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Strengthening a competent health workforce for the provision of coordinated/ integrated health services

WORKING DOCUMENT

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ABSTRACT

The paper proposes a list of competencies to be consolidated by the health workforce in order to realize coordinated/integrated health services delivery. To this end, the paper proposes a cycle for the process of competencies consolidation, identifying strategies required at the services delivery level and possible tools for implementation as well as describing the enabling conditions at the health system level and providing an overview of roles and responsibilities of key stakeholders involved.

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List of Abbreviations

CIHSD	coordinated/integrated health services delivery
CME	continuing medical education
CPD	continuing professional development
CPE	continuing professional education
HWF	health workforce
IST	in-service training
LLL	life-long learning
WHO	World Health Organization

Acknowledgements

Preface

In 2012, Member States of the WHO European Region endorsed the European health policy *Health 2020*, recognizing health system strengthening as one of four priority action areas in setting out a course of action for achieving the Region's greatest health potential by year 2020 *(1)*.

The vision put forward by Health 2020 calls for people-centred health system. In doing so, it extends the same principles as first set out in the health for all and primary health care agenda, reorienting health systems to give priority to areas including disease prevention, continual quality improvement and integrated services delivery.

The importance weighted to health system strengthening is also made explicit globally in WHO's Twelfth General Programme of Work for the period between 2014 to 2019, with a priority technical cluster specifically concentrated on the organization of integrated services delivery as positioned in the interim global strategy for people-centred and integrated health services *(2)*.

In line with these priorities, strategic entry points over the 2015-2020 period have been further delineated in two priority areas: (1) transforming health services to meet the health challenges of the 21st century and (2) moving towards universal coverage for a Europe free of catastrophic out-of-pocket payments *(3)*.

This document contributes to taking the first of these priorities further with a particular focus on health services delivery. It is set in the context of developing an overarching Regional Framework for Action for Coordinated/Integrated Health Services Delivery (CIHSD). Launched in late-2013 *(4),* the Framework aims to support Member States in transforming health services delivery by adopting a results-focused, action-oriented approach relying on health systems thinking to identify key entry points for taking action.

With this focus, discussed in detail here is the health workforce, as one of the key health system predictors on the performance of health services delivery. Specifically, the paper looks to explore the requisites for a competent health workforce for coordinated/integrated health services delivery towards an understanding of processes, tools and stakeholders involved in strengthening a competent health workforce.

1. Introduction

It is becoming increasingly clear that improved outcomes and compliance to treatment can be achieved with attention to patients, their families and communities *(1-4)*. Practically speaking, patients need to navigate services, manage health care plans and be physically and mentally supported to handle multi-morbidities, make choices about complex diagnostic and treatment processes, among others challenges that health care poses. At the front-line of these health care processes are clinicians, health managers and other health professionals who are intimately familiar with the needs of patients and the realities of the system's operations *(5-9)*. Their ability to decode these demands and appropriately respond is fundamental to their performance in terms of competencies. A competent HWF is in this way a key enabler of CIHSD.

In this context, this working document seeks to operationally define competencies and their features; identify those core competencies that enable CIHSD; describe how competencies are consolidated; and delineate strategies, tools and stakeholders for their consolidation.

Methods

This work has been prepared in the context of the forthcoming Framework for Action towards Coordinated/Integrated Health Services Delivery in the WHO European Region.

Arriving at the set of competencies for CIHSD involved several steps. A purposive review of the literature of competencies spanning the years 2009 through to 2014 was conducted using Medline, Embase, Cinahl and pre-Cinahl, Health Systems Evidence and Google Scholar between February and April 2014. Online searches included various combinations of the following key words: 'competencies', 'health workforce', 'health professionals', 'health services delivery' and 'integrated care'. The reference lists of literature deemed relevant for analysis were additionally consulted. This literature search has not intended to be systematic. This search was complemented by hand searching key international and national organizations working on defining and strengthening competencies of the HWF. This process produced a long list of competencies that were prioritized based on their relevance to CIHSD expected outputs: acceptability, comprehensiveness, coordination and people-centredness.

An initial clustering of the identified competencies for CIHSD was performed in April 2015. The competencies for CIHSD were clustered into 8 themes following similar grouping used by other organizations. This first clustering was then shared with a technical team in-house during a workshop in May 2015. Based on discussion and review of alignment, the clusters were re-grouped into 5 domains representing people and their communities, services, systems and change.

Arriving at the strategies and tools for consolidating these competencies involved a similar but distinct set of activities. In the spring of 2014, ten international and three in-house experts participated in a semi-structured 60-90 minutes phone interview. Experts were requested to comment on questions that aimed to assess the current state of knowledge and experience on strengthening the HWF to better respond to patient needs in the WHO European Region. Interviews sought to identify the roles of governments, educational institutions, health services, professional organizations, regulatory bodies and patients in defining and ensuring that HWF competencies respond to patient needs.

Tools for HWF competency consolidation were identified using Medline, Embase, Cinahl and pre-Cinahl, Health Systems Evidence and Google Scholar between February and April 2014. Criteria for inclusion were peer-reviewed studies; systematic reviews or meta-analysis including randomized, controlled trials or observational studies and studies describing interventions delivered to patient populations representing diabetes, COPD, mental health and frail elderly, with or without multi-morbidity. The search used the National Library of Medicine's Medical Subject Headings keyword nomenclature and text words for care

process design and for eligible study designs. Electronic searches were supplemented with a hand search of citations from a set of key primary and review articles.

Health workforce and human resources for health

In this paper, HWF is understood to concern those front-line health professionals providing services targeted to patients and populations such as, but not limited to, physicians, doctors, nurses, midwives, pharmacists, lay health workers, community health workers, managers and allied health professionals. This definition is consistent with others who have explored the HWF *(6,7,8)* and in line with the WHO's broader characterization of human resources for health *(5)*. Table 1, provides a list of professions involved in the overarching definition of human resources for health and details on the subset related to HWF. These are to be distinguished from policy advisors, researchers, educators in initial training institutions, civil servants and professional officers or representatives working in governmental and non-governmental institutions.

Table 1: Health workforce and human resources for health stakeholders

Human resources for health	Health workforce
• Health workforce • Professionals of ministries of health • Professionals of ministry of education working with/for training institutions for health professionals • Professionals working solely with regulatory bodies (including regulatory bodies that handle education institutions, professionals and health services) • Professionals of health workforce observatories • Health professionals at state institutes/republican centres • Instructors and educators at initial training institutions • Researchers	• Health managers • Clinical leaders • CPD educators • Quality improvement teams • Clinicians (physicians, physician assistants, nurses, nursing assistants, nurse practitioners, community nurses, feldsher, pharmacists, physiotherapists, occupational therapists, feldsher, dentists, etc.)

2. Health workforce competencies

Evidence shows that efforts focused on matching HWF knowledge and skills to population needs address potential shortages and maldistribution of the HWF, increases productivity, job satisfaction, recruitment and retention and, overall, helps to improve quality of care. The process of matching HWF competencies to patient needs involves more than just securing a HWF that has theoretical knowledge and skills to work more efficiently and effectively *(9,10,11)*. It rather involves ensuring that the HWF is able to apply these knowledge and skills into practice i.e. consolidate competencies *(10)*.

