

FIP Global Competency Framework (GbCFv2) handbook

Supporting early career training strategy

2023



Colophon

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Foreword

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Today's ever-changing environment has necessitated special attention to be directed to early career pharmacists as it is imperative that we constantly update emerging new roles of practice and have the required competency skills available. This also comes during an unprecedented historical time of our generation as we combat the COVID-19 pandemic. Self-isolation has completely changed human relationships in our culture of learning, working, and communication. We need to ensure that early career pharmacists are equipped to adopt and adapt to the new environment and new roles of pharmacists. The FIP Global Competency Framework (GbCF) handbook incorporates new competency skills that will contribute towards supporting foundation level practitioners to develop in areas of digital literacy, humanitarian response and inter-professional collaboration.

Workforce development is key in advancing our profession to improve the health and well-being of our populations. There is no "health for all" without workforce, and there is no workforce without education. Only with education and training can the pharmaceutical workforce keep up with the pace of emerging new roles of practice. The development of an adaptable, flexible, and competent pharmaceutical workforce will contribute towards achieving Universal Health Coverage, Sustainable Development Goals and strengthening health systems. FIP commits to leading the way to this promising future of healthcare as "One FIP" — with trust, solidarity and actions.

Long live pharmacy! Long live FIP!

Foreword



Prof. Ian Bates, FRPharmS, FFRPS, FFIP, FRSS, FRSPH

Director, FIP Hub

Director, FIP Global Observatory

A competent and capable practitioner workforce is an essential pre-requisite for all health care professions, especially with pharmacy where we are called upon to deal with ever more complex medicines and technologies. The capacity to improve therapeutic outcomes, patients' quality of life, scientific advancement and enhancement of our public health imperatives are dependent on establishing and identifying both scope of practice and the underlying competences needed to deliver that scope. Trainees, our early year practitioners and those returning to work following career breaks are all in need of a clear and accessible set of competencies on which to base practitioner development.

Competency development frameworks, comprising a structured assembly of behavioural competencies, are increasingly essential in professional healthcare education, driven by the need for transparency in the training, development and professional recognition of healthcare professionals. The evidence to support their routine use in professional development is unequivocal^{1,2}.

Our own profession was one of the first health professions to apply these concepts universally for developing a global competency framework. FIP has a clear mission to ensure that pharmaceutical health competencies are globally applicable and transferable, accessible and transparent. FIP believes that common standards and competencies can be defined for core pharmacy education and training, taking into account the variations of countries due to the differences in culture and socio-economic conditions. The scientific basis of pharmacy is universal.

FIP had previously, and successfully, introduced the pharmacy Global Competency Framework (GbCF) in 2012. Since then, the framework has been adopted and adapted by many countries worldwide and served as a foundation for describing core scope of practice and career development planning. Ten years on, it was time for a revised edition and following an extensive review and revision process, the GbCFv2 was launched in 2021. The majority of the framework remains robust in the descriptions of core elements. The revised version 2 now includes additional competencies for digital provision, a greater focus on public health orientated services, emergency responsiveness, and other important developments such as leadership and self-regulation.

The revised GbCFv2 edition continues to provide support for members and organisations. However, to make best use of this important tool, then an understanding of ways to access and to implement would be helpful – for both individuals and organisations (such as professional leadership organisations). This Handbook brings together chapters on the revision processes (for transparency and validity) and importantly narratives and case studies on how members and leadership bodies have addressed the “adopt and adapt” approach, in the expectation that others can learn rapidly from these cases.

This Handbook is intended to be helpful and informative for those who are using the GbCF and those who are following the evidence and wish to adopt it as a career and professional development tool.

Please do contact FIP if you want to contribute to further case studies or to be involved in our other global initiative projects like this.

