High-value referrals

Learning from challenges and opportunities of the COVID-19 pandemic

Concept paper

World Health Organization

European Region

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Abstract

The referral system is a crucial component of health care systems, aiming to ensure patient access to specialist health care when needed, while maintaining resource efficiency. This concept paper examines various referral types, with a focus on high-value referrals that minimize wasteful activities. Referral is defined as a dynamic process in which a health professional at one level of the health system – having insufficient resources or power to decide on the management of a patient's clinical condition – seeks the help of another facility at the same or higher level to assist in the care pathway.

A series of indicators are proposed to monitor and benchmark different referral systems, considering presential and non-presential referrals (including e-referrals) and classifying referrals by reason. The concept paper outlines the roles of referral system components, current issues, errors in practice, and suggestions for improvement.

As part of the research, we conducted interviews with managers in different European health systems (Estonia, Italy, Malta, Spain) to learn about how they leveraged or changed referrals during the pandemic and which changes they would propose. While no single "best" referral system exists, a set of good practices and their driving and inhibiting factors were identified, allowing stakeholders at different levels of the health system to assess how best to collaborate and integrate these practices into service provision. The report lists a series of 80+ potential areas for action to improve referral systems, classified by system components.

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Abbreviations

CDSS	clinical decision support systems
COVID-19	coronavirus 2019
CRHIM	Center for Research in Healthcare Innovation Management
EHR	electronic health record
ERN	European Reference Network
EU	European Union
GP	general practitioner
ICU	intensive care unit
IHI	Institute for Healthcare Improvement
OE	operational excellence
PCP	primary care physician
PHC	primary health care
PHP	primary health provider
SEMG	Spanish Society of General and Family Physicians
UHC	universal health coverage

1 Introduction

This concept paper is about referral systems in health care – an issue high on the agenda of ministries of health in Europe and beyond who are still managing pandemic-induced shortcomings such as delayed preventive care services, along with extensive backlogs. The changes adopted in various referral systems during the novel coronavirus (SARS-CoV-2; COVID-19) pandemic merit closer assessment, with a view to possible system-wide uptake.

More than two years in, while much has been published on the subject of the pandemic, including many interesting experiences and the various coping strategies health systems and care providers have employed, referral systems are not usually the main focus. Publications have been produced by the European Observatory on Health Systems and Policies, the Nuffield Trust, and IESE Business School – highlighting learning and examples of creative innovation and adaptation in dealing with the challenges that have arisen. These are starting points for analysing and proposing health system changes. The purpose of this report is to reframe the pandemic experiences reported and the knowledge gleaned in view of the determining factors of high-value referrals, and to suggest how referral systems can be improved.

The pandemic has limited access to health and social care in many settings, and existing challenges have been exacerbated; such as backlogs and waiting-times, unmet needs, health and care workforce shortages and related issues. To deal with these challenges, innovative solutions were sought, and digital technologies accelerated, helping to decrease pressure on hospitals and increase the role and quality of care provided outside hospitals, strengthening primary and secondary health and social care service delivery. In some cases, good examples have been retained and adapted.

This concept paper presents a number of ways that referral management systems need to develop, especially in hospitals. Required system actions to strengthen and streamline the referral process are presented, along with how to manage the transfer of care between various health care providers and levels. The report is intended to be a starting point in this process.

Developed by the WHO Regional Office for Europe and the IESE Business School, this concept paper identifies the main elements and determining factors behind referrals, and reviews different operational excellence (OE) frameworks that allow a better understanding of the factors driving referrals. A series of best practices and ideas were identified that could be developed and adopted in different settings. As part of the research behind the report, a select set of countries and authorities – Estonia, Italy, Malta, and various Spanish regions – shared their experiences with COVID-19-induced changes being taken up for overall system improvement, specifically with a focus on high-value referral systems.

The report is based on primary and secondary research, including semi-structured interviews with sector experts. Additionally, a workshop, using a referral case study, was undertaken. This involved a simulation exercise with different stakeholders, including regulators, funders , ministry officials, sector experts, representatives from primary and secondary care settings, and patients. Run by the IESE Business School and WHO teams, the simulation produced a series of interesting insights that are reflected in the report findings.

It was concluded that, as systems are too distinct, there is no simple best referral system for transferring patients from one place or health care service to another. However, a set of good practices was established, along with the driving and inhibiting factors. This allows interested stakeholders responsible for different levels of the system – such as regulators and health care personnel in tertiary, primary and secondary

care – to assess how best to collaborate and integrate service provision, in order to provide integrated health and social care support.

The methodology for this study is described in detail in Annex 1. It consisted of a review of existing literature, a series of interviews with sector experts in different European countries, and the identification and application of different frameworks to analyse the referral process (Annex 2). The work was completed by a workshop, the content and materials from which are presented in Annex 3, which allowed the research team to present the findings of the project to an expert audience, to collect their comments and suggestions and incorporate them among the recommendations.

1.1   High-value referrals

The term referral is a generic one, as a request from one health professional to another, or from a health service institution to provide support in the diagnosis or treatment of a patient for a specific condition. High-value care is the result of the application of value management to health care. More specifically, the aim is to ensure the best care for the patient (in terms of measurable outcomes and experiences), within the health system constraints, while eliminating wasteful activities as far as possible. This then is the wider aim of a high-value referral.

The goal of universal health coverage (UHC) is to ensure that all people receive the health services they need, including services designed to promote better health, prevent illness, and provide treatment, rehabilitation and palliative care. To ensure an equitable path to UHC for all, it is crucial to address the integration of services provided throughout the continuum of care, to secure sufficient quality, people-centredness and effectiveness of care.

One of the central objectives of the WHO Regional Office for Europe is to ensure that health services across Member States are people centred and provide integrated care.[1] The design and delivery of health and social care systems around people's needs remains a major challenge for all countries with a fragmented landscape of health providers. Engaging multiple care disciplines at different levels of care according to patients' needs and preferences requires coordination and integration between all available health services across the life-course. And while the policy discourse often centres around ensuring a continuum of care, there is a more specific need in many settings to ensure well-designed and effective referral management systems between care providers and specialist professionals. Decision-makers seeking to improve the continuum of care in the health system are thus faced with major issues to ensure that referral management systems are established and used to an extent that matches the benefits that could be gained. Certain questions are key to consider in this decision-making process.

–   Why should we invest in revising or improving referral management systems?

–   What approaches and strategies are available to revise referral care practices in primary care facilities, hospitals and at other levels of the health care system in order to optimally manage access to care and its continuity?

–   What types of interventions and strategies are effective to strengthen referral management and care coordination in different health system contexts?

–   How do these interventions and solutions stretch from the broad system level to the individual facility level and finally to the patient?

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[1] European Programme of Work 2020–2025: United Action for Better Health. Copenhagen: WHO Regional Office for Europe; 2021 (https://apps.who.int/iris/handle/10665/339209).

Working towards answering these questions, the report looks at a set of interesting referral management systems and experiences of Member States or regions that have managed to reduce the impact of the COVID-19 pandemic on service provision, especially in hospitals. Attention was paid to how they successfully ensured the timeliness of care provision outside the boundaries of hospitals, including the required flow of patient information and efficient use of resources. The first part of this report summarizes the findings of a set of case studies, including the main challenges and opportunities around access and referrals, and outlines a set of issues Member States might consider relevant to serve as a basis for discussion for the second stage.

This report on high-value referrals brings together the findings and discussions and sets out pertinent issues relating to equitable access to high-quality care and/or referral management – particularly in view of high-value care pathways and care integration – concluded by suggestions for further action and the necessary tools for implementation.

1.2   Aim of this report

The primary aim behind this work, and the resulting report, was to foster the sharing of lessons on how to overcome pandemic-induced or exacerbated challenges relating to referral, and to maintain and validate valuable ideas for the post-COVID "new normal". It has been suggested that post-COVID-19 efforts should not be directed towards the **recovery** of the previous situation but to **improving** health system functioning. The shock to the system caused by the pandemic offers a unique opportunity to eliminate practices whose value has been challenged and to incorporate new practices that have proven valuable. Further, the pandemic managed to accelerate some new practices that were already under way when it started; these have also been covered in this report.

The report outlines ways in which countries design and manage referral systems for high-value care, and sets out the challenges that are expected to be faced along with how they can be addressed. This will support Member States in reaching their objective to provide better integrated and more people-centred care.

2 Referral – an approach

2.1 Definition and scope of referral

Referral can be understood in a variety of ways. It is defined by the Cambridge Dictionary as "the act of directing someone to a different place or person for information, help, or action, often to a person of group with more knowledge and power" (Cambridge dictionary).

Another possible interpretation of referral limits the concept to situations when the clinical decision-making is transferred from one health care practitioner to another; for example, the primary care physician (PCP) hands over the responsibility of fully establishing diagnosis and/or treatment to another, more specialist institution or practitioner, who then follows the patient for this treatment. The original institution or practitioner – the primary health provider (PHP) – will continue to see patient for other health matters and eventually for chronic condition treatment established as part of a referral process.

For this report, following shared definitions, a more general definition has been established. This is for when, due to the involvement of a different care professional, the continuity of care may be broken. Referral is to be understood here as a dynamic process in which a health professional at one level of the health system – having insufficient resources (equipment, skills, knowledge, drugs) or power to decide on their use to manage a clinical condition – seeks the help of anther facility (often better or differently resourced) at the same or higher level to assist in the care of a given patient. To identify a referral case, the initiator of medical interaction is to be considered: it should not be the patient, but rather a health professional. Therefore, cases of self-referral are not considered here (i.e., when the patient decides on their own initiative to look for a new health care provider).

Referral between different health care facilities is regulated by medical guidelines; formal, advisory statements to guide health workers on the management of referral processes, including communication, documentation and coordination. The guidelines also outline the roles and responsibilities of the various stakeholders in the referral system, how to choose the best referral destination, and where and how the PHP can be supported, with easily accessible, high-quality information.

It is worth noting that the main referral drivers were found to be:

1. lack of knowledge, skills, or confidence to do what is required;

2. lack of power, either due to lack of equipment, or lack of empowerment of professionals; and

3. (related to) the willingness of the professionals, because of lack of engagement in the process, or lack of motivation, for example.

These drivers point to the need for certain remedies (actions which are included in section 3 of this report); specifically, around reducing the need for referral. Instead it is proposed that primary health care (PHC) personnel should be trained, empowered to use their increased knowledge, and motivated to do so.

Backwards referral is where a care professional working in higher-level facility (such as a hospital-based oncologist) refers a patient back to a less specialist level of care (such as a primary care centre), when the patient's follow-up can be done there (e.g. long-term cancer survival, epilepsy, diabetes). This may also happen with the objective of using the existing resources in the best possible way, such as a hospital referring a patient to a nursing home, to

a long-term care facility, or to home care. This is also the case when a physician refers a patient to a practising nurse outside of the physician's usual care setting.

The home care option increased significantly during the COVID-19 pandemic, with the aim to make available much-needed beds in hospitals. In cases in which patients did not have the right conditions at home to be cared for there, some hotel floors were adapted and recovering patients were moved there, where they were taken care of by a nursing unit, in much the same way they would have been in a hospital ward, but with much lower costs and use of medical resources. Some hospitals have maintained and expanded this practice, since the pandemic.

Health care systems in most countries are designed in such a way to encourage patients to first attempt to obtain the care they need at the PHC level and then to approach a higher level of care according to need. This protocol minimizes costs, not only for the health system but also for the patient and/or caretaker.[2] Some health systems do not encourage this prioritization of care levels, allowing patients to self-refer to specialist care when they feel it necessary.

The practice of obtaining a second medical opinion, whereby patients seek another medical opinion on their proposed care plan also exists. This happens regularly and in most institutions. In addition, patients, physicians and insurance companies can obtain second opinions from top-ranked world experts on particular pathologies in cases of serious diseases and/or expensive proposed treatments.[3]

Another interesting example of referral is unidirectional referral, such as occurs often in the palliative care setting. The only way to access palliative care is to be referred into that field of health care by a PCP (or PHP). Lack of understanding of the need for palliative care by clinicians often results in people being overtreated and living longer, but with poor quality of life.[4]

In this document we focus on traditional referral, exemplified by a PHP or PCP referring a patient to a specialist in a hospital or specialist ambulatory care setting. Most of the resulting conclusions and suggested areas for action could easily be adapted to other situations, but for the sake of a more precise focus, the scope of this concept paper has been limited in this way.

2.2   Indicators for monitoring and benchmarking referral systems

In order to be able to assess or improve a referral system, first it is necessary to set out its key elements. Considerations include:

1. its scope coverage, ranging from broad (encompassing a whole health sector) to focused (health programme-specific or disease-specific referrals) – here, all possible referral services provided can be listed, even if these services are not available in all locations or settings;

2. its geographic coverage, which can be supranational (e.g. referral of paediatric patients from the United Arab Emirates to Barcelona), or more localized (e.g. an autonomous community in Spain) – a network of which services can be created which refer, or could or should refer, to other services (that is, describing the expected referral pathways); and

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[2] Ettelt S, Nolte E, Mays N, Thomson S, McKee M, International Healthcare Comparisons Network. Health care outside hospital: accessing primary and specialist care in eight countries. Policy brief. Copenhagen: WHO Regional Office for Europe; 2006 (https://apps.who.int/iris/handle/10665/107781).

