge and skill development to guide patients on how to access and use telehealth services. Organizational literacy implies actions are implemented by health-care providers to assert adherence to guidelines, and they should design the necessary mechanisms for low-literacy patients to be able to enjoy the same level of service.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidance or audit and inspection mechanism exist.
2. General guidance on digital health literacy exists.
3. General guidance on digital health literacy, including telehealth-specific topics, exists.
4. National guidelines and a provisional mechanism for asserting guideline adherence exist.
5. National guidelines exist and a mechanism to assess patients' literacy levels in telehealth exist.

Question 5b. (organizational level)

Guidance and expected actions

Digital literacy at the organizational level exists when there is a mechanism that will educate patients about telehealth services and ensures that organizational behaviour promotes digital literacy; such a mechanism may benefit from related national guidance. In more detail, there will be support for all patients in achieving the highest levels of digital health literacy. Raising the awareness of professionals in their role in contributing to digital health literacy is also important.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. There is a mechanism that serves to educate patients about telehealth services.
2. A mechanism exists that further ensures organizational behaviours promote digital literacy.
3. Local processes have been defined that consider the level of digital literacy of users and mechanisms to enhance it.
4. Local processes are based on existing national guidelines relating to digital literacy.
5. Besides adequate local processes and adherence to guidelines, the organization further raises the awareness of professionals in their role in contributing to digital health literacy.

2.1.3 Communication

Background

The interaction between health-care providers – both organizations and professionals – and patients and their support network requires the appropriate use of communication. Regarding professionals, there is agreement that telehealth requires higher levels of communication skills that counter the absence of visual clues (24). This is also to compensate for the physical interaction – with touch, smell, and sense of presence – that is obviously missing in distance health care. It is also critical that any information and communication technologies that are used meet standards for the protection of health data, including communication data (e.g. video streaming), in data capture, transmission or storage (7), and that justification for the need to follow these is well understood and accepted by all actors.

Main sources for the associated question

Institute for Health Improvement – Telemedicine: Ensuring Safe, Equitable, Person-Centered Virtual Care white paper (20)

Scope and definition

Effective communication is part of a person-centric approach and means that specific communication skills need to be mastered by professionals, and/or channels must be adapted, to ensure communication barriers do not negatively impact the care provided or add significant clinical risk.

Question 6a. (national level)

Guidance and expected actions

Guidance on technical safeguards, as well as procedures for troubleshooting and managing technical problems, should be complemented by training requirements and orientation for how professionals should be educated to deal with emotional and psychological communication challenges that can arise. Guidance should be available for promoting accessibility. Examples include inclusive online design, adaptations that are needed to cater to blind or colorblind persons, or changes ensuring that phone services are offered in more than one language. There should be guidance for specific processes, such as multilingual online or phone services, or for having a chat service available instead of a voice service for people with disabilities. Guidance is also recommended for telehealth platform requirements that should be considered when buying or creating telehealth solutions that ensure technical and linguistic barriers are minimized. Additionally, awareness raising and guidance on training in specific communication skills for a telehealth context can be developed for all relevant staff. National level educational materials and even training courses can help create better communication environments around telehealth service provision. Competency appraisals of professionals can also be put in place to ensure good communication skills for the health workforce and those specifically dedicated to the telehealth workforce.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidance or education on good communication in telehealth exists.
2. General guidance on good communication in telehealth exists but education efforts are not evident.
3. Regional or partial guidelines and educational efforts to promote good communication exist.
4. National guidelines and educational efforts exist, including the creation of educational materials.
5. National guidelines and educational efforts, including materials and professional competency appraisals, have been put in place to ensure good communication skills of the relevant health workforce.

Question 6b. (organizational level)

Guidance and expected actions

Organizations have technical and procedural safeguards for troubleshooting and managing technical problems that could impact communication as well as provide training for how professionals should deal with emotional and psychological communication challenges that can arise. Guidance on accessibility, specific processes, and telehealth platform requirements, to ensure technical and linguistic barriers are minimized, are followed by the organization. Competency appraisals for professionals have been put in place to assess the communication skills of staff.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No specific action on communication has been taken.
2. Some elements of general guidance on good communication in telehealth are considered.
3. Existing guidance is considered, including aspects such as accessibility and adherence to national or regional directives.

4. Awareness raising of health professionals about what constitutes good communication in telehealth complements national guideline adherence by the organization.
5. National guidelines are followed, educational efforts are undertaken, and professionals' competency is appraised to ensure good communication skills of the relevant health workforce.