¹ Udoh A., Bruno-Tomé A., Ernowati D., Galbraith K., Bates I. The Development, Validity and Applicability to Practice of Pharmacy-related Competency Frameworks: A Systematic Review. <https://doi.org/10.1016/j.sapharm.2021.02.014>

² Udoh A., Bruno-Tomé A., Ernowati D., Galbraith K., Bates I. The Effectiveness and Impact on Performance of Pharmacy-related Competency Development Frameworks: A Systematic Review and Meta-Analysis. <https://doi.org/10.1016/j.sapharm.2021.02.008>

1 Executive summary- on the development of GbCF 2020

1.1 What is the GbCF?

The FIP Global Competency Framework (GbCF) was first developed in 2012 ([Version 1](#)) containing a structured assembly of behavioural competencies that can contribute towards supporting foundation level practitioner development. The GbCF is a validated framework intended to act as a “mapping tool” for individuals to progress towards effective and sustained performance and to pave the way into [advanced practice](#).

The FIP current workforce policy suggests that special attention is directed to “early career pharmacists” (the immediate post-licensure foundational period of perhaps 1 to 2 years). The GbCF is designed as a focused support structure for our younger professionals.

The GbCF originally constituted 100 behaviours grouped under 20 competency domains and four broad competency clusters that are generally applicable for the pharmacy workforce worldwide.

With the expansion of the type of services that pharmacists may provide to their patients and the advances in technology and therapeutics, revising and updating the GbCF is imperative.

1.2 How was the GbCF Version 2 reviewed and revised?

In 2019, the FIP Workforce Development Hub (WDH), working with the Global Leads on Early Career Training Strategy, were tasked to review and revise the first version of the GbCF. Over 8 months, the core team (comprising the FIP WDH Director, Hub Leads and external experts) conducted an iterative review process (Figure 1).

In September 2020, revisions to the GbCF were completed and the updated version labelled as GbCF Version 2 (GbCFv2). The number of behavioural statements increased to 123 behavioral statements, with 23 competency domains but remain structured within four broad competency clusters (Figure 2).

In September 2020, the GbCF Version 2 (Table 1) was launched to FIP members and stakeholders during the FIP Virtual 2020. The GbCFv2 is an open-access document ([in workforce reference guide](#)). In 2021, the Hub will be expanding this framework into a handbook that will contain an additional package of support resources and guidelines on implementation at individual, institutional and national levels. However, the interests of members can best be served by publishing the revised framework in advance.

1.3 How can the GbCF Version 2 be used?

For our national member organisations and partners, the GbCFv2 is designed to be adopted and adapted for registered pharmacists to assist with their career progression.

FIP is able to support professional leadership bodies directly with an adoption and adaptation process, enabling ownership at national level, through the FIP [Workforce Transformation Programme \(WTP\)](#).

The implementation of the GbCFv2 not only supports our individual members in their career progression but is crucial for progress towards meeting the FIP Global Vision for Pharmaceutical Workforce & Education and the [FIP Development Goals](#) (FIP DGs), particularly FIP DG 2: Early career training strategy. Implementing the GbCF Version 2 is a direct contribution to national progression of workforce elements for FIP Development Goals 4, 5, 6, 7, 8, 9 and 11.

1.4 How can you get involved?

FIP's WDH team welcomes your interest in the GbCFV2 and if you wish to express ideas, provide comments or looking to consult one of our members you can directly communicate please email us at education@fip.org or wtp@fip.org

2 Context and drivers for the revision of the FIP GbCF

2.1 Aim of the project

Access to high quality healthcare services can only be provided by a competent workforce. A competent workforce is fundamental in strengthening nations' health systems, and progress towards Universal Health Coverage by 2030. In focus, UNESCO's Sustainable Development Goal 4: Quality Education- "Ensure inclusive and equitable quality education and promote lifelong learning opportunities" and SDG 3: Ensure healthy lives and promote well-being for all at all ages are fundamental goals for a more sustainable future for all.¹

The pharmaceutical workforce plays a key role in improving health outcomes through responsible use of medicines and optimising effective choice and use.² Therefore, investment in the pharmaceutical workforce is an imperative to address gaps and progress its infrastructure. An important aspect of this investment is through the development (through education and training) of the pharmaceutical workforce from early career stages in the workforce to advanced practice and specialist levels.