[3] See, for instance, the services offered by Teladoc Health, available at https://www.teladoc.com/medical-experts/.

[4] Why palliative care is an essential function of primary health care. Geneva: World Health Organization; 2018 (https://apps.who.int/iris/handle/10665/328101).

3. its organizational coverage, taking into account which institutions are included in the system, and including only public facilities, or also including some non-public providers.

It is suggested that, before implementing any of the suggested improvements described later in this document, a referral system assessment is performed, including the baseline measures of current system performance. This will allow any later real improvements to be assessed. The assessment should cover various key areas.

1. The referral network and system should be assessed, including:

   a. existence, availability, appropriateness and use of referral protocols and guidelines;

   b. directory of network services;

   c. existing agreements between referring and receiving institutions; and

d. mechanisms to exchange information across service providers (patient records, diagnostic images, etc.).

2. The systems for monitoring and tracking referrals should be assessed, ensuring that the necessary data elements are collected by all facilities and organizations involved, that there is consistency across providers on the type of information collected, and that patient confidentiality is maintained. This should include:

   a. publication of reports with compiled or analysed referral data; and

   b. patient and professional satisfaction surveys;

3. Referral indicators should be assessed. There is no consensus in the literature on the indicators that should be used to assess the proper functioning of a referral system. The following subsection lists some of the most commonly suggested indicators.

2.2.1 Flow metrics

The following indicators provide measures of referral flow (see Fig. 2.1).

Fig. 2.1. Schematic representation of the referral process
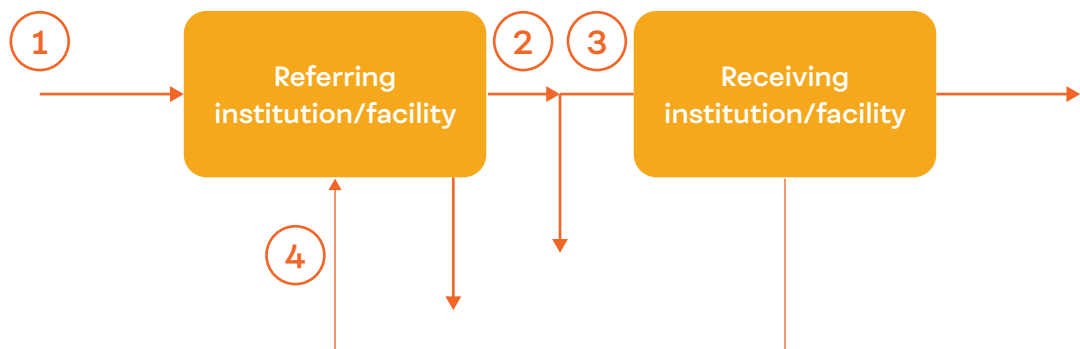
Source: authors' own compilation.

These are the flows of patients (Fig. 2.1):

(1) number of patient visits to the referring institution or facility;

(2) number of visits to a referring institution/facility that have resulted in the patient being referred to a receiving institution/facility;

(3) number of referrals where the patient physically visits the receiving institution/facility (that is, the referral is carried out);

(4) number of referrals where the patient visits the receiving institution/facility, and they are sent back to the referring institution/facility (that is, they close the loop).

All these flows should be considered in the same period of time (e.g., a year).

These are the referral ratio indicators:

(a) referral rate = (2) / (1) proportion of clients

referred from referring institution/facility;

(b) referral completion = (3) / (2) proportion of referred clients that complete referral at receiving institution/facility;

(c) referral closed loop completion = (4) / (3) proportion of referred clients visiting receiving institution/facility that are then seen back at referring institution/facility for counter-referral;

(d) another measure (derived from the previous ones) is referral leakage[5] = [(3) − (2)] / (2) = 1 − (b).

It is worth noting that (a) is the most common used indicator, while (b), (c) and (d) are not as often tracked.

Another interesting measure is the proportion of patients that are never referred.

2.2.2 Non-flow metrics

Other metrics/classifications not related to patient flows are also suggested in the literature. These include:

– appropriateness of referral;

– reason for referral;

– prioritization – proportion of cases who request a high-priority referral (in the event that such a possibility is offered);

– timely access (by type of priority) – based on an established threshold;

– timeliness – average length of time waiting for the specialist visit;

– specialist selection;

– proportion of PCPs who referred based on patient request;

– communication between PHP and specialist – proportion of PCPs who received post-referral feedback from a specialist;

– proportion of PCPs who adhered to a specialist's recommendations;

– patient-centeredness – proportion of patients who thought that specialist care was helpful; and

– referral satisfaction – proportion of patients who were satisfied with the specialist care received.

It may be useful to also collect data on patient profile (age, gender, location, profession, and so on) to be able to understand better, and improve the dynamics of, the referral practices.

2.3   Referral classification

Referrals can be classified in several ways, each of them providing a different perspective on the process. The subsections that follow provide more detail on referral classification.

2.3.1 Presential/non-presential

A presential referral requires the patient to attend the receiving institution/facility to be seen in person. This type of referral creates challenges – especially for people with limited means or ability to travel or move around. In some instances, presential referral may not be necessary, either because the need of the receiving institution/facility is limited to patient's data or images (as is often the case in dermatology, radiology, or anatomic pathology patients) or because what the PCP needs is knowledge or advice that can be conveyed without the presence of the patient, through email exchanges or video/telephone communication between the PCP and the specialist.

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[5] Referral leakage occurs in various scenarios: (i) patients access health care services outside of the hospital system; (ii) patients who are referred but then do not attend their referral appointment at the receiving institution/facility; and/or (iii) patients who do not close the loop by returning to the referring (PHC) institution/facility.

Non-presential referrals increased during the pandemic, and many physicians consider that this trend should continue to be leveraged. Some health systems already make use of e-referral, which uses a secure digital platform to enable seamless transfer of patient information from a PHP to a specialist facility and back again. The move to an e-referral system offers the opportunity to structure the information transfer required to make an effective referral.

It is worth noting that in some systems the non-presential communication is made compulsory before a patient can be sent to specialty care. This involves either the referring physician sending the patient's data and supporting test results (along with the referral request) digitally, or a telephone conversation between the PCP and the specialist. It was reported that when this is done, the capacity of the system is better utilized, diagnostic tests are performed closer to where the patient lives, and some unnecessary patient transfers are avoided.

2.3.2 Reason for referral

Classifying referrals based on the reason for referral allows the system to allocate more effectively the appropriate resources, professionals, or facilities to address the patient's needs. This approach increases the likelihood of successful referrals and positive outcomes for patients.

Reasons may include:

– seeking expert opinion regarding the patient;

– seeking use of diagnostic or therapeutic tools;

– seeking additional or different services;

– reducing the cost/burden of the services to be provided;

– transferring patient management to a different field/institution/health care provider.

2.4 Components of referral systems

A typical referral system will have the following components (Fig. 2.2).

Fig. 2.2. The referral process steering function
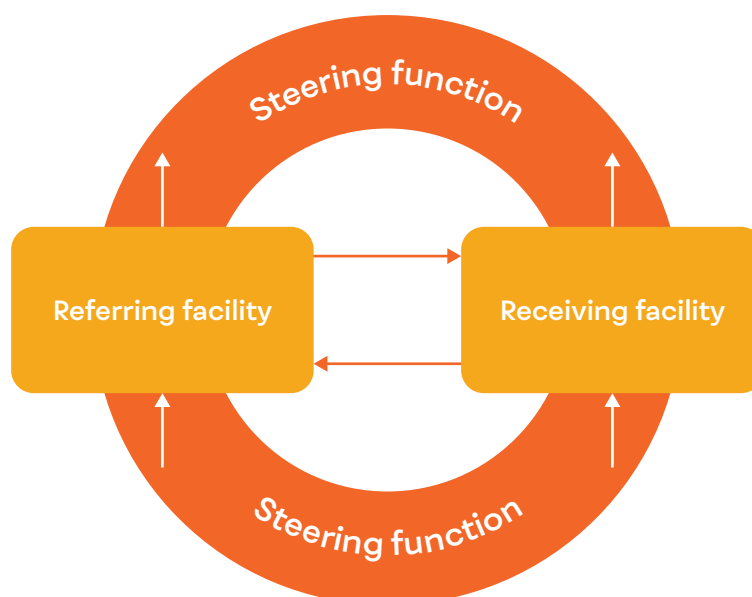
Source: authors' own compilation.

2.4.1 Referral steering function

This role is usually played by departments of health, regional directorates, or by the payers in a given health system. The main functions of the referral steerer are supervising the system, building the necessary referral capacity and establishing the rules of engagement between the (public and/or private) service providers that comprise the health care network.

Usually, an essential condition for launching a referral system is strong (or strengthened) primary and secondary health care, with a significant capacity to resolve patients' referral needs by ensuring they are treated at the appropriate care level for their case, to avoid the collapse of a specialist health care provider service or network. The first and most important task of the referral steerer is to ensure that there is enough capacity to serve the required patients. A capacity study should be performed, taking into account the demography of the region, the incidence and prevalence of morbidities, the available network of PCPs and specialists, and the expected rate of referrals among them. If there is no way to provide the necessary capacity, it will be impossible for the referral system to work. To minimize this problem the steerer could try to empower the existing providers to increase their referral resolution capacity by supporting them with specialist training, equipment, convenient access to clinical guidelines, and so on, to reduce the need for referral.

The steerer should either establish clarity around the roles at each care level, or encourage the different players to work together to gain consensus on their roles by establishing agreed pathways (or patient trajectories). Protocols and clinical guidelines are developed for different conditions at each level, ensuring good communication among them. In some regions (outside big cities), arrangements with other companies may be necessary to ensure that transportation for patients is available when necessary.

The referral steerer should also: define appropriate expectations for all the stakeholders (patient, PHP/PCP, specialist); establish clear service levels (e.g., the maximum time that a patient should wait for each type of referral); disseminate care protocols; and ensure that health professionals and patients adhere to the established referral protocols, guidelines and processes, supported by regular supervision.

In the establishment of roles, guidelines and protocols, the referral steerer should involve all relevant organizations/stakeholders, such as the Ministry of Health, medical and nursing schools, scientific professional associations, and so on, to facilitate an adequate balance of the workload between the PHP/PHC and specialists, or between physicians, nurses and clinical assistants, by adjusting their training curricula to ensure that the system ensures high referral resolution capacity on the part of the existing professionals.

2.4.2 Referring facility

The referring facility is the institution or professional who initiates the referral of the patient. The referring facility reviews the patient and their overall condition, following the appropriate protocol, treats and stabilizes the patient, performs the required tests, documents the required diagnosis or treatment to be provided by the receiving institution, and provides a rationale for the referral decision. The referring facility also determines whether the referral requires the patient to move physically, or if it can be done in a non-presential form, as a consultation between two professionals (the PCP and the specialist). It communicates with the receiving facility and, when necessary, will make appropriate transportation arrangements.

The existence of a referral form may facilitate communication with the receiving facility. Providing information to the patients and family or support network is also essential, and PCPs could be provided with decision aids (specific printed booklets or web apps) to facilitate patient interviews and discussion of various treatment options, explaining the reasons for and importance of referral, what to expect, what to do while waiting for the referral, how

to get to the receiving facility (location and transportation), and the likely follow-up on return.

The referral decision can be supported by clinical decision support systems (CDSS) available to health care professionals, which can help determine the need for referral, the tests suggested before referral, and so on. These CDSS – along with the completed referral form – should be integrated into the workflow of the referring facility health professionals.

Patients can also be informed about how to access decision support aids designed for patients and families to help them prepare for forthcoming consultations.[6]

Communication with the patient should be governed by empathy, taking into account the implications for patients and family or their support network, their potential fears, the costs involved, and so on.

The referring facility should log the referral into a referral register, defined and/or maintained by the referral steerer, which will allow monitoring of the process, detection of referral leakage, planning the follow-up and gathering statistics. These data can be automatically captured by the PCP system but it is important that they are shared with the different institutions and stakeholders involved by the referral system steerer.

2.4.3   Receiving facility

If an in-person patient visit is to take place following a referral, the receiving facility will anticipate their arrival and receive patient information and the referral form, provide the care, document the diagnosis and treatment provided, and plan the rehabilitation or follow-up with the patient and their family and/or support network.

If the referral is non-presential, without the patient attending, the receiving institution will ensure that a detailed report is sent to the PCP/PHP, with details on how to proceed with the patient's personalized care plan.

The receiving facility will prepare the back referral form (closing the loop) and provide feedback to the referring facility (PHP) on the appropriateness of the referral.

Cases have arisen where the receiving facility decided not to accept the referral, claiming lack of information on the patient, or missing diagnostic tests that were due to be performed by the referring institution, or because they believed the patient should have been referred to a different service or institution. This situation should always be avoided. In the experiences section a few possible suggestions are made on how to minimize this type of situation.