To date, the focus on competency consolidation has been limited to looking at initial education of health professionals i.e. college and university based education where initial exposure to competencies takes place. This understanding of the importance of competencies has led to a shift in focus from valuing the formal education and credentials towards valuing what the HWF can do for the patient *(7,15)*.

Definition of competencies

There is no single accepted definition of HWF competencies. The word *competence* originates from latin word *competentia*, suitability, fitness, which in turn originates from *competere*: be suitable, be fit for, composed by *con-* , with or together, and *petere*, strive for, ask for. Competence is defined as the "condition of being capable" or "ability" and having "a specific range of skill, knowledge, or ability". In the health sector, competencies are the standards that HWF perform during the provision of health services. In this way competencies are directly linked to the improvement of quality of care and health outcomes. Table 2 reports definitions found in the literature. Building on those definitions and for the purpose of this paper, HWF competencies is defined as the *essential complex knowledge based acts that combine and mobilize knowledge, skills, and attitudes with the existing and available resources to ensure safe and quality outcomes for patients and populations. Competencies require a certain level of social and emotional intelligence that are as much flexible as they are habitual and judicious.*

Table 2: Definitions of competencies

Source	Definition
WHO: The world health report 2006: working together for health	The tasks the different levels of health workers are trained to do and are capable of performing. The skills and experience of recruiting should reflect both the products of the educational pipeline and non-technical qualities (e.g. compassion and motivation) required for effective health services delivery.
WHO PAHO Core competencies for public health: A regional framework for the Americas[2]	The ability to perform a function efficiently. In operational terms, this would be spelled out by levels of depth (identifiable-implementable-teachable) defining the basic set of information (knowledge), skills (knowing how to do), attitudes (knowing how to be), and experience necessary for reaching a given level of capacity and performing a function. Thus, a competence indicates being able to do something well—measured against a standard—especially a capacity acquired through experience or training.
CanMEDS Competency framework[3]	The knowledge, skills and abilities needed for better patient outcomes.
Epstein and Hundert *(22)*	The habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and the community being served.

[1]To retrieve, visit: http://www.who.int/whr/2006/en/
[2]To retrieve, visit http://www.paho.org/hq/index.php?option=com_docman&task=doc_view&gid=23951&Itemid
[3]To retrieve, visit
http://www.royalcollege.ca/portal/page/portal/rc/common/documents/canmeds/framework/canmeds2015_framework_series_IV_e.pdf

Competency features

Six key features are important to highlight in our understanding of HWF competencies.

Competencies take time to acquire
Competencies are complex. Over time, professionals move from being novice in their competencies to experts in their competencies. The Dreyfus model *(13)*, describes the acquisition and development of a competency as passing through several levels of proficiency ranging from novice to expert. Benner *(14)* applies this to nursing competency by listing the 5 levels of competency acquisition, including: novice, advanced beginner, competent, proficient and expert. Over time, the health professional moves across the levels of competency and moves from a reliance on abstract knowledge to the application of knowledge based on concrete clinically-focused experience. These complex acts also require reasoning and judgment that can only be informed by the experience of applying knowledge and skills in practical settings with patients.

Competencies inform recruitment, evaluation and training
Competencies serve to inform standards by which performance of HWF can be assessed *(15,16)*. Whether or not regulated, it is important that competencies are made explicit. The HWF can then be made aware that, upon entry into the exercising of the profession they are agreeing to the mastery of these competencies in order to be deemed competent. In the clinical setting, these core competencies can inform job descriptions, recruitment criteria, clinically-based training programmes, monitoring and evaluation, performance reviews and promotion to leadership roles.

Competencies are measurable
Despite their complex nature, assessments of competencies are possible and available. Assessments should focus on improving the competency rather than on penalizing the lack of achievement of a certain level of competency *(10)*. Literature looking at assessing familiarity with competencies in initial education settings *(16, 17, 18)* and the literature on adult education provide valuable insights on how to conduct these assessments.

Competencies must be flexible
Just as it is important to standardize competencies it is important to recognize flexibility *(19)*. Defining competencies is important for having standards and scopes of practice but an unclear definition may compromise outcomes. A strict definition may limit innovation and change in practice as needed. Competencies need to be improved based on the changing nature of patient and population needs.

Competencies are not only clinical-technical skills
Competencies are not limited to medical-technical skills *(9)*. Rather several competencies are known as soft skills: communication, collaboration, working in teams. Defining these soft-skills competencies guide the choice of tools to strengthen them. The competency communication, for instance, can focus on tools that help the HWF in maintaining professionalism, being sensitive to cultural, political, domestic and economic circumstances and viewpoints, among others.

Competencies unite HWF
Competencies serve to distinguish the HWF from other groups of professionals (competencies of health professionals are different from those of engineers) but also to distinguish professional groups within a profession (competencies of nurses are different from those of pharmacists). There are, however, competencies that can unify and facilitate collaboration of the HWF. Several international efforts have started to identify a common set of competencies for the HWF *(20, 21)*. Their focus has been on quality and socially responsible care. In this paper we seek to identify a set of competencies needed for CIHSD.

Competencies for coordinated/integrated health services

Several compilations on HWF competencies have been identified for diseases-specific or vertical programmes: non-communicable diseases *(7)*, sexual health *(23)*, and mental health (*16*) or specific to professions *(24)*, or levels of care *(25)*. However, CIHSD invokes unique competencies that cannot narrow in on any one medical-specialty. Competencies for CIHSD need to engage HWF along a continuum of care, so they can uptake variable roles assigned in prevention and pro-active patient management, work towards management of multi-morbidities, work in teams across settings, specialities and sectors, protect and advocate for the vulnerable and ensure equitable provision of services. Despite the increasing focus on CIHSD *(26),* there is no a widely recognized set of HWF competencies for CIHSD.

This paper describes five clusters of competencies for CIHSD that provide a foundation for evaluating the performance of the HWF. These clusters are fundamental to achieving care that is appropriate, evidence-based, personalized, population-focused, comprehensive, accessible, coordinated and continuous. Table 3 lists the clusters with their accompanying core competencies. The team work and continuous learning competencies are linked to the organization of providers while effective communication and people-centred care competencies relate to the provision of services. Finally, competencies in patient advocacy correspond to the intrinsic values of the system in which the HWF operates.