The pharmaceutical workforce refers to the whole of the pharmacy-related workforce working in a diversity of settings with a diversity of scope of practice.² Early career training is the second [FIP Development Goal \(DG2\)](#) advocating infrastructures for the early post-registration (post-licensing) years of the pharmaceutical workforce as a basis for consolidating initial education and training and progressing the novice workforce towards advanced practice.²

This project aimed to revise and update FIP's 2012 Global Competency Framework (GbCF) and to transform it into a training or developmental tool for early-career pharmacists. The GbCF targets pharmacists in post-graduation practice, beyond "Day 1" of employment, and encompassing up to (approximately) the first 3 years of career development. In their early years in practice, pharmacists build the knowledge, skills, and behaviours required to advance in their careers and to become competent healthcare professionals. Competent pharmacists have the potential to improve therapeutic outcomes and patients' quality of life.

Given the importance of strategising the development of early-career pharmacists competencies, building on the knowledge and skills gained in their undergraduate education, FIP through this handbook presents a collection of examples from different practice /academic settings and across different countries on ways the GbCF has been utilised in endeavours to advance the pharmaceutical workforce.

2.2 The Astana Declaration towards Universal Health Coverage

FIP acknowledges the Astana Declaration on Primary Health Care (PHC) towards achieving Universal Health Coverage (UHC) and the United Nations (UN) Sustainable Development Goals (SDGs). FIP's acknowledgment and endorsement of the Astana Declaration on PHC and UHC permeate FIP's Strategic Goals and the [FIP Development Goals](#) to advance pharmacy (the profession) and pharmacists nationally, regionally, and globally. The FIP Development Goals are a key resource for transforming the pharmacy profession, grounded in the SDGs to stimulate solidarity and action towards the UN's 2030 Vision for the world at large. In health, the 2030 vision entails promoting physical and mental health and well-being, and to extend life expectancy for all, through achieving UHC and access to quality health care.

FIP is committed to supporting global health by enabling the advancement of pharmaceutical practice, sciences, and workforce and education. These commitments are set to transform pharmacy in alignment with wider global imperatives underpinning the UN SDGs.

2.3 A competent, safe, and efficient pharmaceutical workforce for PHC

The World Health Organisation (WHO) estimates a projected shortfall of 18 million health workers by 2030 - mostly in low- and lower-middle-income countries, prompting worldwide strategies to address this challenge including a focus on difficulties in education, training, and performance of the health workforce.³ The WHO-Global strategy for the healthcare workforce 2030 clearly illustrates that health systems in any country can only function with an available, accessible, and acceptable health workforce, equipped with competencies necessary to deliver quality care.³

The pharmaceutical workforce plays a key role in improving health outcomes through responsible use of medicines and optimising effective choice and use.⁴ In many countries, pharmacists are considered to be the most accessible healthcare professionals. As the third most skilled, and in many cases the first point of contact within the healthcare system, pharmacists are essential providers of the healthcare workforce.

In recognising the strong emphasis on health care system strengthening and the importance of a supportive, efficient, and competent pharmaceutical health workforce for quality patient care delivery, FIP spearheads the development and evaluation of various evidence-based supportive tools and frameworks that can guide the advancement of the pharmaceutical workforce. The recommended FIP approach for applying these tools, frameworks, and mechanisms in a country, institution, or professional body, is to “adopt and adapt” FIP guidance. By this, it is instigated that members of the pharmaceutical workforce and pharmacy stakeholders must tailor FIP guidance to suit local, and regional needs and priorities in what is relevant and applicable to the workforce and patient care.