2.4.4   Referral steering function (revisited)

The steerer should monitor outward and back referrals, the number and appropriateness of referrals, compliance with protocols, quality of documentation, and consistency of follow-up, providing feedback, support and training for health care personnel as well as feedback to the management levels at these institutions.

The steerer is also responsible for performing continuous quality improvement (including certifications or accreditations) by ensuring continuous quality improvement systems are in place and in use.

These activities may be delegated from the steering function institution to specialist agencies more focused on benchmarking and quality assurance.

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[6] Examples of services include the Ask Me 3® educational programme made available by the Institute for Healthcare Improvement (IHI) (United States) (https://www.ihi.org/resources/Pages/Tools/Ask-Me-3-Good-Questions-for-Your-Good-Health.aspx) and the National Institutes of Health's National institute on Aging, which provides help on how to prepare for a doctor's appointment (https://www.nia.nih.gov/health/how-prepare-doctors-appointment).

2.5 Problems with current referral processes

Current referral systems face many shared challenges. The following subsections discuss the most significant ones, as identified in the research linked to this project.

2.5.1 System-level problems

Challenges at system level include:

- the inability to maintain an adequate balance between demand and capacity for the different system resources;

- difficulties identifying specialists/providers to refer the patients to (some referring physicians in some countries/regions);

- poor referral tracking systems due to lack of digitalization, causing high levels of referral leakage (referred patients not closing the referral loop).

2.5.2 Decision-making issues

- Deficiencies can exist in the clinical decision-making or triage system.

2.5.3 Problems with information flow

- The vast majority of specialists received no information from the referring facility prior to referral visits.

- Specialists did not receive clear and complete information on the referred patients.

- In almost half of referral cases, the referring physicians did not receive a consultation report back from the specialist following the referrals, resulting in the referral loop not being closed.

- There is a lack of interoperability/ compatibility between the information systems of various health care providers.

2.5.4 Process issues

- The referral process is not very efficient (several steps were identified as not adding value and/or unnecessary).

- The process for transferring patients between referring and receiving institutions is inadequate or poorly implemented.

- There is no effective prioritization of referrals.

- Digital density and connectivity are still low in the referral system (the number of permanent connections to the internet by people, employees, providers, clients and objects). A large proportion of information exchange is analogic, not using the capabilities of computers, smart phones, tablets, apps and sensors.

- The non-presential patient referral system (between the PCP/PHP and the specialist) – which increased during the pandemic – could become the standard for some specialties, but this is not yet widely accepted or applied.

2.5.5 Monitoring

- No clear set of shared referral measures exists that could be used to benchmark different systems and promote good practices.

- Many referral systems are unable to track when patients do not complete the referral process (or close the referral loop; known as referral leakage).

2.5.6 Delays and waiting times

- The waiting times for referral are too long; this may be due to the overload of some services in the system. This makes some PCPs reclassify some patients as urgent, when their case might not in fact require urgent care, which undermines the system and could lead to capacity shortages (and even referral system collapse).

2.6   The referral process and its possible errors

As already presented in the previous section, a referral process (for a patient who needs to be seen by the specialist) might go through the following steps: [7]

1. PCP orders a referral and requests the necessary tests for the patient

2. PCP communicates the referral to the specialist;

3. referral is reviewed and authorized;

4. appointment is scheduled and the patient informed;

5. consultation occurs;

6. specialist communicates the plan to the patient;

7. specialist communicates the plan to the PCP;

8. PCP acknowledges receipt of the plan; and

9. PCP communicates the plan to the patient/ family.

The process flow diagram in Annex 4 (section 6.4) can be used as a template to understand the various activities of the referral process and to identify the pain points and possible improvement opportunities.

When analysing the referral decision, it is useful to identify the possible errors in the patient flow and performance of activities. Three possible error points can be differentiated (Fig. 2.3).

Fig. 2.3. Referral adequacy matrix: decision and tests/procedures

Source: authors' own compilation.

1. Under-referral (false negative) – when the referral decision was adequate, but it was not carried out. This type of error is quite difficult to detect, as it usually results in the patient not receiving the right treatment, and their condition deteriorates until they are either eventually referred by their PHP to the specialist or they are first admitted to emergency hospital care and then referred to the specialist.

2. Over-referral (false positive) – the patient problem could have been dealt with in primary care but they were referred to specialist care. These errors are easier to catch as the specialist may complain in such cases, believing that their time has been wasted.

3. Wrong referral – the patient needs to be referred, the referral was carried out, but

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[7] Adapted from an IHI publication: IHI, National Patient Safety Foundation. Closing the loop: a guide to safer ambulatory referrals in the EHR era. Cambridge (MA): IHI; 2017 (https://www.ihi.org/resources/Pages/Publications/Closing-the-Loop-A-Guide-to-Safer-Ambulatory-Referrals.aspx).

either to the incorrect specialist, the tests or procedures performed were not adequate, or the specialist did not provide the service as requested.

These three types of error are caused by different physician behaviours, and the steerer can play a role in finding the correct trade-off between them (for example, more constraints on PCPs in referring patients to specialist care will result in fewer type 2 errors, but more type 1 errors).

Possible ways to address error reduction in referrals include (among others): improving the education and training of PCPs to include specialist fields, such as palliative care; facilitating contact between PHPs/PCPs and specialists; incorporating some specialists into PHC teams (e.g. on a part-time basis); and implementing CDSS into PHC.

2.7   Improving referral management

During the research phase, some elements were encountered that suggest ways the referral system could be improved.

2.7.1   Integrating technology

Integrating digital technologies as a prerequisite can prove useful in the improvement of a referral process. In many countries, digital density in the health care system is far behind other industries, such as banking, retail, passenger transportation, and so on. However, while the importance of digital transformation cannot be minimized, the focus should be placed on integration, as digitalization itself is only the method – in the implementation process, the people involved in creating organizational change are more important. Furthermore, full digital transformation cannot be achieved simply by a stroke of the pen on the part of the corresponding minister or administrator; this may have worked in crisis situations, such as during the COVID-19 pandemic, but permanent change requires aligning the significant stakeholders with investment. The application of the HALIGN methodology (described in Annex 5, section 6.5, followed by a more detailed plan in Annex 6, section 6.6) in a particular situation, with the real stakeholders in mind, can facilitate the adjustment and adoption of solutions.

2.7.2   Referral management and analysis

Integrating referral management into the clinical workflow would support referral system improvement. Referral management typically impacts the clinical workflow in at least two places within the organization; first on the initiating or referring side of the organization – usually a PHP office – and second on the receiving side – usually the specialist office in a hospital or ambulatory centre. Often a centralized referral centre also exists that is involved in managing or approving referrals. A referral request by the PHP should be incorporated into the regular workflow, automatically integrating the required data. Once the referral is triggered, communication of the necessary patient data and images to the receiving institution should be automated, avoiding any duplication of data (or effort).

Analysing referral metrics to improve outcomes can lead to improvements in a referral system. The visibility provided by a referral management solution highlights referral patterns. Key questions can be answered, such as where referrals are sent, and how quickly they are converted into patient appointments. These insights help an organization begin to understand how to improve access to match the urgency and nature of patients' needs.

2.7.3 Health care provider directory

Maintaining an accurate provider directory with up-to-date data is a challenge that almost every health system faces. This task is critical for effective referral management, in particular because if the underlying data are not correct, patients can be referred to the wrong providers in the wrong locations.

2.7.4 Patient engagement

Engaging patients throughout the referral process is essential to improving the system. Referral represents a critical junction because it often means that patients have experienced an escalated need for care or a change in diagnosis. This presents a unique opportunity for health care systems to provide patients with a good experience. The implementation of strategies to ensure patients have clear expectations and visibility of their care transition can result in their peace of mind, knowing that the responsibility for continued care is now shared between the patient and the providers. This eliminates one of the barriers that can deter patients from attending recommended specialist appointments.

2.7.5 Stakeholder engagement

Engaging key players and influencers can help to improve referral systems. It is obvious that organizational alignment is needed to drive outcomes in health care systems. For referral management, this is particularly true since referrals touch so many aspects of the organization, from the physicians to the administrative staff at an individual health care provider's office. Without broad buy-in from each part of the organization, changes to the referral process as a whole are impossible to implement. In particular, it has been found that

care providers need to be engaged in order to drive results. In general, as providers set the culture of what is considered important in an organization, their priorities are reflected in every aspect of a health care facility.

2.7.6 Appointment management

It is not unusual for a patient to have several pending appointments to visit different specialists or to have some tests performed. It is often the case that these appointments are treated separately, forcing the patient to have to travel to the hospital or specialist centre repeatedly, or to have to wait many hours in the hospital between one visit and the next. A system that could coordinate these appointments and make it easier for the patient to confirm, change or cancel appointments could have a positive impact on patients' quality of life.

2.7.7 Educational materials and information

The availability of information or educational materials (leaflets/brochures, Internet resources) can also help the patient learn about their condition and assess the different care options. A set of materials that PCPs and PHPs could use to discuss treatment options with patients can facilitate patient participation in the decisions about their care and subsequently their active involvement and adherence. The steerer should also facilitate the generation of referral reports to ensure that the system has a way of monitoring accountability for transitioning patients to the next step in their care pathway.

2.8   Country examples

The following case studies are based on a series of interviews with representatives from each of the countries.

CASE STUDY

Estonia

Estonia has been practising a partial gatekeeping system, whereby access to most specialists in the social insurance system requires a referral from a general practitioner (GP), with direct access allowed to emergency rooms and to gynaecologists, psychiatrists, dermato-venerologists and some other specialists. Paper referrals have been gradually replaced by e-referrals and e-consultation was introduced in 2016. E-consultation enables more extensive exchange of information on the patient between a GP and a specialist, in the course of which the specialist can either give guidance to the GP for a course of treatment or can invite the patient to a physical consultation.

These existing e-health functionalities played a major role in maintaining access to health services during the COVID-19 pandemic. The number of referrals decreased during the first six months of the pandemic (by almost 30%) and, although the number of monthly referrals has increased again, overall referrals have since reached the pre-pandemic levels. Although further analysis is needed, there is evidence that the mode of services being provided has changed, favouring the use of e-consultations and distance consultations. While in January 2020 only 4.5% of all referrals were e-consultations, the number of this type of consultation doubled during the pandemic, and has kept growing, reaching 10% by the end of 2022.

The pandemic also gave impetus to implement distance consultations with health insurance reimbursement. This had been discussed previously, but not yet implemented. Although modified, distance consultations have remained in everyday practice in Estonia, with 9.4% of ambulatory consultations conducted in this manner in November 2022. However, based on feedback from health care providers and patients, distance consultations are not suitable for everybody and in all cases. While being an emergency necessity in 2020, their use in daily practice is more restricted since the end of the emergency phase of the pandemic, being used only for cases of repeat visits and only with patient agreement.

A GP hotline (established in 2005) added major value in terms of ensuring continued medical advice provided to patients during the pandemic, expanding its services and personnel accordingly.

CASE STUDY

Italy

As the first European country to be hit by the COVID-19 pandemic, the health system in Italy was unprepared and needed to adjust; as such, patient transfers were made to the south of Italy and other European countries. As a result, a register of intensive care unit (ICU) beds was established; the number of beds has since been adjusted upwards and the hospital network and testing measures reinforced. Now, since mass vaccination, additional ICU capacity is flexible and can be activated easily, as needed.

Shortages in the health workforce are addressed via a special plan to increase PHC personnel, but this a long process.

During the pandemic, community health units were established, comprising a physician and a nurse working locally to avoid unnecessary hospitalization, evaluating patients at home, and deciding on the necessary actions. In some case specialist care

was also carried out at home, including oxygen therapy and ultrasound (for example); this new health system feature remains, since COVID-19.

Used increasingly since the onset of the pandemic, the advantage of telemedicine is clear and as such it will remain a key part of the health care system. More funds are being invested through the creation of a National Agency of Telemedicine, which forms a central part of the new National Recovery and Resilience Plan.[8] While some hurdles are still to be addressed, its uses will be closely monitored; in particular, the expected reduction in bureaucracy, as processes can now be carried out online.

Post-COVID-19 referral backlogs exist in Italy, as elsewhere; however, the plan to reduce referrals (and backlog) has also adapted, using measures such as screening, special programmes, incentives and education.

Better preparedness for future pandemics includes learning from failures, updating equipment, and measure such as introducing a central telephone number (117) to dial for non-emergency care.

During the pandemic, education of medical professionals was carried out virtually (updating on COVID-19 treatment, for example), and this will continue, to increase knowledge on home-based palliative care instead of inpatient care. This is an example of how the pandemic accelerated health system development.

Referral system improvements in Italy have primarily been in increasing community care to make hospital and specialist care more efficient, in particular for chronic conditions, prevention and early detection. Staff shortages are to be addressed through better training and employment conditions. Improving the management of the national/regional interface – in particular for investment and procurement – will also be key, along with initiatives to increase the response to local needs. Multidisciplinary and international collaboration will be key to achieving these actions.

CASE STUDY

Malta

A series of important issues are worth noting around referral in Malta.