Table 3: Competency clusters for coordinated/integrated health services

Competency Cluster	Core Competencies
1. PATIENT ADVOCACY Ability to promote patients' entitlement to ensure the best quality of care and empowering patients to become active participants of their health	• Advocate for the role of the patient, family members (if appropriate) in healthcare decisions. • Familiarize oneself with patients' rights (to safe, high-quality, affordable) health and social care with legal instruments**:** legal rights/civil/law; quasi-legal rights, patient charters, patients' bill of rights, consumer protection policies. • Educate people on their right to health care and their benefits. • Encourage and promote patients' broad social participation in governance of clinical setting: providing feedback on services received, building partnerships, engaging in political advocacy, promoting community leadership, collecting better data on social conditions and institutional factors, and enhancing communication for health equity. • Advocate for the incorporation of patient outcomes into organisational strategies with a special focus on vulnerable populations. • Understand the effect of disparities on health care access and quality.
2. EFFECTIVE COMMUNICATION Ability to quickly establish rapport with patients and their family members in an empathetic and sensitive manner incorporating the patients' perceived and declared culture	• Demonstrate active, emphatic listening. • Engage family members and members of patient's circle of care in health assessments and disclosures, as per patient's approval. • Convey information in a jargon-free and non-judgmental manner. • Communicate care plan options to patient in a clear manner. • Adapt the style of communication that most appropriately takes into account the impact of health conditions on a patient's ability to process and understand information. • Ensure the flow and exchange of information among the patient, family members, (if appropriate) and relevant providers is complete. • Adapt services, including evidence-based inter-professional team approaches, and mobilize resources to suit the language, cultural norms, and individual preferences of patients and family members (if appropriate). • Provide education to members of the team about the characteristics, healthcare needs, health behaviours, and views toward illness and treatment of diverse populations served in the treatment setting. • Provide health education (materials) that are appropriate to the communication style and literacy of the patients, family (if appropriate) and reinforce information provided verbally during healthcare visits.

Table 3: Competency clusters for coordinated/integrated health services (cont'd)

Competency Cluster	Core Competencies
3. TEAM WORK Ability to function effectively as a member of an inter-professional team that includes providers, patients and family members in a way that reflects an understanding of team dynamics and group/team processes in building productive working relationships and is focused on health outcomes	• Clearly identify and support roles and responsibilities of all team members, including patients. • Represent one's professional opinions and encourage other team members, including patients, to express their opinions and contribute to decision making. • Resolve differences of opinion or conflicts quickly and without acrimony. • Demonstrate practicality, flexibility, and adaptability in the process of working with others, emphasizing the achievement of treatment goals as opposed to rigid adherence to treatment models. • Link patients and family members (if appropriate) with needed resources, including but not limited to specialty healthcare, rehabilitation and social services, peer support, financial assistance, and transportation, following up to ensure that effective connections have been made. This includes arranging access to "patient navigation" services. • Support patients in considering and accessing complementary and alternative services designed to support health and wellness. • Promote diversity among the providers working in inter-professional teams.
4. PEOPLE-CENTRED CARE Ability to create conditions for providing coordinated/integrated services centred on the patients and their families' needs, values and preferences along a continuum of care and over the life-course	• Comprehend that effective care planning requires several discussions with the patient and other parties, over time. • Provide patient care that is timely, appropriate, and effective for treating health problems and promoting health. • Screen for multi-morbidity and assess cognitive impairment, mental health problems including risky, harmful or dependent use of substances and harm to self or others, abuse, neglect, and domestic violence. • Assess the nature of the patient's family (if appropriate), social supports and other socio-economic resources that impact on patient's health. • Match and adjust the type and intensity of services to the needs of the patient, ensuring the timely and unduplicated provision of care. • Balance care plan with bio-psycho-and social interventions. • Incorporate the patient's wishes, beliefs and their history as part of care plan, while minimizing the extent to which provider preconceptions of illness and treatment obscure those expressed needs. • Manage alternative and conflicting views from family (if appropriate), carers, friends and members of the multidisciplinary team to maintain focus on patient well being. • Use focused interventions to engage patients and increase their desire to improve health and adhere to care plans (e.g., motivational interviewing; motivational enhancement therapy). • Assess treatment adherence in non-judgmental manner.
5. CONTINUOUS LEARNING Ability to demonstrate reflective practice, based on the best available evidence and to assess and continually improve the services delivered as an individual provider and as a member of an interprofessional team	• Participate in practice-based learning and improvement activities that involve investigation and evaluation of patient experiences, evidence, and resources. • Regularly assess and evaluate the experiences of patients, family members (if appropriate), with respect to quality of care and adjust the delivery of care as needed including measuring patient satisfaction and healthcare outcomes maintaining a no fault/no blame schemes. • Regularly engage in interdisciplinary training for staff. • Regularly engage in continuing professional development. • Implement and routinely monitor patient safety standards. • Participate in medical audits to check for rationality of care, billing and malpractice as needed. • Identify and mobilize evidence to inform practice and integrated care. • Participate in and conduct research where possible, emphasizing need for focus on patient experiences. • Contribute to practice-based learning and improvement activities in a way that mobilizes evidence and research as much as end-user experiences. • Optimize the use of appropriate technology including e-health platforms which enables measurement and management of individual clinician, practice and system-wide performance on clinical processes and outcomes, e-prescription and electronic medication management, electronic health records, computer and web-based screening, assessment, and intervention tools, tele-health applications.

Patient's competencies

People, patients and their families can also be expected to master competencies for CIHSD. In particular, patient's competencies include making informed decisions, playing an active role in defining their care plan, complying with agreed upon treatments and, overall, taking responsibility for their own health and wellbeing. Further, patient's competencies include the ability to provide an overview of complaints, to discuss specific health goals and challenges, to use the information and to build relationships with providers, among others. HWF competencies complement and support the development of patients' competencies. While acknowledging their importance, patient's competencies are not explored here.

3. Cycle for the consolidation of competencies

Understanding how HWF competencies are consolidated provides entry points for strengthening accountability for those competencies. Figure 1 provides a sequence to the different components of a competency consolidation cycle, moving from those processes characteristically activated by the health system (shaded blue) and those by health services delivery (shared green). The distinction between these processes, related tools and stakeholders is further described to follow.