2.1.4 Access to care

i) Access for patient, family, and/or caregiver

Background

Accessibility is a fundamental factor that influences telehealth usage. It must be ensured that all parties have access and knowledge to use the technology involved in the telehealth services provided. Variables that influence the access of patients, families, or caregivers to telehealth range from technological infrastructure, such as devices and access to internet connection, to disabilities that might interfere with communication and access (25).

Main sources for the associated question

National Quality Forum – Framework to Support Measure Development for Telehealth (26)

Scope and definition

Access to care for the patient, family and/or caregiver refers to the availability, affordability and ease of accessing telehealth services, regardless of their location or abilities. Access to care is impacted by factors such as internet connectivity, the availability of devices to access telehealth services, and the existence of alternative means to access those services.

Question 7a. (national level)

Guidance and expected actions

Guidance on technical safeguards as well as procedures for troubleshooting and managing technical problems should be complemented by training requirements and orientation for how professionals should be educated to deal with emotional and psychological communication challenges that can arise. This includes: 1) guidance for accessibility measures, such as for inclusive online design or adaptations for blind or daltonic persons; 2) phone services offered in more than one language; 3) specific processes, such as multi-lingual online services or multi-lingual phone services; 4) the availability of a text-based chat service instead of a voice service for people with speech disabilities; or, 5) guidance on telehealth platform requirements that should be taken into consideration when buying or creating telehealth solutions that ensure technical and linguistic barriers are minimized. Additionally, awareness raising and guidance on training for all relevant staff on specific communication skills for communicating in a telehealth context can be developed. National-level educational materials and even educational programmes can help create better communication environments around telehealth service provision. Professionals' competency appraisal can be put in place to ensure good communication skills of the telehealth workforce.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidance or education on good communication in telehealth exists.
2. General guidance on good communication in telehealth exists but no educational efforts are evident.
3. Regional or incomplete guidelines, and educational efforts to promote good communication, exist.
4. National guidelines and educational efforts exist including the creation of educational materials.
5. National guidelines and educational efforts, including materials and professional competency appraisal, have been put in place to ensure good communication skills of the telehealth workforce.

Question 7b. (organizational level)

Guidance and expected actions

Organizations have technical and procedural safeguards for troubleshooting and managing technical problems that could impact communication and provide training for how professionals should deal with emotional and psychological communication challenges that can arise. Guidance on accessibility, specific processes, and telehealth platform requirements to ensure technical and linguistic barriers are minimized should be followed by the organization. Professionals' competency appraisal should be put in place to assess communication and the cultural competence skills of staff.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No specific action on communication has been taken.
2. Some elements of general guidance on good communication in telehealth are taken into account.
3. Guidance that exists is considered and some aspects such as accessibility, specific processes, and even telehealth platform requirements follow national/regional requirements when these exist.
4. Awareness raising of health professionals about what constitutes good communication in telehealth complements national guidelines adherence by the organization.
5. National guidelines are followed, educational efforts are undertaken, and professionals' competency is appraised to ensure good communication skills of the telehealth workforce.

2.1.5 Experience

i) Care team member experience

Background

Care team experience and acceptance of telehealth are determinants, particularly when programmes are initiated. The perception of telehealth programmes by the care team influences all the other interactions, service changes, technical issues, and provider credibility and autonomy. Integrating telehealth into routine health and care services and organizations requires the adjustment of provider roles and responsibilities (27). Teams develop workflows that need to be adjusted to the technology, which can result in gains, namely on patient safety (28). It is naïve to consider that such an adjustment is automatic, and even more so, that its success does not depend highly on members' experience, not only as it applies to telehealth but also to digital transformation and health-care service transformation.

Main sources for the associated question

National Quality Forum – Framework to Support Measure Development for Telehealth (26)

Scope and definition

It is important to consider the experience of the care team in telehealth services. This will affect team collaboration as well as the care provided to patients by the team. Care team experience also refers to the use of services to access information necessary for providing good QoC. Knowledge, attitudes and skills related to telehealth are part of broader digital health preparedness for which a health workforce strategy and guidance would be fundamental at the national level, possibly integrated into a broader human resource approach. Teams need to co-create workflows that are adjusted to the technology, with the increased challenge that this may mean teams including more than one organization need to align their workflows. Such workflows, adapted to integrate the use of telehealth services, can result in gains, namely for patient safety.