In particular, interest in competency development (which coincides with FIP Development Goal 5) of pharmacists and student pharmacists has escalated in recent decades. With multifaceted disturbances in the health care service and delivery landscape in many countries, and complicated by increasing technological, digital, economic, and societal demands, inevitably, the skills, knowledge, and attitudes (competencies) required by pharmacists continue to evolve to meet the evolving needs of patients and societies. It is therefore imperative to consider the question of what generic competencies may be most required by pharmacists for safe, effective, and consistent performance within the limits and a defined level of professional practice? And whilst there is consensus that these competencies will evolve and change with time (and they do), many will remain fundamental for practicing pharmacists to enact them regardless of time and place (to a certain extent).

2.4 A global competency framework for early career pharmacists – the inception of version 1

Competency frameworks in the health professions, including pharmacy, provide a blueprint of the required standards of practice, benchmarks of work accountability, and career progression pathways.⁵ In addition, competency frameworks provide often needed guidance and structure within which curricular and education and training activities are. Competency frameworks typically cluster behavioural competencies (knowledge, skills, attitudes and values) into blocks of overarching competency areas are not foreign tools used in pharmacist competency education, training and development. From the FIP library, three competency frameworks have been developed in recent times to support the pharmaceutical workforce. These are the FIP Global Competency Framework (GbCF)- Table 3, The [FIP Global Advanced Development Framework \(GADF\)](#), and most recently the [FIP Global Humanitarian Competency Framework](#). This Handbook focuses on the FIP GbCF.

In 2012, FIP developed the [initial version](#) of the GbCF for services provided by the pharmacy workforce to act as a mapping tool and can be adapted according to the country or local needs. The GbCF is divided into domains (or clusters), competencies, and behavioural competencies (Figure 1). This framework targets pharmacists in post-graduation practice, beyond “Day 1” of employment, and encompassing up to (approximately) the first 3 years of career development. In their early years in practice, pharmacists build the knowledge, skills, and behaviours required to advance in their career and to become competent healthcare professionals. Competent pharmacists have the potential to improve therapeutic outcomes and patients' quality of life. An overview of the development of the first version of the GbCF is detailed in this [document](#).

Figure 1 Domains and illustrative competencies from the GbCF v1

The literature reveals the GbCF is multi-purposed and its usefulness ranges from curriculum development and pre-registration programmes, continuing professional development (CPD), development of specialisation, and advanced

Scientific knowledge	
Pharmaceutical Public Health Health promotion Medicine information and advice	Pharmaceutical Care Assessment of medicines; Compounding medicines; Dispensing; Medicines; Monitor medicines therapy; Patient consultation & diagnosis
Population Focus	Patient Focus
System Focus	Practice Focus
Organisation and Management Budget and reimbursement; Human resources management; improvement of service; Procurement; Supply chain and management; Workplace management	Professional/Personal Communication skills; CPD; Legal and regulatory practice; Professional and ethical practice; Quality assurance and research in the workplace; Self-management
Management knowledge	

practice, as well as a benchmark for the pharmacist role.⁶ Several countries have used the GbCF as a base for their frameworks, including Chile, Croatia, Jordan, Serbia (including collaborating with other health care professionals), Thailand, and the UK.⁶

2.5 The FIP Global Competency Framework for early career pharmacists – revision and update to version 2

In 2019, the FIP Workforce Development Hub (WDH), working with Global Leads on Early Career Training Strategy (FIP Global Development Goal 2), conducted a review of the 2012 GbCF. Over 8 months, the core team (comprising the FIP WDH Director, Hub Leads and external experts) conducted an iterative, consensus-driven, review process to update the GbCF. It became apparent that the inclusion of new and revised behavioural statements would be extremely valuable to reflect contemporary practice, service and patient needs as well as for improving patient outcomes, but such skills positively affect pharmacists' professional development and job satisfaction.

The behavioural statements describe a generic set of competencies considered necessary for the scope of practice for early career pharmacists (within circa 3 years from licensure); these competencies would also apply to pharmacists needing baseline guidance on general competencies.