Figure 1: Competency consolidation cycle
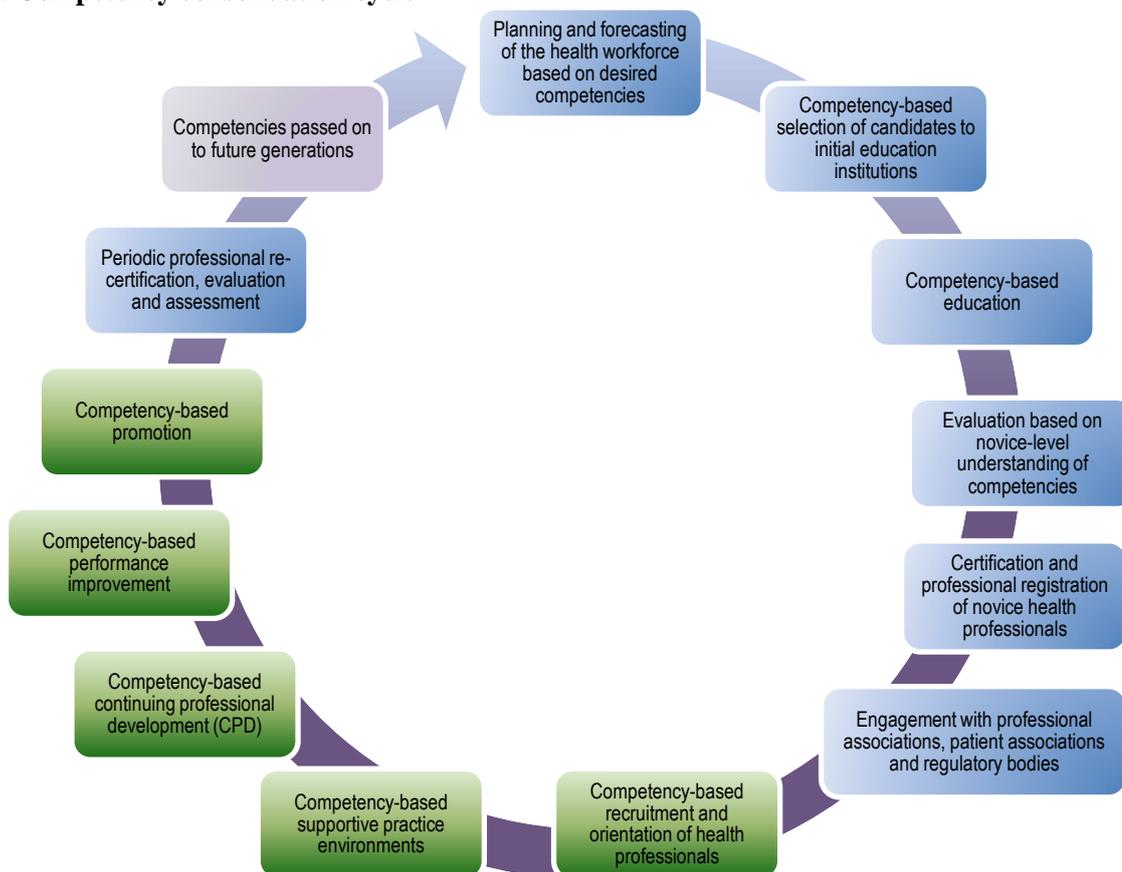
This 'ideal' cycle starts with planning and forecasting the number of HRH to be recruited to initial education institutions (colleges, universities, etc.). This is done by a ministry of health based on engagement and consultation with managers of services, health professional regulators and associations, initial education institutions and patient associations. These stakeholders have an important role to play in conveying their needs, expectations and capacities to assist with decision making around resource allocation and quotas.

At this point, the applicants to these initial educational institutions should ideally become aware of the competencies that will be expected of them as health professionals. Upon admission and during the course of their initial education, students are exposed in more depth to the competencies that they will need to apply in clinical settings. Students learn by abstraction and through lectures but also practicing in clinical settings under the supervision of certified and practicing health professionals (*27*). These competencies however will only be consolidated upon being granted entry into the practice. Exposure to and an understanding of the required competencies can, nevertheless, be evaluated in initial education settings. Successful completion of this evaluation becomes an important criterion for certification and employment in health services.

Managers of health services rely on professional regulatory bodies, the ministry of health's and education institutions for preparing health professionals during initial education and for certifying health professionals as having demonstrated a novice ability to enter into practice. These processes are able to be more competency-focused when mechanisms exist for managers of services to communicate with systems-level stakeholders on the required set of competencies. Job postings, initial training and orientation sessions are useful to identify those candidates that will best be able to consolidate the desired competencies.

Upon being recruited, it is important that health professionals are allocated the opportunity to be supported by managers, their peers and the design of services to consolidate their competencies by practice. As they become an active employee they adjust and refine their competencies based on the specific settings of care, the available resources, newly acquired knowledge and skills, patients' needs and exchange of experiences with peers. A natural process of observation, application and reflection happens for the new employees and it will continue on throughout their professional development. This natural process of observation, application and reflection is the process of lifelong learning (LLL).

In order to promote up-to-date HWF competencies, health services managers play a critical role in ensuring that competency consolidation occurs in their services and is aligned with the principles of LLL. The basic principles of LLL entail supporting the HWF in keeping up to date with clinical developments and engaging in the continuous process of reflection on whether their practice has been successful through assessments and feedback mechanisms. As competencies are consolidated according to the principles of LLL, health professionals move along a continuum of novice to expert. As experts, health professionals become an important resource to mentor, to role models, to lead and to exemplify competencies to new health professionals and to peers. In this way, they have a very important role in the consolidation of competencies, perpetuating a culture of LLL and become important agents of change in the process of innovation and the promotion of new competencies.

The cycle for consolidating competencies provides entry points for defining accountability. The ministry of health is responsible for planning and forecasting the numbers of health professionals that will be allowed into the system. Responsibility then moves on to initial education institutions that prepare the prospective HWF. Professional regulatory bodies and associations define the professional identities and expertise of the newly trained health professional through certification and re-certification. Managers of health services ensure the consolidation of competencies of HWF as per the principles of LLL. The roles and responsibilities for each stakeholder are explored in more detail in the sections to follow.

4. Service-level strategies and tools for consolidating competencies

HWF competencies are consolidated when health professionals move into clinical settings to practice their autonomous and independent roles. This section looks at the strategies and tools at the health services delivery level.

Competency-based recruitment and orientation

Competencies inform the post and its profile and guide the way new staff is recruited. Information about the competencies required for a post should be shared with candidates.

Tools deemed supportive for establishing competency-based recruitment and orientation are:
- Job descriptions that include core competencies.
- Interview panels that include patients and staff members to interview candidates on core competencies.
- Multi-format interviews that include role playing or scenario descriptions that address required competencies. These can include patients and representatives from different professions. They should be followed by debriefings that clearly emphasize the relevance of the exercise to competency expectations.
- Multidisciplinary orientation to facilities and resources to ensure multidisciplinary staff culture.
- Cross-training of new staff on service procedures to ensure multidisciplinary staff culture.

Competency-driven practice environments

According to recent findings, CIHSD requires that time, structures and resources are devoted to conduct comprehensive patient assessments, implement people-centred care plans, provide patient education, participate in team meetings and for specific roles and activities such as champion, clinical leader, and stakeholder consultations *(28)*. Additionally, creating positive practice environments in which HWF can themselves be taken care of as they tackle emotionally and physically demanding work are also important for ensuring a competent HWF and quality of care.

Tools deemed helpful in creating competency-driven practice environments are expanded on in Appendix 1 and are:
- Multidisciplinary and comprehensive assessments of patients.
- Multidisciplinary care plans.
- Shared-care protocols for health providers.
- Coordinated care transitions documents.
- Co-location of services.
- Electronic data exchange.
- Tele-monitoring and e-health applications.
- Shared registries and/or methods to track care.
- Support interventions for informal caregivers.
- Support services for HWF to anonymously debrief and seek support from counselling services.