On account of COVID-19, a backlog persists in non-emergency but important services, such as cancer surgery and angioplasty; this will continue for the next 2–3 years. It is always difficult when patients must wait months for knee replacements and cataract surgery. COVID-19 is no longer governing health care actions, and new patient pathways and newly increased capacity have been created as a result of the pandemic.

The main challenge is around human resources, in terms of professional movement across European borders. Many professionals resigned during COVID-19, moving to other sectors; this was at a higher rate than before the pandemic. 20% of workers are from outside the European Union (EU); many moved back to their country of origin.

With the pandemic, mental health concerns have increasingly become a reason cited for referral, for which health systems are not prepared. Action is needed in this field, in terms of outreach, education and early detection. The lack of Maltese-speaking health care professionals in this field is particularly pressing, as language and communication are crucial in mental health care.

An important task is the reinforcement of PHC. A crisis intervention team had been installed during the pandemic, with private-sector involvement, to ensure early

8   Italia Domani, the national recovery and resilience plan [website]. Rome: Italian Government; 2021 (https://www.italiadomani.gov.it/en/strumenti/documenti/archivio-documenti/national-recovery-and-reslieince-plan.html#:~:text=The%20National%20Recovery%20and%20Resilience,more%20equitable%2C%20sustainable%20and%20inclusive).

detection and enable better treatment. A good long-term strategy will be needed to continue this work.

PHC centres are to be revamped, with more investment. Two regional hubs were reinforced during the pandemic. Overall communication and a change in culture are needed to reinforce the role of PHC.

Telemedicine increased during the pandemic and this will be developed further, with several projects under way by the Ministry of Health, recognizing the crucial importance of digital transformation. Access to health care in the United Kingdom via referral has become more difficult in recent years.

The Maltese case suggests improvements are possible around: educating and motivating health care professionals (human resources); increasing the involvement of private health care providers; reinforcing primary care as an entry point to the system; and fostering collaboration at EU level, particularly through the European Reference Networks (ERNs).

CASE STUDY

Spain

There is no one case for Spain, as the responsibility for health care is decentralized to the 17 autonomous regions, with their own regional health authorities. Managers in several of these autonomies were interviewed in order to collect good practices relating to their referral processes.

In some cases, the solutions encountered have a limited scope, such as the application of tele-dermatology in the Virgen del Rocío hospital in Seville. Although the dermatology service has already worked with imaging for 15 years, the pandemic accelerated this practice, and has fostered the incorporation of artificial intelligence to pre-process the received images, not to substitute but to support the doctors' decision-making.

Similarly, in other autonomous regions nothing new developed during the pandemic specifically, but the practices already in place were accelerated. Most referral systems incorporate different pathways, whether for standard referrals, preferential referrals or special fast-track circuits; for instance, if cancer is suspected (breast, lung, colon), or where specific tests can already be done in preparation for the specialist visit.

One type of referral that the pandemic has substantially increased in Spain is non-presential consultation, usually between a PCP and specialist doctor; however, cases were also reported where non-presential consultation was used for patients to visit specialists (virtually). These interprofessional consultations are used in all specialties except gynaecology. There are teams specializing in certain pathologies, such as pluri-pathological chronic patients, diabetes patients, etc. In all cases, the required patient images are incorporated into the information transfer between the PCP and the specialist. Batch group referrals were also encountered (involving the treatment of a group of patients together), as is the case in some physiotherapy services or in the mental health field in Navarra.

Direct phone calls between specialists and PCPs have been found resolve many issues or doubts, thus avoiding the need for referral. To facilitate the interaction between physicians, or between doctor and patient, most centres have developed secure platforms. In some cases, multiple connections are possible, with patient consultations incorporating the PCP and the specialist in the same call at the same time.

Some Information Technology systems have been adapted so that the referral criteria are posted on a pop-up screen next to the patient's medical record, thus merging the referral into the doctor's workflow. In addition, some of the electronic referral requests already include some "smart" features, so that some tests are automatically requested

depending on the diagnosis. That said, in many cases, the patient does not yet have a diagnosis before being referred to a specialist.

Time-based objectives have also been incorporated into the referral system. For instance, in Navarra, all physician-to-specialist consultations are requested to be answered in under 72 hours, although this is not always possible.

Some specialists (in particular, neurologists) insisted that they wanted to see patients face to face, not using a telemedicine platform. A satisfactory solution has been found, such that first visits must always be in person, while follow-up visits can be carried out using telemedicine.

Most doctors interviewed expressed that they aim to diagnose patients without having to refer them to specialist care. To achieve this objective, they request more equipment (dermatoscopy, ecography, small surgery equipment, spirometry, audiometry, and so on). Investment in new equipment should be complemented with training. Sometimes, specialists try to block the purchasing of equipment in primary care, to protect their competencies.

3 Potential areas for action

Based on the research behind this report, a number of potential ideas for action can be considered by Member State decision-makers. The different referral functions in the system are used as a framework for these action areas: the steering function, the referring institution and the receiving institution. These action areas can serve as useful prompts for managers and professionals interested in leading a referral system improvement project.

3.1   Referral steering function

3.1.1   Steering the system

Potential action points for the steering function include the following.

- Provide a global governance model for the referral system, integrating the separate elements of the system: referral steering function, referring institution, receiving institution (as described in section 2.4).

- Provide a way to allow information-sharing among patients, PCPs/PHPs, specialists, social care professionals, and so on. This could be a shared information system through which the different stakeholders can access the patient information they are entitled to see. Alternatively, access to the patient information may be available at the request of the patient (to whom the information belongs), through the use of a digital key or an app. The patient can then decide who may have access to their information and for what purposes.

- Leverage digitalization capabilities in the health system, to be applied to the referral function. The lack of digitalization in health systems negatively impacts the referral process. It is hoped that the current trend towards digital transformation in health systems will have a positive impact on referrals, but it is important to be proactive in demanding and ensuring this digitalization also includes referral processes.

- Promote value-based management and reimbursement at all levels of the health system (including in terms of referrals).

- Ensure that a health professional is always available to guide the patient into the next stage of the process (the process owner, to use process management terminology). This may be the PCP, a case manager, or a nurse, for example. The individual may even change during the patient journey, but it is essential that there is always a professional assigned, their function well understood by the patient and that this relationship has been clearly established.

- Involve patients at all levels of decision-making. To ensure patients are empowered, it is important to recognize their triple role in health care at the macro, meso and micro levels.

  - They are taxpayers (or insurance premium payers), when establishing priorities in health plans, getting involved in directing and prioritizing scarce resources, and defining policies that facilitate decision-making for professionals (where treatments must be prioritized and rationed) (**macro level**).

  - The are co-owners, participating in the governance of provision institutions, acting as a counterbalance to their own demands as patients (**meso level**).

  - They are service users, as patients within the system, participating in the design of the processes by which they transit to other services, establishing how they can exercise their autonomy (self-care) and

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participating in the decisions that affect their health (**micro level**).

– Leverage existing reference networks at the country and EU levels, involving some key steps.

   – Create a network of reference centres or reference units, using existing health centres or services that focus on carrying out a technique, use a technology or procedure, or provide care for certain pathologies or groups of pathologies that meet one or more of the pre-established characteristics. For example, Spain has 296 such units in 52 hospitals to provide care for 72 pathologies or treatments. These centres cover a wide area and admit referrals for patients in their area.

   – Foster the participation of national entities in ERNs (virtual networks connecting health care professionals around Europe with specific expertise, for example in rare diseases). This ensures a critical mass of cases and patients necessary to improve health outcomes.

   – Promote telemedicine services, involving the creation of national agencies (such as in Italy, with the collection of proposals for the design, implementation and management of the National Platform for Telemedicine was provided for by the "Health" mission of the National Recovery and Resilience Plan).

3.1.2 Building and managing (referral) capacity

To encourage capacity-building and better management in referral system steering, the following action areas can be considered.

– Determine and manage demand. To achieve this, develop prospective studies on:

   – population demographics;

   – population morbidity incidence and prevalence; and

   – identifying trends, and developing scenarios and action plans for the future

(e.g., in mental health care).

   – Manage health care and referral demand by promoting population health literacy, education, expectation management, and prevention activities.

   – Be aware of the long lead times required to develop new capacities in health care.

– Define an adequate stratification of services between PHC, various specialist settings, and social care.

– Develop the network of health care service providers.

   – Ensure visibility of the demand and utilization of the different services.

   – Allow capacity pooling among services, cities and regions to better adjust capacity to demand.

   – Maintain an accurate directory of referral specialists and develop a system to facilitate contact between PCPs and specialists. A directory of network services lists all facilities that provide related services within a predetermined geographical area or network. For each facility or organization listed, the directory should specify all services provided, the address or location, contact information, and operational hours and days. The directory should be published and made available to all providers.

   – Maintain and foster public–private collaboration, which has proven quite successful during the COVID-19 pandemic.

– Manage capacity in PHC, specialist care and social care.

   – Ensure there is enough capacity in PHC by allocating funds, supervising hiring of personnel and managing the required resources. A medium-to-long-term plan will be useful for managing capacity.

   – Increase the referral resolution level in PHC by developing knowledge/training, installing new equipment, empowering PHC personnel, and providing adequate motivation.

- In most cases, removing the barriers to professionals being able to do a good job is a powerful enough motivational tool.

- Incorporate artificial intelligence support into diagnostic capabilities (image processing, e.g., in tele-dermatology).

- Manage capacity in specialist services through appropriate allocation of funds, training new personnel, and increasing motivation. A medium-to-long-term plan will be useful for managing capacity.

- Consider social services in the network of providers and ensure that their capacity is also adequate.

- Make the best use of existing capacity through bottleneck management, to be achieved through a variety of approaches.

  - Apply the bottleneck (constraint) management loop.

    - Identify the bottleneck and the resources involved and required, by performing a system analysis of the capacities required to deal with patient demand at the different levels of care.

    - Exploit the bottleneck capacity, making sure that the scarce capacity is used in the most effective way and removing requests that could be handled by other elements of the system.

    - Subordinate non-bottleneck resources to the needs of the bottleneck, ensuring the bottleneck capacity is leveraged as much as possible.

    - Increase the capacity of the bottleneck resources, usually by hiring more personnel, expanding facilities or buying/leasing additional equipment.

  - Empowering professionals has proven to be a good strategy during the pandemic. The application of an agile management approach – providing objectives to PHC

teams, but allowing professionals the necessary autonomy to define what is really needed and how to achieve it – has proven to be quite useful in other industries.

- Establish prioritization of patients. This involves classifying referrals into standard referrals, preferential referrals, and special fast-track circuits (e.g. when cancer is suspected). For this prioritization approach to be successful, the system must have enough capacity; otherwise, it evolves into a situation where every case is classified as a priority, to ensure that it is considered.

- Maintain adequate management of backlogs, including updating information provided to PCPs/PHPs, patients and families.

3.1.3 Establishing the rules of engagement

The rules of engagement for interaction between various referral system stakeholders can be established using a multifaceted approach, and this is reflected in the following action areas for the steering function.

- Develop secure, dedicated platforms to facilitate the interaction between physicians and/or between patients and physicians.

- Promote the creation of good clinical guidelines on referrals, with all the elements in place to allow easy implementation. This involves establishing agreed pathways (patient trajectories) for the most common cases and their management (e.g. heart failure).

  - Establish clarity around the role of each care level.

  - Encourage the different actors in the referral system to work together to gain consensus on improved patient

trajectories,[9] describing how the coordination between different health care levels can be achieved.

- These documents are usually developed with the support of scientific medical societies. For example, there is an agreement between the Federation of Societies of Family and Community Medicine and the Spanish Society of Angiology and Vascular Surgery. Similarly, the Spanish Society of Allergology and Clinical Immunology, the Spanish Society of Primary Care Physicians, the Spanish Society of Family and Community Medicine, the Spanish Society of General and Family Physicians (SEMG), the Spanish Society of Pneumology and Thoracic Surgery have agreed on a document setting out the criteria for referral and guidelines for action in the diagnosis, control and monitoring of asthmatic patients. This is intended to facilitate ongoing care and improve medical care in every environment.

- Educate health care professionals on referrals. The referral process will most likely improve when guidelines for referral are distributed, with standard referral forms, and when the health care professionals – who are the consultants – are involved in teaching. However, simply distributing guidelines and providing health care professionals with feedback about how they are referring may not improve the process; some evidence exists on ineffective strategies, such as passive dissemination of local referral guidelines, feedback on remission rates, or discussion with an independent medical adviser. Evidence on effective strategies, on the other hand, includes more nuanced approaches, such as disseminating structured referral sheet guides, and the participation of specialists in training activities.

- Develop and disseminate referral guidelines and templates that can be adapted and used by the professionals (tailored documentation, communication, and so on)

- Establish required service levels (e.g. response times). For example, in Navarra (Spain) there is a target of 72 hours for the specialist to reply to a consultation request from a PHP (although this is not always possible due to capacity limitations and variability in the requests).

- Maintain referral discipline (adhering to the agreed standards), including by taking samples and tracking the performance of the referral system (see section 3.4).