Due to the generic nature of the statements, they can be adopted and adapted to various practice situations and to enrich learning and development opportunities for pharmacists and their teams. These competencies are a useful reference for educators and managers seeking to provide continuing professional development pathways particularly for early career pharmacists.

Summaries of new competencies and updates on the existing behavioural statements are presented in Table 1 and Table 2.

Table 1 Summary of new competencies and behaviors in the GbCF 2020 version 2

NEW Competencies in GbCF 2020	Behaviours
1.1 Emergency response	1.1.1 Participate in the response to public health emergencies
	1.1.2 Assist the multidisciplinary healthcare teams in emergency situations
1.2 Health promotion	1.2.3 Identify and support national and local health priorities and initiatives
1.3 Medicines information and advice	1.3.3 Support the patient's use of health information technologies and digital communication (including IT driven health solutions)
2.1 Assessment of medicines	2.1.1 Gather, analyse, research, and interpret information about the patient and patient's medicines-related needs (e.g. indication, effectiveness, safety and adherence)
	2.1.2. Retrieve relevant patient information (including drug history, or immunisation status for example) and record of allergies to medicines and Adverse Drug Reactions (ADR) in medication record
2.6 Patient consultation and diagnosis	2.6.4 Evaluate, assess, and develop health literacy education and counselling on medicines and healthcare needs
3.5 Supply chain management	3.5.7 Mitigate risk of medicines shortages and stock outs through liaison and appropriate communication with healthcare staff, healthcare stakeholders, clients/customers and patients
4.2 Continuing Professional Development (CPD)	4.2.9 Demonstrate engagement/participation in professional development and lifelong learning activities
4.3 Digital literacy	4.3.1 Identify, manage, organise, store, and share digital information
	4.3.2 Critically appraise, analyse, evaluate, and/or interpret digital information and their sources
	4.3.3 Where applicable, participate in digital health services that promote health outcomes and engage with digital technologies (e.g. social media platforms & mobile applications) to facilitate discussions with the patient and others
	4.3.4 Maintain patient privacy and security of digital information related to the patient and workplace
4.4 Interprofessional collaboration	4.4.1 Respect and acknowledge the expertise, roles and responsibilities of colleagues and other health professionals
	4.4.2 Participate, collaborate, advise in therapeutic decision-making, and use appropriate referral in a multi-disciplinary team*
	4.4.3 Engage in collaborative practice, research and service provision to optimise patient health outcomes
	4.4.4 Engage in relationship-building with health professionals allowing conflict resolution, teamwork, communication, and consultation
	4.4.5 Demonstrate mutual respect and adopt shared values of the workplace and toward patient care
4.5. Leadership and self-regulation	4.5.6 Recognise and describe emotional information about self and others (e.g. self-awareness, self-regulation, motivation, social skills and empathy)
	4.5.7 Demonstrate flexibility and adaptability to a variety of conditions and circumstances

	4.5.8 Recognise when affected by setbacks or stress and manage with effective coping strategies (resilience)
4.7. Professional and ethical practice	4.7.2 Fulfil duty of care to the patient and the public
	4.7.4 Comply with patient privacy legislation including documentation of information
	4.7.5 Consider available evidence and support the patient to make informed choices about medicine use
	4.7.9 Demonstrate awareness of socially accountable practice (including cultural and social needs; cultural safety, respect, and responsiveness; diversity, equity and inclusiveness)

* Moved from the 'Human Resources management' competency group found in GbCF 2012.