Competency-based continuing professional development

Given that lessons learned during the initial education are often out of date within 10 years of practice, it is important that organized and structured learning continues to take place after graduation from initial education and that this learning is based on up to date evidence and developments in health service delivery. Continuing professional development (CPD) refers to learning opportunities during the health professional's career. It includes continuing medical education (CME), continued professional education (CPE) and setting based in-service training (IST). CME is generally used to designate continued

professional education for physicians while CPE is used to refer to continued professional education for other professionals *(29)*. IST is a brief learning opportunity that happen directly in the clinical setting during the health professional's work time. CPD opportunities need to occur as close to practical realities of the HWF rather than in academic centres *(29)*. They should be inquiry-based, practice-based and problem-based to promote reflection, problem solving, self-directed learning, and professional responsibility, as well as focused on the relevant issues faced by the HWF *(21)*. New ways of learning (IST, interactive CPD) facilitate interdisciplinary and intersectoral teams; move clinicians to get involved in service delivery planning facilitating those conditions needed for CIHSD. CPD is a priority area also for the European Commission *(30, 31)*.

Tools deemed helpful in establishing competency-based CPD are:
- Engaging staff to develop and/or select priorities for CPD.
- Staff information boards that include reminders and teaching aids.
- Engaging professional associations to develop CPD and IST opportunities.
- Engaging patients and patient associations in CPD activities to ensure patient needs and perspectives are included.
- Learning plans designed between managers/clinical leaders and staff.
- Online quizzes and certification courses.
- Continuous medical education CME
- Regular staff-led IST on relevant topics provided during working hours.

Competency-based performance improvement

Monitoring and evaluating HWF performance is an effective way of assessing quality of services *(29, 32)*. The HWF can be evaluated by the health professionals themselves, peers, mentors, managers and patients, as well as external authorities *(10)*.

Tools deemed helpful in establishing competency-based performance improvement are:
- Patient satisfaction surveys or feedback boxes.
- Adverse reaction or anonymous malpractice reporting.
- Annual self-evaluations that identify strengths and weaknesses in terms of competencies.
- Peer reviews.
- Annual or periodic performance reviews.
- Evaluations that include reflection of past learning plans and involve developing next phase learning plans.
- Clinical audits.
- Mentoring.
- Coaching.
- Annual performance review.
- Adverse event reports.
- Patient feedback forms.
- Organized evaluation opportunities: testing either in the form of written exams or objective structured clinical examinations (OSCE).
- Promotion of evidence-based guidelines and protocols for referring patients across services.
- Regular PDSA[1] cycles for improving practice.

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[1] PDSA cycles for testing a change by developing a plan to test the change (Plan), carrying out the test (Do), observing and learning from the consequences (Study), and determining what modifications should be made to the test (Act).

Competency-based leadership roles

Promoting individuals to assume a position of leadership either as supervisors, clinical leaders, managers and champions play an important role in consolidating competencies. Research shows that enthusiasm, compassion, openness, integrity and good relationships with patients are competencies that students seek in their role models (*33*). Role models can complement the roles of other stakeholders as outlined in the next section. By being engaged in service priorities, building exceptional levels of trust and forming collaborative relationships with peers and patients leaders pave the way for change.

Tools deemed helpful in establishing competency-based promotion are:
- Champion system/role model system that designate certain peers as having exceptional abilities and designating these people to mentor on different competencies.
- Competency-based promotion accompanied by financial compensation and increasing responsibilities.
- Certificates of recognition.
- Award ceremonies.
- Media-based tools.

5. Service-level stakeholders for consolidating competencies

This section describes the primary roles of different stakeholders at service-level for the consolidation of competencies. A summary of these roles is provided in Table 4.

Health services managers
Managers of health services are tasked with overseeing and ensuring the administration and management of clinical settings runs smoothly. They develop specific skills pertaining to their role and ensure that health services are equipped with human, physical and financial resources for the consolidation of competencies. Mangers also facilitate the conditions for other stakeholders to assume their roles and responsibilities.

HWF
All health professionals have the responsibility to consolidate and pro-actively and continuously improve their competencies in line with the principles of LLL. This means taking an active role in contributing to the recruitment and orientation of new health professionals. Providing feedback and input to developing practice environments that support their competencies. They all have a moral, if not legal, obligation to fulfil their CPD requirements and pro-actively participate in IST when they are offered. HWF proactively engage in their own professional improvement plans by allowing evaluation and assessment of their performance in a constructive manner.

Patients
Patients need to be able to identify and communicate their needs in a way that reaches the HWF in a constructive manner. Patients have their own required competencies including active role in recruitment, orientation and CPD to help the HWF better understand the patient experience and perspective. Where patients have identified a need for improvement or promotion it is important that they provide this feedback directly or through patient organizations or other civil representation.

Families and informal caregivers
The family and informal caregivers possess a more complete understanding of the patient's circumstances and needs and, therefore, they are in a privileged position to elicit those HWF competencies needed for a person-centred care.

Patient associations
Patient associations provide organized insight and represent patient experiences as potential, current and past recipients of health care. They have the responsibility of developing and strengthening the knowledge and expertise of its constituents in consolidating competencies for CIHSD.

Clinical leaders
Clinical leaders are health professionals who have assumed the role of mentors for other members of the HWF based on formal or informal recognition of their mastery of any of or all of the competencies. Clinical leaders can be from any medical profession (doctor, nurse, pharmacist, etc.). Clinical leaders support their mentees in consolidating and improving their competencies by example and peer support. Various tools exist to strengthen clinical leaders' ability to support their peers to consolidate competencies within each of the strategies identified here. Clinical leaders support interview panels, orient new staff, provide constructive feedback to their peers, identify group needs for development and improvement and share their experiences to help their peers to improve performance.

CPD educators
CPD educators are designated persons to source, develop and implement CPD training opportunities on regular basis including CME, CPE and IST. Engaging various health professions simultaneously in these learning opportunities is an effective way of maximizing multidisciplinary practice and helping different health professionals understand each other's respective roles in CIHSD.

Quality improvement teams

Quality improvement teams systematically and regularly monitor and assess managerial and clinical processes; knowledge, skills and competencies related to quality of care. They may include clinicians, managers and/or educators. Usually these teams include a range of specialities and professions. Quality improvement teams report periodically on their findings to all staff. They work closely with managers, clinical leaders and CPD educators to support the consolidation of competency during CPD opportunities and recruitment and orientation of new staff.

Health professional regulators

Health professional regulators, to be distinguished from professional associations, represent the interests of patients. They establish the criteria for entry to practice; for performance and for assessing patient complaints. Health professional regulators have traditionally played a big role in developing CPD opportunities and in service-based trainings to inform and train health professionals on required competencies. Interactions with health professional regulators are a valuable opportunity to share with health professionals, managers and all stakeholders what the main challenges and opportunities are in improving competencies. Health professional regulators are explored in more detail in section 6. Health professional regulators can provide guidance and support for the development of workplace policies *(34)*. In so doing they represent the interests of the public.

Health professional associations

Health professional associations, to be distinguished from health professional regulators, represent the interests of health professionals and specialties by promoting research, sharing knowledge, providing and developing expertise and evidence. Professional associations support the consolidation of competencies by developing CPD opportunities, in service-based trainings and disseminating relevant information and latest developments in the profession's field. Similarly to professional regulators, professional associations can provide guidance on the development of workplace policies and tools. In so doing they represent the interests of the professions. For example, the World Health Professional association has recently developed significant guidance for services in creating positive practice environments *(35)*.