Question 8a. (national level)

Guidance and expected actions

At the national level, it is important that there is guidance for professionals in preparations for telehealth and a dedicated instrument to evaluate progress specific to telehealth services. The instrument can be in the form of an online survey tool, database or data collection mechanism.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidance on health workforce digital health education and workforce capacity-building exists at the national level.
2. National general guidance exists but does not cover any specific aspects directly related to telehealth education and capacity-building.
3. National general guidance exists and includes specific aspects on telehealth, or there is guidance specific to national telehealth education and capacity-building. Guidance on how to adjust workflows to include telehealth practices and inter-organizational workflows are in preparation.
4. In addition to national education and capacity-building guidance specific to telehealth, national guidance on how to adjust workflows to include telehealth practices and inter-organizational workflows are in preparation, including telehealth reference networks.
5. Mature nation-wide telehealth capacity-building programmes, guidance on workflow adjustments, guidance on interorganizational arrangements, and telehealth reference networks exist.

Question 8b. (organizational level)

Guidance and expected actions

The organization takes a proactive stance in preparing its professionals for telehealth, including mechanisms for evaluating progress, with a particular focus on team performance rather than just individual skills. Such activities and metrics are specific to telehealth services but can be part of a larger set of initiatives for digital health capacity-building. Instruments to measure progress should exist and can take the form of an online survey tool, database or other data collection mechanism.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No specific action on the education and capacity-building of professional teams has been taken.
2. Organizational efforts to educate professionals in a team about telehealth exist but are not organized or conducted in a systematic manner.
3. Activities exist to promote education and capacity-building among professionals about telehealth and how to deliver telehealth services, following relevant national guidance, when possible. Procedures to incorporate telehealth services into organizational and interorganizational workflows exist.
4. Capacity-building for telehealth and workflow adjustments are generalized and harmonized across the organization. Progress in strengthening health workforce knowledge, attitudes and skills on telehealth, and their capacity to be used to help provide high quality telehealth services, is evaluated with predefined metrics.
5. All national guidelines are followed, educational efforts are undertaken, workflows are adequately adjusted, and professionals' competency in telehealth is appraised regularly.

2.1.6 Financial impact/cost

i) Financial impact on the health system or payer

Some frameworks that consider quality associated with telehealth relate this, for example, to a capacity to demonstrate a positive financial impact in the health system or better ways for payers or financing organizations to reimburse service provision. While this is acknowledged, there was a decision to include this topical area in another WHO Regional Office for Europe tool dedicated more broadly to telehealth.

2.1.7 Ethical principles

i) Promotion and marketing

Background

Marketing telehealth to patients involves establishing a clear strategy at the beginning of the process. This includes clearly defining goals, gathering audience insights, enhancing visibility through communication, advocating internally by making sure that providers are aware of the telehealth initiatives, leveraging feedback, and diversifying the message (29). Empowering patients and professionals can have a major role in increasing the acceptance of telehealth (30). Guidance for privacy and transparency of the process is recommended by ISO 13131:2021 (E 5.3.2 and 14.1.2) (7), which includes ensuring that the health-care professional applies the guidelines of the health-care organization to protect the confidentiality of health records.

Main sources for the associated question

National Quality Forum – Framework to Support Measure Development for Telehealth (26)

Scope and definition

Telehealth promotion and marketing refers to raising awareness and increasing the acceptance of telehealth services among patients and health-care providers, including their health workforce. Promotion and marketing strategies are necessary to promote telehealth services, as these are still not fully known by individuals, nor are their scope or applicability. Telehealth platforms can also be used for marketing and promoting different services. It is important to consider the ethical aspect involved and regulation that exists regarding the promotion of telehealth services as well as concrete marketing actions (e.g. campaigns) that could be conducted utilizing the telehealth tools themselves (e.g. advertising a medicinal drug on the same screen that a patient or doctor sees when doing a teleconsultation).

Question 9a. (national level)

Guidance and expected actions

At the national level, it is important to have guidelines that will promote standards for confidentiality, honesty, and transparency. A mechanism should also exist that serves to monitor telehealth providers for their compliance with specific guidelines, and to collect and disseminate best practices in this subdomain.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidance exists.
2. General guidance on promotion and marketing exists.
3. Telehealth-specific guidance exists.
4. Telehealth-specific guidance and a framework for its implementation exist.
5. Guidance and a mechanism exist.