- Adapt the reimbursement system for referrals to motivate the desired behaviours. Some of the professionals consulted suggested that modifying the financial mechanism could impact the number of referrals; however, questions arise about whether such financial incentives would improve the quality or appropriateness of referrals. Changing the economic flows in the referral system – e.g., by pooling some funds to be used for tests carried out on patients – may alleviate the tension between primary care and specialists over who will order (and therefore be charged for) patients' tests. A shared pool used by both parties has proven to solve this problem in some cases.

3.1.4 Innovating and improving

To encourage innovation and improve the referral system, the following actions are suggested for the steering function.

- Promote and improve the services and the reputation of PHC, thus ensuring that patients do not always expect to be referred to a specialist.

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[9] Patient trajectories are instruments that, based on the clinical guidelines, define the practical aspects of referrals, such as who does what, where they do it and with what resources. In other words, the purpose of the trajectories is to make the guidelines work in each specific local reality. For this reason, the preparation of a clinical trajectory involves the participation of all the stakeholders.

- Increase communication skills and competencies in all areas of the health system.

- Promote system innovation, facilitating the creation of local pilot projects or concepts,

with the objective of learning what works well and can be scaled to the rest of the system.

- Promote events to foster information- and experience-sharing among the professionals involved in the referral system.

3.2 Referring facility

3.2.1 General

Various general action points can be undertaken to improve the referral system from referring facility side.

- Treat the patients as close to home as possible. This can be achieved by:

  - creating community units (e.g., a care service operated by a physician and a nurse) to evaluate and monitor patients at home, avoiding the need for patients to visit a PHC facility;

  - maintaining closer monitoring of patients with chronic conditions; and taking timely action to provide care at home;

  - ensuring appropriate empowerment of health professionals to evaluate patients and prescribe appropriate home support without recourse to specialist services (such as oxygen therapy).

- Enable preventive treatment of patients who may eventually require referral or hospitalization. The use of sensors and continuous monitoring of some chronic patients (such as those with diabetes, chronic obstructive pulmonary disease or chronic cardiac failure) allows for intervention at the PHC level, avoiding complications that would require referral or hospitalization.

- Diagnose and treat the patient, and determine the need for referral. This involves:

  - creating protocols of care (and patient journeys) for the most common pathologies; and

  - empowering the roles of different care providers (not only physicians), including

nurses and clinical assistants.

- Engage patients and their families in the referral process, throughout the clinical pathway, including:

  - engaging patients in decision-making;

  - managing expectations clearly;

  - providing visibility of the transitions that may occur between different health care providers.

3.2.2 Reducing unnecessary referrals

To reduce unnecessary referrals, various actions are possible, including:

- patient education and empowerment, under the supervision of case managers;

- implementing a system of expert PCPs in PHC centres, whereby health care professionals can obtain a second opinion from colleagues, before referral (see subsection 3.2.3);

- enhancing the services provided before a referral (e.g. providing access to a physiotherapist). There is some evidence that certain strategies can be effective in reducing referrals, such as assigning a physical therapist to general practice facilities, creating new time slots specifically to discuss referrals, and so on.

3.2.3 Reducing the need for referrals by reinforcing PHC

The need for referrals can be further reduced by reinforcing PHC, the following actions provide some direction.

- Promote multifunctional teams in PHC.
- Increase the referral resolution capacity in PHC.
  - Implement training programmes for PCPs on triaging and treating cases without recourse to specialist care. Specialists should participate in the training of the PCPs.
  - Create expert PCPs in primary care facilities, focusing on the most common specialties (in coordination with the respective specialists) and on the most common reasons for referral.
    - Assign some PCPs to be trained as referents for some specialties within the PHC facility. They should follow a training programme on the specialty, spending some time within the hospital service. Following this training it is suggested that they maintain a close relationship with the reference service (including periodic meetings and working groups to define shared referral guidelines). These expert PCPs should become the first line of referral within their PHC facility, acting as an internal consultant to the rest of PCPs, aiming to reduce actual referrals.
  - Allow PCPs to order more diagnostic tests, without the need to refer the patient to the specialist.
  - Consider allowing PCPs to prescribe certain (new) drugs, as in some cases this is cited as a reason for a significant number of referrals.
  - Invest in testing equipment in primary care and train PCPs to use it.
- Incorporate some specialists into PHC facilities. For instance, behavioural health specialists exist in some primary care settings, providing support, triage services, system guidance, and brief interventions for people experiencing mental health challenges. Shared care by PCPs and specialists for patients with chronic heart failure after discharge from hospital has resulted in better patient survival rates.

Existing models of shared care include specialists working in an ambulatory care setting or in hospital-based outreach clinics, and cardiology care organized by GPs in the United Kingdom and Australia – these examples have demonstrated reductions in referral rates.

- Incorporate extra diagnostic and treatment equipment into PHC facilities (e.g. dermatoscopy, ecography, small surgery equipment, spirometry, audiometry, and so on). Investment in new equipment should also be complemented by the appropriate training.
  - Some electronic referral requests already include some "smart" features, so that certain tests are automatically requested, depending on the patient's diagnosis. Unfortunately, in many cases, the patient does not yet have a diagnosis before being referred to a specialist.
- Provide the necessary knowledge to PCPs/ PHPs. Specifically:
  - incorporate referral management into the clinical workflow (for instance, referral criteria can be posted on a pop-up screen next to the patient's medical record);
  - create frequently-asked-questions lists for use by PCPs to clarify any doubts;
  - incorporate CDSS into the functioning of PHC facilities.
- Empower the prescription of necessary tests before referral; in this way, specific tests can be done in preparation for the specialist visit.

3.2.4 Selecting the type of referral (and the institution or physician)

To ensure that the appropriate type of referral is instigated, and with the right institution or health professional, the following actions can be considered.

- Decide the type of referral needed.
  - Presential: the patient will be sent to the receiving institution.

- Non-presential: move online everything that does not require patient presence.

- Physician-to-physician consultation. For example, in some regions in Spain, these interprofessional consultations are used in all specialties, except gynaecology. Teams specializing in certain pathologies also exist, such as pluri-pathological chronic patients, diabetic patients, and so on. In all cases, the required patient images are incorporated in the information transfer between the PCP/PHP and the specialist.

  - Direct phone calls between specialists and PCPs have been found resolve many issues or doubts, thus avoiding the need for formal referral. Establishing good lines of communication between health professionals can reduce the number of referrals.

  - Batch group referrals also take place, as is the case in physiotherapy or mental health care services in Navarra (Spain).

- Develop three-sided non-presential consultation between the patient, PCP and specialist to agree on the care plan, treatments, complementary tests, and so on. This reduces the number of interactions and ensures care plans are aligned.

- Promote telemedicine to consult with patients (e.g., paediatric visits are carried out by Barcelona-based specialists to patients in remote rural areas in Catalonia).

- Promote the use of artificial intelligence and machine learning, which can help to predict referral costs, and recommend provider facilities based on effectiveness, geography, distance to care, and other criteria as needed.

- Communicate with the patient and their family/support network, including on the following elements of the care plan:

  - what to do until the referral takes place;

  - what to expect and what to do if something else happens (e.g., new or worsening symptoms, change of mind, etc.); and

  - follow-up.

- Maintain the referral register and track leakage (that is, patients not receiving the care they need at the correct (referred) level because the referral system has broken down in some way, or they do not attend the referral appointment).

3.3   Receiving facility

To improve the referral system from the receiving facility side, the following potential areas for action can be considered.

- In collaboration with PHC, and using existing evidence, promote standardization of care (clinical pathways) for the most common pathologies.

- Anticipate the patient visit. This includes:

  - patient records – make the patient information available to the specialist;

  - referral forms – standardize referral information;

- appointment systems – automate these, and involve the patient.

- Allow specialists to triage cases (based on severity or urgency, etc.) once they accept the referral.

  - Provide information on reasons for non-acceptance.

- Provide the care.

  - Incorporate referral management into the clinical workflow.

  - To compensate for possible variability in terms of demand for and utilization of different services, pool the care capacity among locations.

- Schedule extra hours to clear backlogs when necessary.

- Provide specialized home care, with portable echography and radiology equipment.

– Communicate with the patient and family, in terms of:

- what to do after the referral;

- what to expect and what to do if something else happens (e.g. change of symptoms or mind);

– Encourage non-presential referrals.

- Some specialists (in neurology) insisted that they wanted to consult with patients face to face, not via telemedicine. A satisfactory solution has been found, such that first consultations must always be face to face, while follow-up visits can be carried out using telemedicine.

- Within a facility, create a specialty group dedicated to telemedicine, with workspace and equipment, and scheduled times for specialist consultation.

– Enforce the use of a back referral form by the referring institution, to close the referral loop.

- Measure PCP satisfaction with the back referral.

3.4 Referral steering function (post referral)

Certain post-referral actions should be carried out by the referral steerer (at system level) to improve the referral system, and the following can be considered.

– Measure all the flows in the system, including referral rate, referral completion and the closing of the referral loop (back referrals).

– Measure the quality (number and adequacy) of the referrals.

- Analyse referral metrics to improve outcome, including:

  - referrals flows;

  - time to referral appointment, time to back referral, and so on;

  - measures specific to certain pathologies (definition and tracking); and

  - statistical control limits (establishing these to trigger timely alarms).

– Measure patient-reported outcome measures and patient-reported experience measures of referred patients.

– Track patients visiting accident and emergency departments to identify those that should have been treated at PHC level and referred to specialist care, but were not (thus resulting in increased demand for hospital services, and probably by with a more severe health status).

– Survey PCPs about their level of satisfaction with the referral system.

– Review referral cases (analysing a random sample of all cases and conducting a thorough review of all cases with unexpected bad outcomes), aiming to define:

- what is the "right" referral;

- how unnecessary referral cases can be avoided;

- how to increase unreferred cases that should have been referred; and

- how to assess referral resolution capability, making this information transparent and shared among all actors.

– Establish continuous quality improvement systems. This includes monitoring referral results, which could focus the continuous

improvement attention to errors classified as type 3 (the patient needed to be referred, the referral was carried out, but the tests or procedures performed were not adequate). Results data can be input into algorithms to determine the highest value provider in a network (highest quality, cost–effectiveness, patient satisfaction, and so on).

– Increase preparedness for future pandemic events, fostering the flexibility and elasticity of health care system resources to allow quicker reactions at all levels of the health system.

4 Final remarks

From the research performed, and throughout the workshop that was organized with relevant experts, it was clear that although there is no perfect referral system, many improvement opportunities exist to move the required knowledge, talent and equipment closer to the patients, ensuring their needs are met. The referral process needs to be streamlined, removing activities that generate little or no value, eliminating bureaucracy and becoming more patient centric.

To achieve these improvements, the roles within the system need to be clarified and the specific role of steering the referral system created and developed. There is a strong need for the steering body (regulator), PHC professionals and specialists to work together with the patients to: (re)design the referral system; establish quality measures and targets, as well as benchmarks; identify the practices that work; and promote their implementation.

One of the questions that was discussed during the workshop was, "Who should kick the ball first, and who should lead the proposed changes?" Usually, it would be expected that the system leader would launch and promote a change process. But systems that encourage professional empowerment and learning can themselves engender local improvement. Indeed, teams may already be able to implement some of the suggested actions in this report, as well as generating some new ones of their own. An innovation (in the referral context) is much more likely to be adopted if patients, PCPs/PHPs, specialists, and regulators/payers all see an advantage in it. Health care managers can be expected to be the ones to demonstrate the advantages to the other stakeholders. With that said, it is to be recognized that clinicians can often be the most effective leaders in bringing about the changes discussed in this report.

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6 Annexes

6.1   Annex 1. Methodology

6.1.1   Brief review of existing literature

The challenges and impact of the novel coronavirus (SARS-CoV-2; COVID-19) pandemic triggered a series of studies and publications, initially to contribute to understanding better the pandemic and sharing experiences of how to deal with it, and then to develop further the lessons learned in terms of (i) pandemic preparedness, and (ii) health system responses and opportunities. For example, the increased use of telemedicine and the reinforcement of primary health care (PHC) are both very relevant when studying referrals. While the pandemic managed to create a force for acceleration in the adoption of certain technologies (e.g., telemedicine), it also caused a reduction in hospital admissions and referrals. The impact of COVID-19 on referral management and practices has not yet been properly analysed. This report tries to cover some of this knowledge gap.

A set of interesting insights into health systems was reviewed, including how they adapted during the pandemic. The policy response (including health system response) has been well documented for many European countries by the Health System Response Monitor (HSRM) by the European Observatory for Health Systems and Policies, which was launched in 2020 and continued into early 2022 *[1]*.

All countries needed to adapt their health service delivery depending on the severity of the pandemic situation locally. Many countries were forced to decrease elective care services and to quickly expand remote services, home services and various e-services. While the pandemic exposed health system weaknesses, it also catalysed innovation in new care delivery models. Lessons learned have been well captured in many publications. Interesting insights and learning have been compiled, to be taken forward into the post-COVID-19 "new normal", such as a European Observatory on Health Systems and Policies *Health Policy Series* paper on health system resilience in 2021 *[2]* and a *Eurohealth* publication on the same topic

in 2022 *[3]*. Prats-Monné and colleagues of the Health Working Group reviewed the role of the European Union (EU) in 2021 with the report *Towards a European health union – prevention, crisis management and multilateralism [4]*.