Table 4: Service-level stakeholders' roles in consolidating competencies

Stakeholder	Role in consolidating competencies
Managers of institutions	• Oversee the proper functioning of all five strategies for core competency consolidation. • Develop competency-based job descriptions for recruiting the health workforce. • Orient (and/or train) new staff. • Mobilize resources for competency consolidation: time, money, space. • Determine structure of CPD education and infrastructure. • Provide performance reviews. • Annually report to steward on service performance. • Oversee translation of legislative requirements to practice. • Develop service-wide competency-based planning and monitoring structures, including service vision and strategy development.
Clinicians (health workforce)	• Help with selection of and needs assessment of new staff. • Actively participate in training opportunities offered by employer. • Actively engage patients/populations in discussions around individual service improvement. • Formally and informally engages with colleagues. • Participate in CPD offered or promoted by employer. • Pass on competencies to future HWF as mentors and peers to other health professionals. • Participate in service-wide planning and monitoring, including service vision and strategy development. • Help with recruiting and training new staff.

Table 4: Service-level stakeholders' role in consolidating competencies (cont'd)

Stakeholder	Role in consolidating competencies
Patients	• Provide feedback on services before, during and after care delivery (identifying needs). • Help with recruiting and training new staff. • Actively participate in consultations and care plan development. • Participate in developing, implementing and evaluating CPD opportunities. • Participate in service-wide planning and monitoring, including service vision and strategy development.
Family or circle of care and informal caregivers	• Provide constructive feedback on services before, during and after care delivery by clearly identifying needs. • Help with recruiting and training of new staff. • Actively participate in consultations and care plan development. • Participate in developing, implementing and evaluating CPD learning opportunities. • Participate in service-wide planning and monitoring, including service vision and strategy development.
Patient associations	• Support patients to organize their feedback in a constructive manner that speaks to competency development and strengthening. • Interact with professionals routinely at service setting. • Provide CPD or expertise necessary/guides for developing CPD and feedback mechanisms that are used to evaluate competencies. • Participate in service-wide annual reviews. • Participate in service-wide planning and monitoring, including service vision and strategy development.
Clinical leaders	• Help with training and selecting new staff. • Informally and formally coach colleagues. • Participate in CPD opportunities to optimize their role as a clinical leader. • Participate in service-wide planning and monitoring, including service vision and strategy development.
CPD educators	• Deliver IST, CPE, and CME on site. • Identify competency-relevant education materials and strategies for CPD. • Develop service-relevant education materials in various formats for daily or periodic use. • Promote competencies on a daily basis among staff. • Help with selection of new staff. • Support HWF with clinical guidelines and other training materials needed on a daily basis. • Participate in service-wide annual reviews. • Participate in service-wide planning and monitoring, including service vision and strategy development.
Quality improvement teams	• Assess quality of services in relation to competencies. • Help with selection of new staff. • Serve as a resource for clinical guidelines and other information needed on a daily basis. • Resource for CPD educators. • Participate in service-wide annual reviews. • Propose and help implement changes based on quality improvement needs. • Participate in service-wide annual reviews. • Participate in service-wide planning and monitoring, including service vision and strategy development.
Health professional regulators	• Process and assess patient / population grievances. • Provide competency-based professional self-regulation and accreditation of services. • Interact with professionals routinely to ensure they are aware of standards, regulations and expected competencies.

Table 4: Service-level stakeholders' role in consolidating competencies (cont'd)

Stakeholder	Role in consolidating competencies
Health professional associations	• Mandated to develop clinical guidelines. • Interact with professionals routinely at service setting. • Provide CPD or expertise necessary to guide developing CPD and IST.

6. System-level strategies, tools and stakeholders for consolidating competencies

In this section, the system-level enabling strategies, tools and stakeholders for consolidating competencies are described.

Developing vision-driven foundations

In addition to forecasting and planning the appropriate number of prospective health professionals, stewards establish the vision for health services. For instance, transforming health services towards CIHSD provides direction on the HWF competencies that need to be strengthened and consolidated. HRH strategies also serve as an important starting point for outlining the roles and responsibilities in the generation and management of HRH (*36, 37*) and for establishing evaluation and monitoring systems (*38, 39*).

Transforming educational models

A global independent commission on HRH education co-hared by Julio Frenk (*9*) has called for an overhaul of professional education attributing persistent gaps and inequities in health to outdated and inflexible education strategies. The commission calls for *all health professionals in all countries to be educated to mobilize knowledge and to engage in critical reasoning and ethical conduct so they are competent to participate in patient and population-centred health systems as members of locally responsive and globally connected teams*. The commission defines effective education as a three-step sequential process starting with *informative* education which entails acquisition of knowledge; followed by *formative* education whereby students are socialized around values of their work/profession; and, culminating in the ultimately desired *transformative education which* prepares students to be leaders and mobilize knowledge positive values. Transformative education requires additional investments on group learning, integrative, problem-based and community-based learning. Investment in the education, however, has been reported to be modest compared to the important role it plays in preparing a competent HWF *(40)*. Just as important is the role of regulating and evaluating education and training opportunities.

Engaging a larger community of stakeholders

A key modality to close the gap between transformative education and clinical practice is to engage current up-to-date practitioners and leaders from the services to partake in the initial education of prospective health professionals. Hastings *(12)* and Carr et al. (*41*) illustrate ways in which this engagement can and already takes place in health services. While the evidence associating improved health outcomes to an increased stakeholders' involvement at the service level is increasing *(41,42,43,44),* there is room for more evidence and improvement at the systems level (*36*).

Increasing efforts at planning and forecasting

HWF databases can collect information about the changing dynamics of the HWF (education, age and sex), employment status and composition of the HWF *(45)*. There are several methodological challenges that confront forecasting and planning (*46,47*): lack of reliable information to raise a baseline, access to information about the private sector, migration, etc. Databases are slow to account for and adjust to changes that the health sector experiences making real time assessments and longitudinal comparisons difficult. Additionally, in order to assess transformations towards CIHSD, HWF databases will need increasingly to capture processes, organization of labour, interaction between workers, among other relevant competencies (*48*).

Promoting multidisciplinary education

Evidence shows that health outcomes improve and patients are more satisfied with services if health providers coordinate their care (*49*). In order to avoid fragmentation in providing services all health providers, such as physicians, public health practitioners, nurses, midwives, health care assistants, community practitioners, pharmacists, therapists, social workers, therapists and many others, work together putting people at the centre. Initial education institutions can foster multidisciplinary culture among prospective health professionals (*9*) by setting standards for team-based care through multidisciplinary learning during initial theoretical and practical education.

Strengthening the role of regulatory bodies

Regulation is implemented to protect the public. There exist at least three areas that need to be regulated to support the consolidation of competencies: health professionals, education and CPD and health services. Accreditation is a key means used to this purpose. For instance, professional regulatory bodies license professionals. Training institutions and health services are accredited by granting licences or certificates.