Question 9b. (organizational level)**Guidance and expected actions**

Organizations should ensure compliance with existing guidelines and establish a monitoring mechanism for both promoting and delivering telehealth services. It is also important for organizations to train professionals and the public about unethical promotion and marketing activities.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidance exists.
2. General guidance on promotion and marketing is implemented.
3. Telehealth-specific guidance is implemented across all services in the organization.
4. Telehealth-specific guidance is implemented, and educational efforts targeted at unethical promotion and marketing exist.
5. Guidance is followed, education efforts are mainstream, and a verification mechanism to check for compliance is in place.

2.2 Clinical effectiveness

The clinical effectiveness domain includes four subdomains:

- care management and population health
- diagnostic accuracy
- clinical effectiveness – effects on patients' health
- use of health-care service.

2.2.1 Care management and population health

i) Workforce preparedness

Background

The ISO guidelines 13131:2021 (E 9.1.2) (7) state that organizations are responsible for human resources planning to support telehealth services and that training activities should be made available. Educational strategies may include interprofessional training that allows for a broader training of health-care teams with the aim to facilitate changes in their practice (31). Evidence exists that demonstrates there is value in training telehealth practices (32).

Main sources for the associated question

National Quality Forum – Framework to Support Measure Development for Telehealth (26)

Scope and definition

Workforce preparedness refers to the ability of a health-care system to provide telehealth services efficiently, effectively, and safely. To ensure this, it is necessary for health-care staff to have the necessary education and skills to deliver telehealth services. It is also important to have the necessary equipment and infrastructure.

Question 10a. (national level)

Guidance and expected actions

To ensure effective workforce preparedness, it is important to have guidelines in place. National guidance aligned with ISO 13131:2021 9.1.2 for human resources skills development and training may be useful when trying to define metrics that apply to health-care organizations for tracking progress. The guidelines will cover all necessary aspects of training. The training of professionals should equip them with the skills needed to use telehealth technology to deliver a high standard of services. The training should also ensure professionals have the clinical knowledge necessary to provide telehealth services. Organizations need to be encouraged to have a workforce preparedness plan and ensure it covers telehealth and digital health capabilities. The plan ensures that necessary staff are available to provide telehealth services. Lastly, it is important to have a national mechanism or set of minimum criteria for the evaluation of workforce preparedness; for example, if professionals are up-to-date in their clinical knowledge and improvement of skills.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidance exists.
2. General guidance on workforce exists.
3. Telehealth-specific guidance exists.
4. Telehealth guidance and a workforce preparedness plan exist.
5. Guidance and a plan and mechanism for workforce preparedness in telehealth exist.

Question 10b. (organizational level)

Guidance and expected actions

Organizations, such as large health-care providers, cannot rely only on national efforts to prepare their workforce and keep it up to date. With regards to telehealth services, a clinical as well as an administrative, technical and IT workforce need to be developed and empowered. Since much medical and postgraduate education is applied in clusters of specialties, organizations need to find ways to align such specialized training with general capacity-building as necessary for good practice in telehealth services. Such practice standards need to be defined by the organization in alignment with national guidance and a professional educational ethos.

The training should ensure professionals have the clinical knowledge necessary to provide telehealth services. It is also important to ensure a workforce preparedness plan exists in the organization and that efforts can be audited. Finally, it is important to have a mechanism that will evaluate workforce preparedness; for example, if professionals are up-to-date with their clinical knowledge and improvement of skills. Organizations can obtain guidance and inspiration for their quality procedures from ISO guidelines 13131:2021(E) section 9.1.2.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No workforce development plan exists.
2. A generic workforce development plan exists and covers some information and communication technology and digital health topics.
3. A workforce development plan that contains specific aims and activities related to telehealth exists and follows existing supra-organizational guidance.
4. Telehealth training is undertaken regularly for all staff related to telehealth services and has a particular focus on QoC with regard to health professionals.
5. Quality assurance of appropriate and tailored telehealth training to health professionals exists and follows nationally established requirements.

2.2.2 Diagnostic accuracy

i) Diagnostic Accuracy

Background

For the purposes of this tool, diagnostic accuracy is defined as an assessment of how close a diagnosis made by a clinician, in this case using telehealth, is to the actual diagnosis the patient would have had when observed by a doctor of the same speciality in person, using gold-standard procedures, or by a specialist clinician using advanced diagnostic tools, including pathology examination. Considering the new challenges in diagnosis introduced by telehealth, the Institute for Healthcare Improvement (IHI) provided a set of recommendations to improve diagnosis accuracy to:

- i) understand patients' health-related behaviours in their environment;
- ii) engage family and carers in symptom description;
- iii) train professionals on how to best work on virtual diagnosis procedures;
- iv) identify clues from an individual's home environment; and
- v) consider ancillary support from the community (20).