In 2022 the Nuffield Trust compiled in-depth case studies of 16 countries across the globe, entitled *Health system recovery from COVID-19. International lessons for the NHS [5]*, putting forward, among the main findings, that the COVID-19 pandemic had tended to reinforce health system priorities and ambitions rather than change them, and had created a narrow window of opportunity to build broader system capacity. In many of the countries studied, the pandemic served as a catalyst to advance system reforms in order to address long-standing structural weaknesses and priorities, which had previously lacked political will or funding. Martin McKee edited a 2021 European Observatory on Health Systems and Policies and WHO Regional Office for Europe joint publication, *Drawing light from the pandemic: a new strategy for health and sustainable development [6]*, and in April 2022 WHO brought together in Brussels a group of experts from various fields as part of a hybrid event to discuss the role of hospitals *[7]*, where a new, different role had been discussed for a reinforced PHC and chronic care setting.

6.1.2   Interviews

A set of interviews was carried out with practitioners who had a first-hand view of the challenges of referral during the COVID-19 crisis and had been involved in interesting practices (see Acknowledgements). Practitioners from Malta provided great insight into backlogs and professional shortages and Italy is institutionalizing community teams as facilitators for adequate referral. In Spain a series of highly innovative solutions were found, while Estonia relied on the expansion of previously existing e-health services to maintain access to care, use of which has continued to grow since the pandemic.

6.1.3 Aligning complex systems

As seen in many EU countries, often high-value solutions cannot be successfully implemented or scaled without the alignment of the systems' stakeholders, who work in complex health care ecosystems. Innovations are only slowly adopted, through trial and error, and often without considering all stakeholders' views and needs. This can hamper the successful implementation of potentially high-value solutions and may delay their implementation. Joint reflections could support alignment across divides, defining and scaling up new high-value solutions, and identifying potential levers and/ or roadblocks for real-world implementation. When these opportunities to jointly reflect on an aligned proposal are missing, the desired system transformation is delayed, or simply not achieved.

In the case of referrals, which involve many health and social care actors, the objectives of each of these stakeholders are not necessarily aligned. Among these stakeholders are the following people or positions, with their own perspectives and requirements.

- The primary care physician (PCP) is concerned with a feasible workload level, empowerment, the availability of equipment, good training options and being kept informed about their patients (ultimately, closing the referral loop).

- The primary care manager is concerned with the reference population, not individual patients, and with keeping health care costs under control.

- For the specialist physician, a practicable workload is key, along with only treating the patients that require their specialist knowledge. Treating interesting patients is also a priority (for research publication purposes and professional growth). They are concerned with having control over the quality of the work, but also remuneration (e.g. private health care system or incentives to treat patients).

- The hospital manager is interested in using the capacity of specialists in the most effective way (increasing reimbursement).

- The patient appreciates a good experience, avoiding unnecessary transfers and tests. They prefer a single unique contact point, a single care manager and a clear care pathway. They also want to be informed and to understand all elements of their care plan, with access to their patient information, while experiencing a quick resolution of their medical problems. Most patients would like to be able to keep some level of control over what happens, and thus appreciate being involved in decision-making along with their health care professionals.

- The health system regulator wants all actors to follow the rules, adhering to regulations, ensuring cost–effectiveness and transforming learning into system improvements.

- The payer aims to ensure the good health of the population, avoiding under-referral, keeping waiting lists short, minimize unnecessary costs to the system by preventing over-referral.

For the high-value referral initiative, the HALIGN methodology was applied (see Annex 5 and Annex 6), consisting of a series of training modules and a platform that provides a space for stakeholders to exchange and align, jointly realize the complexity of the system, understand each other's perception of trade-offs, drivers, and objectives. This work allows for key performance indicator alignment, while establishing a solid basis for successful implementation. The initial research carried out served as a preliminary basis for understanding the different issues, challenges and red lines for the stakeholders involved. These insights were exposed and addressed in a collaborative way among all experts and participants in a series of co-working sessions. The collaborative sessions allowed the common ground to be defined, exposed divergencies and explored possible ways to converge; they highlighted the different expectations and facilitated the identification of as-yet-unknown challenges that might hamper the implementation of the solution, while also highlighting various facilitating and driving factors that could foster high-value referrals. Based on the outcome of the workshop, several sets of potential areas for action have been collated.

6.2 Annex 2. Different frameworks for the study of referral

When discussing referrals – just as when we consider different countries' health systems – it is important to start from the position that there is no perfect system, because a unique system will not be suited to all the possible situations. To decide on what changes may be effective in a particular system, many critical characteristics of the current situation should be considered, such as its maturity, the funds available to the referral system, the human and equipment resources in the system, the geographical and communication characteristics, the specific motivations of the different stakeholders, the steering role played by the health authorities, and so on. However, the different frameworks proposed in this concept paper can help to providing directions for improvement, independent of the starting point of a given system. A wide set of different frameworks have been reviewed that could be useful in our task of identifying high-value referral systems.

6.2.1 Referral process objectives

The ultimate objective of the referral process should be aligned with the overall aim of a health system, as defined by the Triple Aim framework: (1) better health of a defined population (in the target area, for a specific condition, and so on); (2) low (per-capita) costs, or efficient use of resources; and (3) patient satisfaction.[10] Sometimes an additional aim is included in the model: the satisfaction of professionals. For the purposes of this report, this is not taken as part of the ultimate objective of a health system, but nevertheless constitutes an intermediate objective, without which the achievement of the other three becomes very difficult.

At a macro level, the objectives of a referral system should focus on:

– population health, by contributing to improving health outcomes;

– system costs (or costs per capita), through making the most efficient use of (often scarce) resources; and

– patient burden, by reducing the burden on patients and leveraging patient experiences, including ensuring timely access to specialist care.

The starting point is the premise that access and equity are the basis of high-value care systems: all citizens must have access to the level of care they need, irrespective of age, stage of illness or point of access into the health system, and must receive the best (necessary and available) care, closest to home. Furthermore, in line with the needed emphasis on patient and family centricity, the care should empower patients and families to take control of their own health and participate in the decisions which affect them. Care should be provided in a way that shows empathy, respect and compassion.

These objectives should inform the measures used to benchmark different referral systems and/or to track the improvement of a system over time.

6.2.2 OE framework

While the referral objectives may set the direction, they are not detailed enough to guide operational action plans; with this in mind, the OE framework developed at IESE the Center for Research in Healthcare Innovation Management (CRHIM) provides the operational focus.[11] The OE considers three main dimensions of excellence.

1. **Technical** excellence is about ensuring that all the necessary resources are available to create the desired service. These resources include the right knowledge applied in the

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[10] For more detail on the Triple Aim concept, see the Institute for Healthcare Improvement (IHI) website *(8)*.

[11] Jaume Ribera's forthcoming publication "Operational Excellence in Health Care" in IESE Business School's newsletter (IESE Insight) provides deeper insight into this operational focus, among other

right location and at the right time, by skilled professionals, using excellent (and up-to-date) technology and equipment, such as clinical decision support systems (CDSS), checklists, shared patient information, and so on. When applied to high-value referral, this translates into ensuring that the referring professional has access to the required knowledge and equipment to either resolve the patient's health issues or to refer them to the right professionals. On many occasions, increasing the referral resolution capacity of PCPs, by supporting them with some specialist training, specialist equipment and/or convenient access to clinical guidelines (for example) may eliminate the need for referral.

2. **Process** excellence involves using the available (high-quality) resources in the most effective and adequate way to achieve the best outcomes; organizing resources along well-defined processes of care. Mapping and analysing the existing referral processes using the lean approach[12] – which focuses on eliminating waste and improving efficiency by identifying which activities add value to the patient, and which do not add value at all – will help in streamlining the process. A discussion is also carried out at this stage of who is performing each activity, whether someone else may be more appropriate to do it, the location in which the activity takes place, and so on. An analysis of distance travelled by the patient, times incurred for each activity, periods during which nothing is happening (etc.) will help to complement the processes review. Finally, exploring the capabilities of digital technologies to bridge time and space gaps, and to complement or acta as an alternative to the current process is a useful way to foster process excellence.

3. **Service** (experience) excellence includes considering the patients' (and the professionals') perspectives on how the processes and the resulting outcomes are perceived by them, as well as whether they are aligned to the job role assigned to each of them, and how they assess the quality dimensions of the referral process.

These service excellence elements include outcomes and experiences.

– Outcomes relate to the quality of care delivered, focusing on the health gains achieved from the patient's perspective. This would correspond to the patient-reported outcome measures defined for the patient's procedure(s).

– Experience is usually measured with patient-reported experience measures, which should cover the following aspects:

  – reliability – the ability to provide services accurately, on time, and credibly, requiring consistency in the implementation of services, respecting commitments and keeping promises to customers;

  – responsiveness – the ability to solve a problem fast and in an effective way, along with the willingness to meet the customers' requirements;

  – tangible elements – the (perception of) the appearance and condition of the facilities, equipment, machinery and materials, manuals, communication materials, and information systems of the referring as well as the receiving institutions;

  – assurance – the ability to make patients feel heard and understood, to generate credibility and trust for customers, through professional services, excellent technical knowledge, courtesy, and good attitude and communication skills;

  – empathy – the caring, consideration, individualized attention, and the best possible preparation for patients, so that they always feel welcome, wherever they are in the health system.

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12 An NEJM Catalyst article published in 2018 provides more detail on the lean approach in health care *(9)*.

6.2.3 Maturity and benchmarking measures of the referral process

Referral process, as is the case with most processes, can benefit from the application of the process maturity framework. Although there are some better known 5-level maturity models, derived from the Software Engineering Institute Capability Maturity Model, we prefer to use the 8-level model proposed in 1994 by Roger Bohn (see Fig. 6.1) *[10]*.

Fig. 6.1. Eight levels of process maturity

Source: Bohn, 1994 *[10]*.

The authors have adapted this model to apply specifically to the referral process.

Stage 1 – complete ignorance. This refers to a lack of awareness that a referral process exists, or, if aware of its existence, the PCP may consider it not to be relevant to their activities.

Stage 2 – awareness and use. Physicians are aware that referral is an option and that it might be relevant to their patients, but no well-defined way to use it exists as part of their processes, so their methods are still ad-hoc. They may be starting to develop a standardized format for referral and to increase referrals for some (types of) patients.

Stage 3 – measure. Patients are already being referred from one institution (or PHC physicians) to specialist care, and it is possible measure the flow of patients and some of its characteristic variables, albeit perhaps with some effort. However, there is no control over the flow of patients, nor the outcomes achieved.

Stage 4 – control of the mean. It is already known how to control the flow of patients accurately across a range of health care levels, but the control is not necessarily precise. That is, the mean level is controllable, but some uncontrolled variance remains around that level. This results in unwanted variability between physicians around their referrals.

Stage 5 – process capability (control of the variance). The variables can be controlled with precision, across a range of values. When all of the important variables reach stage five, referral guidelines can be defined, outlining when and how (and when/how not) to refer patients. Still, it is not guaranteed that everybody follows the guidelines, so some sort of assessment or monitoring of the process is required.

Stage 6 – process characterization (know how). Now it is known how the variable affects the result, when small changes are made in the variable. It is possible to begin to fine-tune the process to reduce costs and to adapt it to certain

patients' characteristics. Some feedback control can also be established on the outcome. This increases the quality of the process by reducing its variability.

Stage 7 – know why. A scientific model of the process has been developed, including how it operates over a broad set of conditions, and incorporating nonlinear and interaction effects of each variable with other variables. At this stage, it is possible to start optimizing the process with respect to the desired variables.

Stage 8 – complete knowledge. The complete functional form and parameter values that determine the result are known, as a function of all the inputs. The process and environment are so well understood that any problems can be avoided, in advance, by feed-forward control. Stage eight is never reached in practice, because it requires knowing all the interactions among variables. However, it can be approached asymptotically[13] by studying the process in more and more detail.

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[13] Asymptotically means that the level of understanding and control over the process will progressively improve but never reach absolute perfection, due to unknown or unpredictable factors affecting variable interactions.

6.3   Annex 3. Referral workshop

On 21 November 2022 a hybrid workshop was carried out with representatives from various European ministries and a set of relevant experts, organized jointly by WHO Regional Office for Europe and IESE Business School.

After the introduction, an overview of population health and the central role of primary care, the main lines of argument of the (draft) referral concept paper were presented. Discussion followed about the case study *Improving the referral system in Whomland* – a fictious referral scenario in a fictitious country, with a doubtful outcome (Annex 7, section 6.7) – despite the fact that all referrals seemed to have been carried out correctly. The discussion of the case study was carried out according to the HALIGN methodology (see Annex 5, section 6.5).

6.3.1   WHO High-value Referral Workshop agenda

The WHO Regional Office for Europe workshop, in collaboration with IESE Business School, took place in hybrid format on 21 November 2022.