Table 2 Summary of updated competencies and behaviours in GbCF 2020 version 2

Competency	Behaviours	
	GbCF 2012	GbCF 2020 version 2
1.2 Health promotion	1.1.1 Assess the primary healthcare needs (taking into account the cultural and social setting of the patient)	1.2.1 Assess the patient's/population's primary healthcare needs (taking into account the cultural and social setting of the patient/populations)
	1.1.2 Advise on health promotion, disease prevention and control, and healthy lifestyle	1.2.2 Advise and provide services directly associated with public health provision; disease prevention and control (e.g. vaccination services provision); and healthy lifestyle.
1.3 Medicines information and advice	1.2.2 Identify sources, retrieve, evaluate, organise, assess and disseminate relevant medicines information according to the needs of patients and clients and provide appropriate information	1.3.2 Identify sources, retrieve, evaluate, organise, assess and provide relevant and appropriate medicines information according to the needs of patients and clients
2.1 Assessment of medicines	2.1.2 Identify, prioritise and act upon medicine-medicine interactions; medicine-disease interactions; medicine-patient interactions; medicines-food interactions	2.1.3 Identify, prioritise, resolve and follow up on medicine-medicine interactions; medicine-disease interactions; medicine-patient interactions; medicines-food interactions
2.3 Dispensing	2.3.1 Accurately dispense medicines for prescribed and/or minor ailments and monitor the dispense (re-checking the medicines)	2.3.1 Accurately dispense medicines for prescribed and/or minor ailments, including an embedded checking process
2.5 Monitor medicines therapy	2.5.2 Ensure therapeutic medicines monitoring, impact and outcomes (including objective and subjective measures)	2.5.2 Apply therapeutic medicines monitoring and assess impact, and outcomes (including objective and subjective measures)
2.6 Patient consultation and diagnosis	2.6.1 Apply first aid and act upon arranging follow-up care	2.6.1 Support urgent care needs (physical and mental) of patients and others and act upon arranging follow-up care

	2.6. Assess and diagnose based on objective and subjective measures	2.6.3 Assess and diagnose based on objective and subjective measures (where applicable)
	2.6.5 Document any intervention (e.g. document allergies, medicines and food in the patient medicines history)	2.6.6 Document any intervention (e.g. document allergies, such as from medicines and nutrition in the patient's medicines history)
3.1 Budget and reimbursement	3.1.1 Acknowledge the organisational structure	3.1.1 Acknowledge the workplace organisational structure
	3.1.3 Ensure appropriate claims for the reimbursement	3.1.3 Manage appropriate claims for reimbursements
3.2 Human resources management	3.2.1 Demonstrate organisational and management knowledge (e.g. know, understand and lead on medicines management, risk management, self-management, time management, people management, project management, policy management)	3.2.1 Demonstrate organisational and management skills (e.g. plan, organise and lead on medicines management; risk management; self-management; time management; people management; project management; policy management.)
3.4 Procurement		3.4.5 Identify and select reliable supplier(s)
	3.4.5 Select reliable supplies of high-quality products (including appropriate selection process, cost effectiveness, timely delivery)	3.4.6 Select reliable supply of high-quality products (including appropriate selection and procurement processes, cost effectiveness, timely delivery)
3.5 Supply chain management	3.5.2 Ensure accurate verification of rolling stocks	3.5.2 Verify the accuracy of rolling stocks
4.1 Communication skills	4.1.3 Demonstrate cultural awareness and sensitivity	4.1.3 Tailor communication that is appropriate to the patient's needs (including health literacy, cultural or language barriers, social needs, and emotional status)
	4.1.4 Tailor communications to patient needs 4.1.5	
4.2 Continuing Professional Development (CPD)	4.2.6 Identify learning needs	4.2.4 Identify learning and development needs
	4.2.4 Evaluate learning	4.2.5 Evaluate learning and development progress
	4.2.5 Identify if expertise needed outside the scope of knowledge	4.2.6 Identify if expertise is needed outside current scope of knowledge
4.6 Legal and regulatory practice	4.3.2 Apply knowledge in relation to the principals of business economics and intellectual property rights including the basics of patent interpretation	4.6.2 Apply the principles of business economics and intellectual property rights including the basics of patent interpretation
	4.3.5 Demonstrate knowledge in marketing and sales	4.6.5 Apply the principles of marketing and sales
	4.3.7 Understand the steps needed to bring a medicinal product to the market including the safety, quality, efficacy, and pharmacoeconomic assessments of the product	4.6.7 Recognise the steps needed to bring a medical device or medicine to the market including the safety, quality, efficacy and pharmacoeconomic assessments of the product
4.7. Professional and ethical practice	4.4.1 Demonstrate awareness of local/national codes of ethics	4.7.1 Demonstrate awareness and employment of local/national codes of ethics