Professional regulatory bodies
Self-regulation ensures quality of health professionals, services and education/training initiatives (*10*). It raises critical awareness and empowerment of health professionals. Self-regulation involves the government entering into an agreement with a professional group that assumes the responsibility to formally regulate the activities of its members. This delegated responsibility allows professional organizations to control the entry, exit and re-certification of health professionals. In the European Region "colleges" or "chambers" designate self-regulating professional bodies. Professional self-regulation avoid that governments invest on acquiring knowledge and expertise to monitor standards of practice and care. By granting professional self-regulation, governments defer monitoring and evaluation to the experts of the profession themselves. Regulatory bodies are accountable to the governments by annual reporting and sharing complaint procedures. Competencies should inform professional regulatory bodies in their assessments of health professional performance and licensing of professionals.

Regulating initial education and CPD
Education and training regulation seeks to ensure that initial knowledge and skills are held to a standard. By regulating education and training based on competencies, stewards stimulate alignment of competencies needed at services level with those promoted in the initial education. The World Federation for Medical Education (WFME) is an example of an association that has prepared guidelines for accrediting institutions based on competencies. In the European region, standards for education and training can and in some cases already are guided by the Bologna process and the European Quality Assurance Network (ENQA). Such international processes are important to further ensure that standards for initial education institutions are similar across Member States and guarantee that students are familiar with these competencies, regardless of the mobility of the HWF.

Regulating health services
Health services rely on regulators to ensure that services are up to a pre-determined standard. In addition to standards, an organization can also use an excellence designation to address those institutions that demonstrate exemplary services. With the increasing focus on HWF competencies, regulators of services can use either of these approaches for setting and rewarding standards that promote the consolidation of competencies.

Reinforcing the role of professional associations

Professional associations serve the interests of health professionals and, therefore, they have an interest in supporting HWF practice with the most current evidence. Professional associations can develop education opportunities for prospective health professional and training for current HWF in line with the

competencies deemed important for CIHSD. This should be done with a strong relationship with initial education institutions and health services managers if these efforts are to be relevant for all settings. Professional associations can support the consolidation of competencies by including their members as examiners, curriculum developers and instructors but also as representative in recruitment panels.

Enhancing mechanisms to voice patient needs

Patient associations support competencies for CIHSD as they voice the needs, concerns and appreciation of the patients, their families and caregivers. They provide feedback on the HWF's performance, support the development of health professional curricula, set benchmarks and indicators of services. Patient associations also support patients to navigate the system, to express and act on their needs in terms of treatments, approaches and delivery models, to use technology for managing their own health, ensure information sharing and social support, also for caregivers. They also help with the dissemination of relevant materials and work in consultation and in partnerships with professional regulatory bodies, professional associations, government, services and initial education institutions. Additionally, patient associations can support the development of a set of patient competencies. Despite these key expected roles, the European Patients' Forum has found that patients' organizations lack capacity to represent and convey patient needs *(50)*.

Table 5 provides an overview of tools for each strategy described above by stakeholders that at system-level support the consolidation of the competencies for CIHSD.

Table 5: System-level strategies and tools by stakeholder

Stakeholder	Strategies	Tools
Ministry of health	Competency-based HRH planning	• Engaging in planning and forecasting tools and activities with competency-based perspective[2]. • Establishing information systems and observatories for the planning, forecasting, and monitoring needs of population in respect to competencies. • Engaging stakeholders in planning and forecasting.
	CIHSD informed strategic visions	• Developing a health services strategy. • Developing an HRH strategy. • Engaging patient associations, initial education institutions, health service managers, professional associations and regulatory bodies in the development of health services and HRH strategies.
	Ensuring adequate financial resources for HWF education and training	• Consulting with regulatory bodies, service managers, patient associations, professional associations and education institutions on education and training needs. • Developing a budget for HWF education and training in consultation with all stakeholders.
Initial education institutions	Competency-based selection of applicants	• Developing selection criteria and tools based on desired competencies in close collaboration with service executives, patient associations, professional associations and colleges.
	Competency-based educational models	• Implementing transformative education models[3]. • Implementing cross-training of health professionals through multidisciplinary education opportunities. • Engaging patient associations, health services, practicing professionals, professional associations and regulatory bodies in developing and delivering initial education.

[2] http://euhwforce.weebly.com/
[3] http://whoeducationguidelines.org/content/guidelines-order-and-download

Table 5: System-level strategies and tools by stakeholder (cont'd)

Stakeholder	Strategies	Tools
Initial education institutions	Competency-based evaluation (novice level)	• Developing and implementing a diverse set of evaluation tools to capture novice-level familiarity with competencies (*22*). • Engaging patient associations, health services, practicing professionals, professional associations and regulatory bodies in evaluating novice-level familiarity with competencies.
Health professional regulators	Certification of health professionals	• Developing, implementing and/or accrediting examinations targeted for graduating health professionals. • Developing core competencies in close collaboration with professional associations, patient associations and service executives. • Participating in policy dialogs. • Making these certification standards available to the public and the HWF.
	Registration of health professionals	• Managing a roster of health professionals. • Ensuring that licenses are up to date. • Ensuring that CPD requirements are adhered to. • Making these registration requirements available to the public and the HWF.
	Re-certification of health professionals	• Developing periodic re-certification examinations for health professionals. • Making these re-certification criteria available to the public and the HWF.
	Assessment of health professionals fit for practice	• Developing a strategy for assessing competencies of the profession in question based on multi-stakeholder consultations to improve health outcomes. • Negotiating disciplinary measures of health professionals on an as needed basis. • Publically reporting safety issues to the public related to professional conduct and standards of care.
Education and training regulators	Accrediting initial education institutions for preparing HWF according to desired competencies	• Providing approval and recognition to training institutions that abide to competency standards. • Liaising with health services to ensure that standards correspond with practice needs. • Ensuring that standards are kept up by periodic monitoring and assessments. • Promoting training institutions that support competency consolidation.
	Accrediting CPD opportunities for preparing HWF according to desired CIHSD competencies	• Providing approval and recognition for CPD opportunities that abide to competency standards. • Liaising with health services to ensure that standards correspond with practice needs. • Ensuring that standards are kept up by periodic monitoring and assessments. • Promoting CPD opportunities that can help support competency consolidation.
Health services regulators	Accrediting services for ability to support HWF in consolidation of competencies	• Providing approval and recognition of institutions that abide to competency consolidation standards. • Liaising with health services to ensure that standards correspond with practice needs. • Ensuring that standards are kept up by periodic monitoring and assessments. • Promoting services that support competencyies.