Time	Session
13:50–14:00	Opening virtual space
14:00–14:15	Welcome *Natasha Azzopardi Muscat, WHO* *Magda Rosenmöller, IESE Business School*
14:15–15:15	High-value referrals – Insights *Mafaten Chaouali, WHO* *Antoni Dedeu, WHO* *Magda Rosenmöller, IESE Business School* *Jaume Ribera, IESE Business School*
15:15–15:30	Introduction to the case study / exercise (HALIGN) *Jaume Ribera, IESE Business School*
15:30–15:45	Short break
15:45–17:00	High-value referral: working the case study • Case team interactions (breakout rooms) • Elaboration of proposals
17:00–17:15	Short break
17:15–18:15	Discussion of ideas / proposals • Discussion • Potential actions / Debrief *Jaume Ribera, IESE Business School*
18:15–18:30	Conclusions / Next steps *Tomas Zapata, WHO*

6.3.2   High-value Referral Workshop participants

Ministry delegates and experts

Natalia Allué Orduña, Catalan Hospital Union, Spain

Joao Breda, WHO Special Adviser, Greece

Richard Bohmer, Nuffield Trust, United Kingdom

Rashad Chobanli, State Agency of Mandatory Health Insurance, Azerbaijan

Stephan Ehrmann, Ministry of Health, France

Zokhid Ermatov, State Health Insurance Fund, Uzbekistan

Jesus Maria Fernandez, Hiris Care, Spain

Anar Israfilov, Ministry of Health, Azerbaijan

Pınar Koçatakan, Ministry of Health, Türkiye

Grant Mills, University College London, United Kingdom

Teymur Mirzabayli, The Administration of Regional Medical Divisions (TABIB), Azerbaijan

Carles Oliete, Catalan Hospital Association, Spain

Filippo Quattrone, Ministry of Health, Italy

Alexandru Rogobete, Ministry of Health, Romania

Eric de Roodenbeke, Independent Economist, France

Klea Troka, Ministry of Health and Social Protection, Albania

Modesta Visca, Ministry of Health, Italy

Stephen Wright, Finance and Economics Expert, United Kingdom

WHO Regional Office for Europe

<u>Copenhagen, Denmark</u>

Yana Andersen

Joao Breda

Mafaten Chaouali

Natasha Azzopardi-Muscat

Evangeline de Leon

Cathal Morgan

Tomas Zapata

<u>Almaty, Kazakhstan</u>

Toni Dedeu, WHO Regional Office for Europe, Almaty

WHO headquarters

Ann Lise Guisset (Geneva, Switzerland)

Mary Plummer (Washington (DC), United States)

IESE Business School, Spain
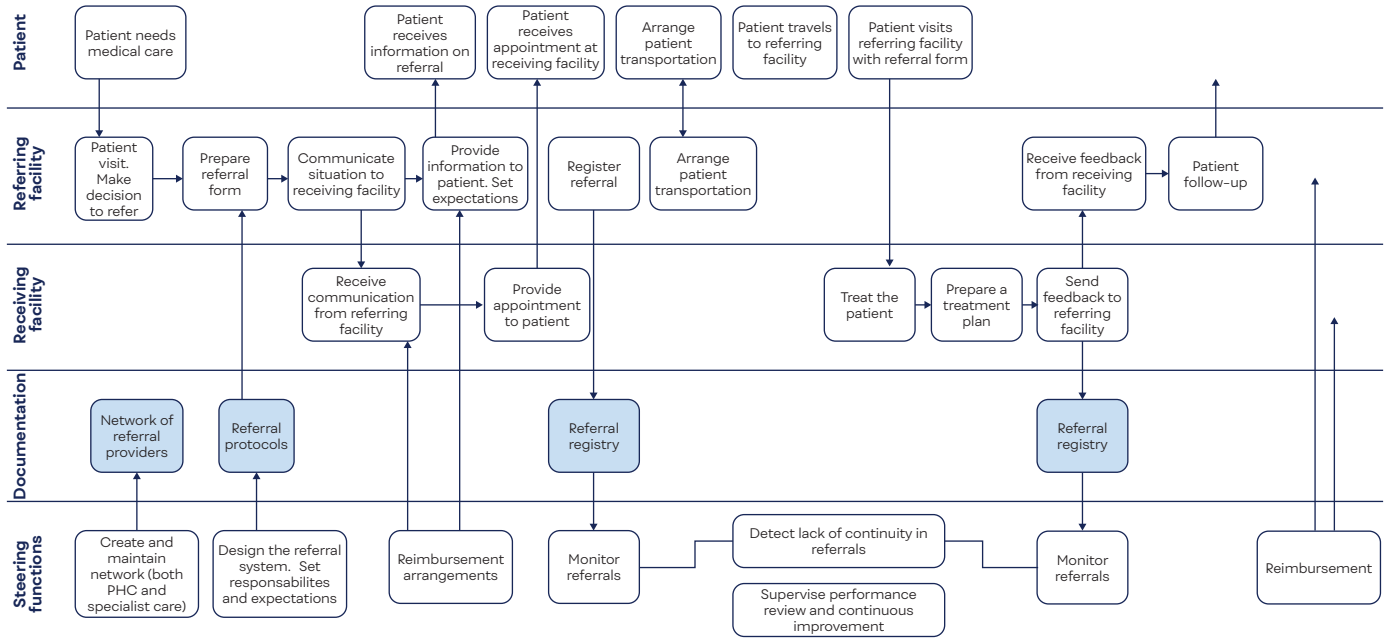
Jaume Ribera

Magda Rosenmöller

Montse Codina

Laetitia Paumard

Kellie Harkin

Beatriz Moutinho

6.4   Annex 4. Referral process

Fig. 6.2. Referral process flow diagram

Source: authors' own compilation.

6.5   Annex 5. The HALIGN methodology

The HALIGN methodology is a variation of the case method, developed as a research-based educational project, with co-funding from EIT Health.[14,15] The case method is a teaching methodology based on the study and discussion of real business cases, intended to help professionals and managers improve their integrative and decision-making skills. The method was established originally by Harvard Business School in 1921, and is the methodology that best reflects the realities that professionals and managers face in their job roles. It helps them identify symptoms and tackle problems that appear without immediate obvious solutions.

The methodology, based on case studies discussed with representatives of the ministries of different countries, has already been used by IESE Business School in the past, as an innovative way to discuss and present the achievements of different health projects sponsored by the World Bank in Latin America and Caribbean countries. The resulting post-workshop evaluations showed that the case methodology was much more engaging for the various ministry participants than a simple presentation of the projects and results, which had been the usual format for their conferences.

The HALIGN methodology integrates not only the main characteristics of the traditional case method, but also some principles from the multi-stakeholder collaboration initiative *[12]*. Fred Krawchuk, a Visiting Professor with IESE Business School realized that no one organization has all of the requisite knowledge, power, relationships, or resources to comprehensively address a complex issue that affects multiple stakeholders. To facilitate multi-stakeholder collaborations, Krawchuk described the **5P** approach, which he suggests addresses the challenges identified in multi-stakeholder

collaborations and incorporates the features that successful initiatives share *[12]*. These elements – the **five Ps** – are:

- **purpose** – a specific issue, challenge, opportunity or possibility that concerns all participants and provides the reason for convening;

- **people** – the participation of multiple state and non-state actors, including representatives from government, business, nongovernmental organizations, academia and civil society;

- **place** – a space where participants meet in person (and, as needed, virtually) for the sake of dialogue;

- **process** – a process of shared inquiry, learning, problem-solving, and (potentially) decision-making in new ways that address stakeholder concerns; and

- **practice** – the efforts made on a regular basis by stakeholders to train and develop the "skills, mindsets and heartsets" of collaboration.

The HALIGN methodology divides participants into different groups, each of them discussing the case from the perspective of a different stakeholder, with objectives and red lines unknown to the other participants. This situation encourages the participants to develop an understanding of the other stakeholders' perspectives, working towards drafting a solution that can be accepted by all and implemented in an aligned way.

HALIGN is about aligning complex health ecosystem stakeholders to achieve a common goal; this is crucial in referral systems, which, by definition, touch on different elements across system divides (that is, various health care sector and organizational boundaries).

The HALIGN methodology has been developed and tested in workshops with medical professionals, health care managers, start-up innovators, policy-makers, and other actors. The process has achieved wide acceptance and success in helping these stakeholders understand the alignment difficulties and how to overcome them. The methodology has also been used within health care companies to help their managers understand the other stakeholders' perspectives and to learn how to work with them towards a shared acceptable solution.

In the workshop organized for this project, a compressed version of the HALIGN methodology was introduced. After a short introduction to the methodology, a dynamic similar to a World Café[16] was organized, to start the discussions between the different stakeholder groups.

Participants were divided into five groups: (1) regulators (referral steerers), (2) primary care professionals (physicians and managers), (3) specialist care professionals (physicians and managers), (4) patients, and (5) payers. In each of the groups, half the members remained in their virtual room, while the other half visited the other stakeholders' rooms, rotating every 10–15 minutes.

Back in the plenary, one team presented their ideas, while the other teams were asked to comment on the differences between the proposals and how these differences could be bridged to achieve an integrative and aligned final proposal. The productive discussions and the notes taken in the breakout sessions formed the basis of the potential action areas proposed in this report.

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16   More detail about the World Café method is available online at The World Café website [13].

6.6 Annex 6. Detailed plan for the HALIGN exercise

The HALIGN case study exercise used in this project was performed in four stages.

1. A case study of a particular situation in a health system was presented as a case study, describing in some details the existing problems and some of the barriers encountered in the past in trying to improve the system. The case study also presented, concisely (in a few pages) some known facts about all the stakeholders of the current referral system. All participants in the exercise studied the same case, which had been made available to them one week before the workshop.

2. To start the exercise in the workshop, each participant was assigned a specific role (one of the stakeholders in the referral system) and was provided with a more detailed description of this stakeholder's specific objectives and some red lines that they should try to maintain. Participants playing the same role worked together (virtually) as a team during the exercise to define strategies and achieve their objectives when meeting with the other stakeholders. They also proposed a referral system that they would favour. The idea was that later they should be able to present the advantages of their proposed system and to work with other stakeholders in aligning their strategies to achieve a shared agreement that could be proposed and implemented as the referral system of the future.

3. During the role-playing phase, the participants met with other actors playing a different stakeholder's role and they worked together to integrate the good elements of their separate proposals into one shared proposal that could be presented and defended in front of the other stakeholders. The meetings were iterated several times, and at the end of each iteration a modified proposal was discussed and a perceived alignment score assessed by each stakeholder and shared among all stakeholders. It is hoped that, after a few iterations, a suitable proposal would emerge that could be accepted by all (or at least all the significant) stakeholders and developed.

4. Once the role playing was completed, participants shared their insights from the discussions and presented their shared proposals. The exercise was completed by compiling a draft action plan and a discussion on the elements that could foster the implementation of the proposed solution and the barriers it is likely to encounter.

The timetable (presented in Table 6.1) assumes that the participants would be divided into five groups according to stakeholder roles.

Table 6.1. Detailed plan for the HALIGN exercise during the workshop

(14:00–15:15	*Welcome, Concept paper presentation)*
15:15–15:30	Introduction to the HALIGN case methodology
15:30–15:45	Short break
15:45–15:55	Distribution of stakeholders in breakout rooms[1] Distribution of the confidential information for each stakeholder group Discussion of the group objectives, success measures, and red lines.
15:55–16:35	World Café stakeholders' meetings (4 x 10 minutes)[2]
16:35–16:45	Draft stakeholder proposal
16:45–17:00	Proposal alignment[3]
17:00–17:15	Short break
17:15–18:15	Discussion of ideas/proposals and potential action plans
(18:15–18:30	*Conclusions, next steps)*

Notes. [1] The suggested stakeholders to be considered are: (1) regulators (referral steerers), (2) primary care professionals (physicians and managers), (3) specialist care professionals (physicians and managers), (4) patients, and (5) payers. In case of a large attendance, primary care and specialist care could be split each into two subgroups. In this case, the World Café meetings format (outlined below) would need to be adjusted accordingly.

[2] In each of the groups, half the members remain in their virtual room, while the other half visit the other stakeholders' rooms in rotation:
first 10-minute meetings: 1 & 5, 2 & 1, 3 & 2, 4 & 3, 5 & 4
next 10-minutes meetings: 1 & 4, 2 & 5, 3 & 1, 4 & 2, 5 & 3
next 10-minutes meetings: 1 & 3, 2 & 4, 3 & 5, 4 & 1, 5 & 2
final 10 minutes meetings: 1 & 2, 2 & 3, 3 & 4, 4 & 5, 5 & 1

[3] In the discussion of ideas/proposals, one of the teams presents its proposal, but it will not be necessary for each of the other teams to present in full their proposals. Rather, they will be asked to comment on the differences between the proposals and how these could be bridged to achieve an integrative, aligned final proposal.