	4.4.2 Ensure confidentiality (with the patient and other healthcare professional)	4.7.3 Maintain privacy and confidentiality (with the patient and other healthcare professionals)
	4.4.5 Take responsibility of own action and for patient care	4.7.8 Demonstrate professional responsibility for all decisions made and actions taken
	4.4.4 Recognise own professional limitation	4.7.7 Recognise professional limitations of self and others in the team
4.8. Quality assurance and research in the workplace	4.5.1 Apply research findings and understand the benefits risk (e.g. pre-clinical, clinical trials, experimental clinical-pharmacological research and risk management)	4.8.1 Apply research findings and understand risk-benefit analyses (e.g. pre-clinical, clinical trials, experimental clinical pharmacological research, and risk management)
	4.5.2 Audit quality of service (ensure that they meet local and national standards and specifications)	4.8.2 Audit quality of service (meet local and national standards and specifications)
	4.5.5 Ensure medicines are not counterfeit and quality standards	4.8.5 Ensure medicines are not counterfeit and adhere to quality standards
4.5. Leadership and self-regulation	4.6.4 Ensure punctuality	4.5.4 Prioritise work, practice punctuality and time management
	4.6.5 Prioritise work and implement innovative ideas	4.5.5 Develop, implement and monitor innovative ideas

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3 GbCF revision process

The FIP GbCF revision and update followed an iterative review process that involved several expert panels from around the globe. The revised version is labelled as FIP GbCF version2 (Figure 2).

Phase one

The initial revision process was conducted by DG2 Leads (AA, DB and SM). In this phase, DG2 Leads carried out a scoping review of contemporary pharmacists' roles based on literature search, the existing GbCF as a reference document and the expertise shared by the three DG2 Leads. The DG2 Leads provided varied knowledge and perspectives as each one of them either worked with or trained early career pharmacists in a different country and region. Whilst it was recognised to define pharmacist's role is fraught with difficulties, as much seems to depend on context, sector of work, pharmacist's career stage and experience [1, 2], commonalities were identified and supported by current literature. Data in the form of competency area(s) and relevant behavioural statement(s) were collated and added to the existing GbCF.

Phase two

The second phase involved extensive discussion on contemporary competencies (knowledge, skills or values and attitudes) deemed necessary to reflect an expanding and changing role of pharmacists worldwide. The discussion sessions were supplemented with findings from recent research publications and competency frameworks stemming from pharmacy, medical and nursing profession education, and training extracted in Phase one. Behavioural statements in the original GbCF were also revised to ensure their currency to practice as we know it today and changes were annotated accordingly. The original developers were consulted in this phase to provide their professional comments and revisions.

Phase three

This involved a consultation with an Internal Reference Group (IRG). The IRG comprised FIP Global Leads on Advanced and specialist development (FIP DG4), Leadership development (FIP DG6), Advancing integrated services (FIP DG7), Working with others (FIP DG8), Continuing professional development strategies (FIP DG9), and Impact and outcomes (FIP DG 11). Each DG group was invited (by email) to conduct a review of particular competency clusters and behavioural statements that were deemed to align with their area of expertise.

Phase four

After consulting the IRG and receiving feedback, DG2 Leads revised all comments, incorporated edits and revisions made in the GbCF. In this phase, DG2 Leads discussed the returned comments thoroughly before preparing the framework for phase five revision.

Phase five

After adding new competencies and editing old ones, this phase involved revision by 'competency development (FIP DG5)' leads to ensure that competencies in the revised GbCF are applicable and relevant to pharmacy practice worldwide. This culminated the IRG iterative consultation. This phase also involved consulting the Enhancing Quality in pharmacy Practice (EQiPP) Project team as external reviewers.