Table 5: System-level strategies and tools by stakeholder (cont'd)

Stakeholder	Strategies	Tools
Health professional associations	Generating evidence and clinical guidelines	• Developing clinical guidelines specific to developing CIHSD competencies in close consultation with health services and initial education stakeholders. • Developing clinical guidelines that include but are not limited to CIHSD principles. • Developing an evidence base for professional contributions to improved health outcomes. • Sharing this intelligence through policy dialogs.
	Strengthening initial education and CPD opportunities	• Developing education opportunities for prospective health professional and training for current HWF in line with the competencies deemed important for services. • Facilitating the inclusion of professionals as examiners, curriculum developers, and instructors in education or training activities that strengthen competencies.
	Representing professional interests	• Participating in policy dialogs. • Developing core competencies in close collaboration with patient associations, professional colleges and service managers.
Patient associations	Competency-based clinical decision support and activities for health professionals	• Developing evidence and best practice guidelines in regards to CIHSD competencies. • Providing guidance and tools for health professionals to prepare for evaluations and assessments of their competencies. • Developing core competencies in close collaboration with professional associations, professional colleges and service executives. • Sharing this intelligence through policy dialogs • Helping define indicators for health services to be monitored by stewards.
	Supporting patients to actively engage in health services delivery	• Identifying and developing intelligence around patient competencies. • Developing outreach to keep patients informed on their rights and responsibilities in services delivery. • Providing patients with tools for strengthening their competencies.
	Providing competency relevant expertise for design of health systems and health services	• Developing patient advocacy campaigns. • Establishing constructive mechanisms for patients to provide feedback on health systems and health services design.

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Annex 1: Tools for supporting competency-based practice environments

Tools	Application	Outcomes addressed
1. Multidisciplinary & comprehensive assessments	▪ Use of multidimensional, multi-disciplinary diagnostic instruments designed to collect data on the medical, psycho-social and functional capabilities and limitations of patients. ▪ It emphasizes functional status and quality of life.	▪ Prevention of re-admissions. ▪ Understanding needs of patients. ▪ Improved health outcomes.
2. Multidisciplinary care plans	▪ Cross-discipline problem-solving. ▪ Case conferences.	▪ Increased efficiency and effectiveness of care. ▪ Improved health outcomes.
3. Shared-care protocols	▪ Dissemination of local referral guidelines. ▪ Outlines ways in which the responsibilities for managing care or the prescribing of a medicine can be shared between the specialist and a primary care prescriber.	▪ Improved care co-ordination. ▪ To facilitate the seamless transfer of individual patient care from secondary care to general practice. ▪ Improved health outcomes.
4. Coordinated care transitions documents	▪ Medication reconciliation. ▪ Discharge protocol. ▪ Standardized discharge letter. ▪ Use of electronic discharge notifications. ▪ Web-based access to discharge information for general practitioners. ▪ Electronic tools to facilitate quick, clear, and structured summary generation. ▪ Patient education.	▪ Improved care co-ordination. ▪ Improved health outcomes.
5. Coordinated home and community health documents	▪ Home visits/continuous contact with patients. ▪ Referral tracking. ▪ Early post-discharge and frequent contacts. ▪ Patient education. ▪ Use of multicultural health workers in chronic disease prevention and self-management. ▪ Interagency coordinating committees or intersectoral/interface workers engaged in joint service planning. ▪ Formalised interagency collaborative agreement. ▪ A single care plan in which the responsibilities of all agencies are described. ▪ The adoption of evidence-based guidelines. ▪ Social support interventions.	▪ Improved health outcomes.

Annex 1: Tools for supporting competency-based practice environments (cont'd)

Tools	Application	Outcomes addressed
6. Competency-based task delegation	▪ The assignment of responsibility or authority to another person to carry out specific activities. ▪ Titration of medications by following a protocol.	▪ Improved health outcomes.
7. Co-location of services	▪ Colocation with other providers and services in the same setting. ▪ Business arrangements among providers, including the use of contracts, interagency agreements, and administrative and financial services such as intake, support and other staff, billing, and appointment scheduling. ▪ Use of common case managers or care coordinators, consultations, joint case reviews, and concurrent treatments. ▪ Maintaining separate systems but allowing providers access to one another's records, use of detailed referral forms, and the keeping of separate but common records.	▪ Improved coordination of care. ▪ Improved access to services for patients (important for "stigmatized" services). ▪ Increased satisfaction of patients. ▪ Increased satisfaction of all providers. ▪ Greater acceptance by patients of referral to mental health services. ▪ Increased communication with other co-located providers. ▪ Improved referrals (appropriate, timely, and with higher completion rates).
8. Electronic data exchange	• Computer-to-computer exchange of documents between healthcare providers.	• Increased adherence to treatments and care plans.
9. Tele-monitoring and e-health applications	▪ The remote collection of multiple data parameters through peripheral equipment (including blood pressure, heart rate, pulse oximetry, peak flow measurements, glucometer readings, digital stethoscopy, ECG tracings, which is relayed to healthcare personnel for review and interpretation. ▪ The use of communication technology to remotely monitor health status. ▪ Personal health records. ▪ Tele-monitoring can include real-time video monitoring, both for activity surveillance and to simulate an actual face-to-face visit. Video can be utilized for patient educational purposes and to obtain visual information such as an evaluation of general appearance and for monitoring of wound care. Additionally, troubleshooting malfunctions of equipment and guidance (or retraining) on the use of equipment can be performed via videoconferencing.	• Decrease in mortality. • Reductions in hospital readmission rates. • Reduction in emergency department visits. • Reduction disease exacerbations. • Fewer bed-days of care. • Quality-of-life scores. • Increase in knowledge of disease.

Annex 1: Tools for supporting competency-based practice environments (cont'd)

Tools	Application	Outcomes addressed
10. Shared registries and/or methods to track care/health	▪ Common quality assurance protocols.	▪ Increased adherence to treatments and care plans.
11. Established fora in which patients are involved in decision making	▪ Shared control of the consultation. ▪ Decisions about interventions or management of the health problems with the patient. ▪ Focus in the consultation on the patient as a whole person who has individual preferences situated within social contexts (in contrast to a focus in the consultation on a body part or disease). ▪ Team meetings.	▪ Quality-of-life scores. ▪ Increase in knowledge of disease. ▪ Matching care with patient needs. ▪ Increased adherence to treatments and care plans.
12. Patient education/self-management tools and materials	▪ Face-to-face tailored messaging. ▪ Traditional lectures. ▪ Discussions. ▪ Simulated games. ▪ Computer technology. ▪ Written material. ▪ Audiovisual sources. ▪ Verbal recall. ▪ Role playing. ▪ Use of 'easy' read information leaflets. ▪ Education to promote self-medication. ▪ Telephone support is the direct interaction between the patient and the healthcare professional on either a scheduled or acute basis to discuss symptomatology and provide instruction and education.	▪ Improved health literacy and communication. ▪ Decreased anxiety. ▪ Increased satisfaction.
13. Support tools for informal caregivers	▪ The provision of information used to guide or advise. ▪ The provision of material goods (e.g., transportation, money, or physical assistance). ▪ Emotional support involves verbal and nonverbal communication of caring and concern.	▪ Reduction of distress by restoring self-esteem and permitting the expression of feelings. ▪ To enhance perceptions of control by reducing confusion and providing caregivers with strategies to cope with their difficulties.
14. Support services for HWF	▪ Anonymous phone lines for HWF to seek counselling on professional development and self-management. ▪ Staff meetings. ▪ Subsidized CBT and mental health services for HWF.	▪ Increased coping strategies among HWF. ▪ Increased satisfaction and retention among HWF. ▪ Increased productivity.

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