Main sources for the associated question

National Quality Forum – Framework to Support Measure Development for Telehealth (26)

Scope and definition

Diagnostic accuracy refers to the ability of health-care professionals to ensure accurate diagnoses of patients through telehealth services. It is an important aspect to consider since it affects the QoC of services and patient outcomes. In-person consultations allow health-care professionals to better observe the patient, since a wound, for example, can be observed from many different angles. Also, in-person clinicians can observe a patient's body language and behaviour.

Question 11a. (national level)

Guidance and expected actions

It is important that national level guidelines and protocols exist to ensure that harmonized methods of assessing telehealth diagnostic accuracy exist and are applicable in organizations or at the regional and national level. Countries can promote diagnostic accuracy through small studies or large/cohort studies, or through collecting data about diagnostic accuracy, systematically; for example, by comparing the diagnostic indications of on-phone and app services with that of emergency room visits.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

- 1 No guidance exists.
- 2 General guidance on diagnostic accuracy appraisal exists.
- 3 Scattered evidence on diagnostic accuracy in telehealth exists.
- 4 Evidence on diagnostic accuracy obtained from large studies or trials exists.
- 5 Systematic evidence on telehealth diagnostic accuracy is regularly collected.

Question 11b. (organizational level)

Guidance and expected actions

The organization follows existing guidance on how to obtain data and assess telehealth diagnostic accuracy. It uses small or large sets of collected data about diagnostic accuracy to assess and refine its services.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No measurement of telehealth diagnostic accuracy is performed.
2. Telehealth diagnostic accuracy is studied in research or pilot contexts.
3. Scattered evidence on diagnostic accuracy of telehealth services is produced.
4. Evidence of diagnostic accuracy is obtained on almost all services.
5. Systematic evidence on telehealth diagnostic accuracy is regularly collected and follows national or regional guidance.

2.2.3 Clinical Effectiveness – effects on patients' health

i) Effects on mortality, morbidity and HRQoL, and on habits and behaviours

Background

The change in health-care delivery promoted by telehealth needs to be safe, which means that patients should not be exposed to unnecessary risks, while at the same time benefiting from effective clinical care that, ideally, would prolong life, reduce morbidity and/or improve health-care-related quality of life (HRQoL). Paradoxically, morbidity and mortality are ways to measure safety as well as clinical effectiveness in telehealth (33). Research has shown telehealth's effects in lowering (34) or increasing mortality in several different clinical areas (33). In addition, HRQoL has been positively influenced by telehealth interventions, although population characteristics, such as age, may influence outcomes (35). A positive effect from telehealth interventions on mental health has also been described in the literature (36). Telehealth can be used to change behaviours and habits related to health and has been described as effective in this process (37).

Main sources for the associated question

Model for Assessment of Telemedicine Applications (MAST) (17)

Scope and definition

Mortality and morbidity refer to the risk of death and the occurrence of disease or injury, respectively. It is important to understand the impact of telehealth on mortality and morbidity. Health-care-related quality of life is the impact of a patient's health on his or her daily activities and well-being. Patient habits and behaviours are the daily patterns and activities of patients that might affect their health and well-being. Measuring their effects on telehealth services can provide insights on the effectiveness of telehealth services.

Question 12a. (national level)

Guidance and expected actions

General guidance on examining the impacts of health-care services on mortality, morbidity and HRQoL can be considered and will allow countries to better collect and compare this evidence. However, telehealth may entail particular risks as well as positive impacts and, as a result, telehealth-specific guidance on how best to collect evidence and study the impact on these three dimensions could be very useful, as well as having

systematic evidence collection rather than evidence being collected in a non-systematic or irregular manner. Such processes will allow for conclusions that are useful for health-care service planning and for compliance to be verified with guidance.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidance exists.
2. General guidance on measuring health-care service impacts on mortality, morbidity and HRQoL exists.
3. Telehealth-specific guidance exists for telehealth impacts on mortality, morbidity and HRQoL.
4. Telehealth-specific guidance exists, and evidence is being collected but in a non-systematic or irregular manner.
5. Guidance and systematic and regular evidence collection about the impacts of telehealth services in mortality, morbidity and HRQoL exist and allows for compliance to be verified.