6.7   Annex 7. High-value referral case study

6.7.1   Improving the referral system in Whomland[17]

Eva, the Health Minister of Whomland, a relatively small country in Europe, came back from a visit to her hometown during a brief vacation. She reflected on the case brought to her attention by Julia, one of her mother's neighbours, who explained to Eva the case of Anna, Julia's mother, expressing some mixed feelings about the way the case had been handled by the health system. Eva was even more worried by the conclusions of a quick-and-dirty analysis that she did on the case, with the support of some of her colleagues at the Ministry. It looked like the established process was properly followed by everyone involved, and yet the outcomes and the patient experience in this case had turned out to be awful. Eva was wondering how many cases like this one occurred in the country every day. Further, she learned it is well known that there is a large variability in the referral system in different parts of the country, as PCPs and hospital specialists had continuously fine-tuned the system (locally) and explored alternative approaches.

Eva asked her staff to organize a meeting with representatives of different stakeholders involved to explore improvement opportunities in the country referral system, in the hope of incorporating the experiences and lessons learned during the COVID-19 pandemic. The participants in the meeting were provided with some information that had been prepared in advance, describing Anna's (a patient) journey, the referral process flow diagram, and a list of suggestions for improvements from a recent research study.

6.7.2   Anna's journey

Anna was a 75-year-old woman, a widow who lived by herself. Her husband had died of a digestive haemorrhage a few years earlier and the experience of finding her husband dead in his bed was still fresh in her memory. She had lived in the same flat for the last 50 years since she got married. After her husband died, Julia suggested she move to a closer, smaller flat, but she did not want to do it. She was well known in the neighbourhood and most of her friends lived there. She enjoyed a happy, active life, helping Julia with her son, especially when he felt sick and could not attend school. Some months previously, Anna had started feeling more tired than usual, had difficulty breathing when climbing stairs and had numb ankles in the evenings. After two weeks of waiting for an appointment, she visited her PCP, Jakob, who diagnosed her with heart failure, prescribed her some drugs, and referred her to a cardiologist. She got an appointment for the cardiologist in three months' time. During the visit, the cardiologist barely examined her, seeming to be more interested in her screen than in Anna. She prescribed Anna some new drugs (which looked like those she was already taking, but with different names), and referred her to the local hospital to get some tests done, a few weeks later. Anna got the new drugs from the community pharmacy and asked the pharmacist to write on each box what the drug was intended for and when to take it. The pharmacist also provided Anna with a pill box to help her organize the drugs.

While waiting for her appointment for the tests, having lunch at Julia's home, she had a breathing crisis and had to be taken to

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the emergency department. Thanks to an echocardiography, the emergency care doctors determined that the cause of Anna's heart failure was an aortic valve stenosis caused by calcium accumulation and, after stabilizing her condition, they referred her back to the cardiologist. Anna visited the cardiologist again, this time with Julia. With the new information the cardiologist proposed an intervention: "This is the situation: either we change that valve or everything will get worse and worse". Anna was shocked by the news and the cardiologist continued the discussion with Julia. She told her that they would apply a technique known as transcatheter aortic valve implantation, an artificial aortic valve that is implanted through a minimally invasive percutaneous intervention. At the end of the brief explanation, the cardiologist took a brochure out of a filing cabinet, spread it out between the two women and told them, "Here you have more details, in case you want to study it later, at home. I'll give you time to think about it until Monday, but don't prolong it because we have a long waiting list and, considering the state of your mother, any longer could be too late".

The intervention was carried out as planned, one month later, and the postoperative period went reasonably well, with respect to Anna's vital signs. However, Anna soon showed signs of disorientation and restlessness and, most worryingly, she began to have delusions that overwhelmed her and caused her great unease. The intensivists decided to treat the crisis with neuroleptics and sedatives, in addition to restraining her to the bed so that the tubes and the oxygen mask were not pulled out. After a longer than expected hospital stay, Julia was told that she could take Anna home, but Julia did not feel capable of taking care of Anna and requested that she stayed a bit longer in a subacute hospital ward, until she fully recovered. After three weeks, she was ready to go home, she no longer has delusional or breathing issues, but she developed two new problems, resulting from the long period of hospitalization: (a)

she felt much more fragile, her Barthel index had dropped from 100 (total independence for daily life) to 50, meaning she needed help with personal hygiene and showering and – in addition, she had lost urinary control – and (b) an atrial fibrillation was detected, a very common heart problem in the elderly, that requires anticoagulant treatment to prevent clots that could cause an ischemic stroke.

When Julia visited Jakob (the PCP), he was surprised to learn about everything that had happened to Anna. Julia was also surprised about Jakob's surprise. He promised to study the situation and refer the case to the health care centre so that a nurse could visit Anna to check on her medical needs every two weeks. Julia felt overwhelmed and made an application to the city social services. Even with the two visits per week by the social worker, Julia had to increase her visits to Anna, asked for some periods of leave from work and eventually had to quit her job.

One day, Julia found Anna lying on the floor, and an ambulance took her to a hospital, where a stroke code was launched.[18] When Eva learned about this case, Anna was suffering from extensive paralysis, had been admitted to a nursing home and received visits from Julia and her son at the weekends.

When cleaning Anna's house, Julia discovered that Anna had not been taking all her medications, in particular the anticoagulant drugs. Julia felt guilty for not realizing this before, but no question about adherence to the treatment was ever raised by any of the doctors. Julia believed that Anna might have been influenced not to take anticoagulants by the dramatic experience of her husband's death.

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[18] The term stroke code is used in some countries to refer to a protocol or procedure that is activated when a patient is suspected of having a stroke. This ensures rapid assessment, diagnosis, and treatment to improve the patient's chances of recovery.

6.7.3 The referral system in Whomland

Whomland health system is a national health system based in the principles of universality, free access, equity, and fairness of financing, and mainly funded by taxes. Every citizen registers with a primary health (care) provider (PHP) of their choice, although in most cases the choice is limited by distance (patients usually register with a PCP close to their home) and by capacity (the number of patients each PCP can have registered is limited). In the case of outpatient visits to specialists, the PCP acts as a gatekeeper, and refers the patient to a predetermined specialist centre or hospital.

To request a referral, the PCP fills in a form in the health information system and the request is transmitted to the specialist institution, which – based on an estimation of the priority provided by the PCP/PHP – provides an appointment, and communicates it to the patient.

In recent months, the waiting list for specialist visits has increased and PCPs have started to increase the ratio of priority referrals. This behaviour results in the priority classification no longer being a useful indication to generate appointments. The specialist obtains the patient information from the PCP's notes through the patient's electronic health record (EHR), and the EHR is also used to store the diagnosis and treatment notes from specialists. After the visit with the specialist, the patient is requested to obtain another appointment with their PHP to follow up on the treatment.

6.7.4 Analysis tools

Eva's staff at the Ministry had prepared some documents to help the participants in the meeting to better understand and explore improvement ideas on referral. These documents are included as exhibits in Fig. 6.3 and Box 6.1.

Fig. 6.3. Exhibit 1: the referral process at Whomland
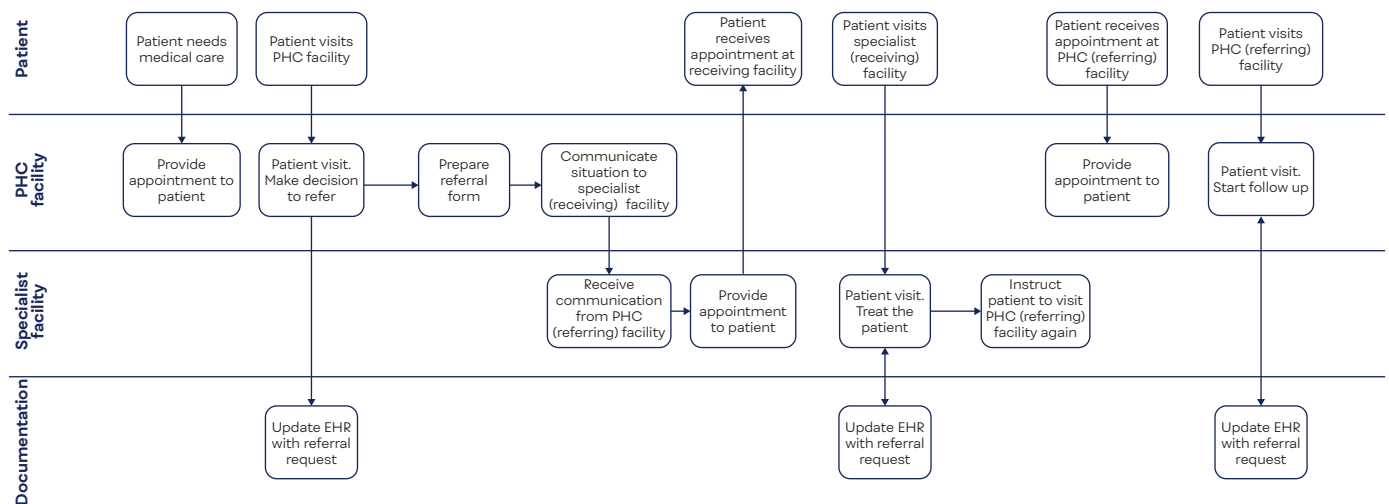
Source: authors' own compilation.

Box. 6.1. Exhibit 2: critical examination of a process

Critical examination is an established technique that aids thinking in a systematic and logical way. It is described in the International Labour Organization's Introduction to work study (4th revised edition, 1992 [15]) and it was part of the British Standard 3138: 34004, defined as "the systematic analysis of information about a process, procedure or activity by which it is subjected to exhaustive challenge with regard to need, simplifications, combination, sequence and alternatives." Effectively, it is a structured and analytical approach, which is able to use creative thinking techniques to help develop a range of alternative suggestions and proposals.

Stages of a critical examination

1. Determine the objective of the process. Who is the main customer of the process, and what is its value proposition? Every process should have a value proposition to serve its main customer. The value proposition should clearly state the customer, what problem the process solves, the solution provided by the process and the net benefit as perceived by the customer. The basic goal of any process is to deliver a superior value proposition using the most efficient method.

2. Collect information about the current process. This step involves observing and recording the activities being performed and preparing diagrams of the existing process (remember that an image is worth a thousand words). Among the common diagrams are process flow diagrams, value stream diagrams, and journey diagrams, among others.

3. Examine the different steps of the process in a critical way. Every aspect of an activity can be examined and questioned. See the next subsection for a list of suggested questions.

4. Develop an improved process/method by using the insights developed in the previous steps.

Questions which can be asked (and answered) in a process

Purpose: **why** is this activity done?

- Why is it done at all?
- What is the purpose of this activity?
- How does it relate to the job to be done for the "customer" (patient, PCP/PHP, etc.)?
- What value is the activity adding?
- What is the implication if it is not done at all?
- What is done in the activity?
- What else might be done?
- What should be done?

Place: **where** is the activity done?

- Where is the activity being performed?
- Why is it done there?
- Where else could the activity be performed?
- Could it be done at a distance (e.g., telemedicine)?
- Where should it be done?

Time / Sequence: **when** is the activity done?

- When is the activity currently performed?

- Why is it done then?

- When might it be performed?

- In what sequence is it performed?

- Is it possible to do it in a different sequence?

- Are there some delays or waiting times before or during the activity?
  - What is causing them?
  - How can they be eliminated?

- When should this activity be done? In what sequence?

Person: **who** is involved in the activity?

- How is the involvement of the different agents organized?

- Who is the main "customer" of the activity?

- Who performs the activity? Who else contributes?

- Why is it done by these people?

- Who needs to be present? Is the patient involved (examined, touched, samples taken, etc.) or not? Could the activity be performed without the physical involvement of the patient?

- Who else might do it?
  - Who could do it in the current setting?
  - With some training, empowerment, and motivation, could it be performed by other people?
    - Who could make the necessary changes to allow these other people to perform the activities?
    - Could some of the activities be performed by the patient or their family?

- Who should do the activity?

Means: **how** is the activity done?

- By what means the activity is performed and why?

- How else could the job be done? What are the alternatives?

- Can it be simplified?

- How can automation assist in the referral process?
  - By facilitating communication (with patients and between health care professionals)
  - By ensuring compliance and adherence to guidelines and protocols
  - By streamlining the execution of appropriate activities within the referral process

- How does technology fit into the process? This is a key consideration in both the efficiency and effectiveness of a process. Important process improvement is often led by making a certain technology available or by upgrading to better technology.

- How can digital technologies be leveraged?

- Can this happen by making the right information available to the right person, at the right time and in the right place?
- Can this activity be done online (audio, image, sensors, etc.)?
- How should it be done?

Measurement and control

- How is the process measured and monitored?
  - **Reactive measures.** Most organizations measure high-level key performance indicators according to the organization chart's view of responsibility and accountability.
  - **Predictive measures.** Best-in-class measurement systems are built from the ground up, beginning with input and process measures that align with the system measures and can detect significant variations before they result in undesired significant impacts.
- Who owns, supervises, or has accountability for the overall process?
- Who decides what is to be done and how, at each step of the process?
  - Does this person have all the relevant information to make the right decision?
- How is the decision made?
- Why is it decided in this way?
- How does the patient participate in the decision?
  - Does the patient want to be more involved?
  - Could the decision be more participative?
  - Are any key decision aids available to facilitate the participation of the patient?
- Does the patient feel that they have some control over the diagnostic and treatment processes?

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