Question 12b. (organizational level)

Guidance and expected actions

Health-care organizations providing telehealth services need to consider how to measure the impacts of such services on mortality, morbidity and HRQoL, possibly in the frame of similar impacts by other innovative processes being introduced, and/or as part of a regular appraisal of the overall services they provide. Whenever possible, doing so should follow nationally or regionally established guidance and constitute a regular and systematic exercise of evidence collection and appraisal. Conclusions and improvements should naturally follow such measurements.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No measurement of telehealth impacts is performed.
2. Telehealth service impacts are occasionally studied in research or pilot contexts or in an ad-hoc, non-systematic manner.
3. Evidence of telehealth impacts is collected for some services and in an irregular manner but follows nationally established guidance or international guidance when national guidance is not available.
4. Evidence is obtained for more than 90% of the services and in a regular manner following nationally established guidance.
5. Systematic evidence of all services is regularly collected, follows national or regional guidance, is discussed, and an improvement plan is formalized.

2.2.4 Use of health-care service

i) Use of health-care service

Background

Telehealth has often been associated with a reduction in the need to use health-care services overall, and face-to-face services. An example is the use of telemonitoring for chronic obstructive pulmonary disease (COPD) patients or health-failure patients, which is associated with fewer visits to emergency rooms (38, 39). In acute conditions, telehealth has been associated with equal or even better results; namely, data related to antibiotic prescriptions (40, 41).

Main sources for the associated question

Model for Assessment of Telemedicine Applications (MAST) (17)

Scope and definition

The establishment of some telehealth services is associated with a reduction in the use of some face-to-face services or an appropriate increase in the use of other services. Measuring changes in consumption patterns and being able to associate and correlate this with the establishment of adequate telehealth services is necessary to estimate health-care service organizational impacts; it can also serve as a source of cost-effectiveness evidence to inform telehealth sustainability discussions.

Question 13a. (national level)

Guidance and expected actions

Guidance on how to measure and correlate effects on the use of other services as a result of the establishment of telehealth programmes and initiatives should be produced at the national or regional level, allowing for consistent and comparable data collection and analytics. This can be part of a larger programme on usage studies, but the particular aspects of telehealth should be taken into account.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidance exists.
2. General guidance on measuring effects on service utilization exists.
3. Scattered evidence on service utilization associated with telehealth exists.
4. Evidence is collected as part of overall service utilization inquiries.
5. Guidance observation is verified, and systematic evidence is regularly collected.

Question 13b. (organizational level)

Guidance and expected actions

Organizations are expected to measure and report various statistics on services they provide at the national and regional levels. Most countries have defined sets of data to be reported and established mechanisms. Even when this is not the case, organizations can still assess service utilization. Applying such processes to telehealth services depends on national guidance and may involve peculiarities that need to be observed.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No systematic measurement of service utilization is performed.
2. Organization follows national guidance on measuring service utilization, but no specific statistic on telehealth services is produced.
3. Scattered evidence of telehealth service utilization is produced and is associated with other service utilization patterns.
4. Evidence on telehealth service utilization is obtained from 90% of services and is associated with other service utilization patterns.
5. Systematic evidence of the impacts of telehealth provision on the utilization of other services follows national guidance and is reported back at the national level.

2.3 Safety

2.3.1 Operational and infrastructure integrity

i) Privacy and security

Background

Privacy and security are interrelated, and both are essential for building trust in the digital services being provided. ISO guidelines 13131:2021 (E 14.1.2) (7) state that the relationship between the care recipient, health-care organization and any health-care-supporting organization should be defined in a service-level agreement that ensures safety and continuity. All actors involved would, ideally, share a common understanding and a formalized or embedded agreement on privacy, which must be aligned with regulations and subject to audit. The identity of the care recipient and health data need to be protected from any information and cybersecurity breach.

Main sources for the associated question

National Committee for Quality Assurance – Telehealth Distinction Program and Telehealth Policy Taskforce (42)

Scope and definition

Privacy in telehealth is the protection of the personal and health information of patients. A breach of privacy can occur when this information is accessed, used, or shared without any authorization. Security in telehealth refers to different processes used to ensure the privacy of information and avert any unauthorized access (e.g. software updates, encryption of data, secure transmission of data).

Question 14a. (national level)

Guidance and expected actions

To ensure privacy and security in telehealth systems at the national level, it is important to have guidelines that provide strict regulations to be followed by telehealth providers. A mechanism should also exist that will audit the providers to ensure telehealth systems are following privacy and security guidelines. The mechanisms will

also promote best practices in privacy and security.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidance exists.
2. International guidelines for privacy and security exist.
3. Country-specific guidelines for privacy and security exist.
4. Specific guidance for telehealth services exists.
5. Guidance and a mechanism specifically for telehealth services exist.

Question 14b. (organizational level)

Guidance and expected actions

Organizations are responsible for adhering to existing guidelines. They should have a mechanism that will assess the security of all telehealth services. They also have a responsibility for training staff and patients. Staff should be aware of best practices and techniques to ensure the highest levels of privacy and security, such as through password management and the sharing of information. Patients should also be educated on the importance of privacy and security and ways to protect their personal and health information.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidelines exist.
2. International guidelines for cyber- and information security exist.
3. Specific guidance for telehealth services exists.
4. Guidance and a mechanism specifically for telehealth services exist.
5. Guidance, a mechanism, and training for patients and health-care professionals exist.

2.3.2 Psychological and emotional safety

i) Psychological and emotional safety

Background

Psychological and emotional safety is one of the six elements of the IHI Framework for Ensuring Safe, Equitable, Person-Centered Telemedicine (20). The creation of a safe and inviting environment for a telehealth interaction is not automatic but should be created and encouraged. Both the health provider and individual should feel that the space for the telehealth interaction is respectful and secure. This can be achieved through maintaining patient privacy, an appropriate communication style, and virtual recordings.

Main sources for the associated question

Institute for Health Improvement – Telemedicine: Ensuring Safe, Equitable, Person-Centered Virtual Care white paper (20)

Scope and definition

Psychological and emotional safety in telehealth means providing a supportive and non-threatening environment for patients when accessing telehealth services. This means that, during telehealth consultations, patients are comfortable, respected and feel secure. It is an important aspect to consider in telehealth since, generally, when patients access health-care services, the physical presence can help ensure a patient's psychological and emotional safety.

Question 15a. (national level)

Guidance and expected actions

To ensure psychological and emotional safety in telehealth, the national level should have guidelines that will set standards for telehealth providers to follow. It is also important to establish a mechanism that will ensure their application and promote best practices.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidance exists.
2. General guidance for psychological and emotional safety in health care exists.
3. Telehealth-specific guidance on psychological and emotional safety is being created.
4. Specific guidance for telehealth services exists and a mechanism to evaluate their application is being created.
5. Guidance and a mechanism specifically for telehealth services exist.

Question 15b. (organizational level)

Guidance and expected actions

Organizations should follow the guidelines on implementing psychological and emotional safety. They should also have a mechanism that assesses if such guidance is applied in the services provided. A feedback mechanism should also be established to allow for incident reporting of any harm during telehealth consultations. To avoid such harm, it is necessary for organizations to establish cultural competency training for both staff and patients. Telehealth practitioners should be aware of best practices to avoid any psychological or emotional harm to patients. Patients, on the other hand, should be educated on their rights and ways to report potential harm, and they should be informed about any related support from providers through, for example, mental health consultations or language support.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No guidelines exist.
2. General guidelines for psychological and emotional safety in health care exist.
3. A telehealth-specific policy on psychological and emotional safety is being created.
4. Telehealth-specific guidelines exist with educational initiatives for professionals and a system for complaints.
5. Guidelines, and a mechanism to ensure psychological and emotional safety in telehealth services, exist.

2.3.3 Governance and financial issues

i) Governance

Background

Successful implementation of a telehealth programme requires engagement, resources, and organizational governance (43). At a national level, multiple telehealth initiatives and priorities may be competing, which calls for coordination and alignment with health policy and strategy made possible through effective and engaging governance mechanisms. Telehealth governance can be defined as the management structure for advancing a telehealth strategy by ensuring that a national or organizational telehealth programme is successfully implemented and sustained into the future. It should have a formal, specific telehealth governance structure and appoint telehealth leaders and clinical champions (44). Financial business models for telehealth are quite unique. After the COVID-19 pandemic, telemedicine coverage and reimbursement increased and expanded, allowing for increasing numbers of interactions (45,46).

Main sources for the associated question

Institute for Health Improvement – Telemedicine: Ensuring Safe, Equitable, Person-Centered Virtual Care white paper (20)

Scope and definition

Every telehealth system should follow a clear governance framework. Governance helps an organization define its direction, objectives, policies, and practices and therefore ensure an effective delivery of telehealth services. A governance framework is important because it provides a clear set of roles and processes. There needs to be a process of coordination for telehealth across a region or country. This is because, by definition, many telehealth services require regional coverage and/or imply inter-organizational coordination of care processes where the usage of telehealth is to be successfully embedded.

Question 16a. (national level)

Guidance and expected actions

There should be a regional or national body – possibly within one designated organization or as a working group involving several organizations – that is empowered by the MoH to act as a coordinator of regional and national efforts. The way in which different organizational structures – such as digital health authorities, financing and insurance departments, health-care providers, and quality and audit authorities – articulate their efforts and issues related to telehealth benefits from being outlined in a formalized governance framework. Equally, the engagement of patients and informal and formal caregivers should be accounted for. Mechanisms for defining priorities, as well as setting up strategic planning, equally fall under governance. National governance should also be linked with institutional efforts for organizing and managing telehealth pilots and established services. The mechanisms to evaluate pilot and established services within health-care providers can also be subject to harmonization and guidance across a region or country.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No governance mechanism or guidelines exist.
2. The MoH is the main governance mechanism for telehealth services without a specialized body.
3. Some guidelines exist on how governance of telehealth in organizations should be laid out and the MoH is the main national governance mechanism without a specialized body.
4. A specialized governance framework and mechanism for telehealth services is being created.
5. Guidelines and a governance mechanism specific to telehealth exist.

Question 16b. (organizational level)

Guidance and expected actions

At the organizational level, a governance system must exist that ensures alignment of different telehealth services in the context of health-care provision processes. The existence of a fully mature and trained team that will coordinate the telehealth services is key, as well as processes for engaging and envisioning next steps in the organizational use of telehealth.

Maturity level

Considering the guidance and expected actions presented above, maturity levels suggested for the purposes of self-assessment are the following.

1. No governance structure exists.
2. No specific telehealth coordinator exists, and a clinical or IT director takes the role.
3. A telehealth-specific coordinator exists.
4. A complete governance structure for telehealth exists.
5. A governance structure for telehealth is mature and specific training is provided to staff.

ii) Business continuity

Through discussions with experts, business continuity of telehealth services was considered to be a topical area that does not only or directly relate to QoC, but more generically has to be put in place for the existence of the service itself. The level of maturity and safeguards required are to be discussed and monitored under the

guidelines for telemedicine assessment and strategy development currently under development by the WHO Regional Office for Europe.

Section 3

Moving ahead

3.1 Conclusions and recommended actions

The TQoCT allows a Member State to have a general view of the status of the instruments (legal, regulatory and guidelines), technologies, and processes that it has and how they potentially enable its health-care organizations to offer high-quality care services when applying telehealth. Equally, at the organizational level, this self-assessment allows the organization to reflect on how advanced its QoC plan is with respect to telehealth services and the levels of dependency from supra-organizational guidance on this matter.

It can be included in national level patient safety strategies. It may not be implementable in its full scope immediately, as it is based on the existence of sets of national level guidance for the specific areas of telehealth that are missing in most Member States.

This tool is particularly useful for promoting audit and certification instruments to be tailored and designed to each national context, which can be collectively aggregated into a high-level view.

For organizations, the exercise of exploring each of the self-assessment questions will trigger discussion on how and why the organization performs telehealth services and what the risks and benefits are. If applied to certification schema, this can serve as a preparatory tool, as telehealth topics are likely to feature such accreditation and certification programs, particularly for hospitals and large health-care providers, in the future.

3.2 Improving the tool

While there are many features and new issues which could justify a continuous update of the questions and scores, for benchmarking reasons and longitudinal comparability, it is advisable that questions and corresponding scores obtained are not modified too often. For now, a two-year update is foreseen. We encourage all interested to reach out to our office to help organize national and organizational events around the experimentation of this tool, most likely online, in a timely and cost-effective manner.

The WHO Athens Quality of Care and Patient Safety Office is committed to an open innovation culture with continuous improvement. The current version is intended to be used as a basis for experimentation, earlier adoption, and a contribution to national debates on QoC in telehealth services. It is to be experimented with by as many Member States as possible. If you use it and would like to add/contribute to its improvement, feel free to email us (euqualityofcare@who.int) with a reference in the subject of the email starting with "[TQoCT]" followed by the rest of the subject of your email "xxxxxxx" (e.g. "[TQoCT]: Results from France" or "[TQoCT]: Feedback on question 1c").

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Web annex. Excel version of the Telehealth quality of care tool

The Excel version of the TQoCT is available for download here:

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For any errors/feedback, and if you use the tool and would like to report your results, please contact us at euqualityofcare@who.int with a reference in the subject of the email, starting with: "[TQoCT]:" followed by rest of the subject of your email "xxxxxxx" (e.g. "[TQoCT]: Results from France" or "[TQoCT]: Feedback on question 1c").

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