Phase six

After Phase five consultation, and compiling all suggestions for updating the GbCF, a new version of the GbCF was presented to Phase 2 reviewers (GbCF version 1 developers) for a final review. DG2 Leads revised minor comments and modified the framework accordingly.

Phase seven

In the final phase in this iterative process, DG2 Leads reformatted the GbCF and prepared a diagrammatic representation of the framework including competency clusters and competency domains (Figure 3).

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Figure 2: Revision phases of the FIP GbCF



4 FIP Global Competency Framework (GbCF) version 2 (version date 2020)

Figure 3 The FIP Global Competency Framework 2020: clusters and competencies

Table 3 FIP Global Competency Framework (GbCF) version 2- 2021

1. Pharmaceutical Public Health	
Competencies	Behaviours
1.1 Emergency response	1.1.1 Participate in the response to public health emergencies
	1.1.2 Assist the multidisciplinary healthcare teams in emergency situations
1.2 Health promotion	1.2.1 Assess the patient's/population's primary healthcare needs (taking into account the cultural and social setting of the patient/populations)
	1.2.2 Advise and provide services related to health promotion; disease prevention and control (e.g. vaccination); and healthy lifestyle
	1.2.3 Identify and support national and local health priorities and initiatives
1.3 Medicines information and advice	1.3.1 Counsel the patient/population on the safe and rational use of medicines and devices (including the selection, use, contraindications, storage, and side effects of non-prescription and prescription medicines)
	1.3.2 Identify sources, retrieve, evaluate, organise, assess and provide relevant and appropriate medicines information according to the needs of patients and clients
	1.3.3 Support the patient's use of health information technologies and digital communication (including IT driven health solutions)
2. Pharmaceutical Care	
Competencies	Behaviours
2.1 Assessment of medicines	2.1.1 Gather, analyse, research, and interpret information about the patient and patient's medicines-related needs (e.g. indication, effectiveness, safety and adherence)
	2.1.2. Retrieve relevant patient information (including drug history, or immunisation status for example) and record of allergies to medicines and Adverse Drug Reactions (ADR) in medication record
	2.1.3 Identify, prioritise, resolve and follow up on medicine-medicine interactions; medicine-disease interactions; medicine-patient interactions; medicines-food interactions
	2.1.4 Appropriately select medicines (e.g. according to the patient, hospital, government policy, etc)
2.2 Compounding medicines	2.2.1 Prepare pharmaceutical medicines (e.g. extemporaneous, cytotoxic medicines), determine the requirements for preparation (calculations, appropriate formulation, procedures, raw materials, equipment etc.)
	2.2.2 Compound under the good manufacturing practice for pharmaceutical (GMP) medicines
2.3 Dispensing	2.3.1 Accurately dispense medicines for prescribed and/or minor ailments, including an embedded checking process
	2.3.2 Accurately report defective or substandard medicines to the appropriate authorities

	2.3.3 Appropriately validate prescriptions, ensuring that prescriptions are correctly interpreted and legal
	2.3.4 Dispense devices (e.g. Inhaler or a blood glucose meter)
	2.3.5 Document and act upon dispensing errors
	2.3.6 Implement and maintain a dispensing error reporting system and a 'near misses' reporting system
	2.3.7 Label the medicines (with the required and appropriate information)
	2.3.8 Learn from and act upon previous 'near misses' and 'dispensing errors'
2.4 Medicines	2.4.1 Advise patients on proper storage conditions of the medicines and ensure that medicines are stored appropriately (e.g. humidity, temperature, expiry date, etc.)
	2.4.2 Appropriately select medicines formulation and concentration for minor ailments (e.g. diarrhoea, constipation, cough, hay fever, insect bites, etc.)
	2.4.3 Ensure appropriate medicines, route, time, dose, documentation, action, form and response for individual patients
	2.4.4 Package medicines to optimise safety (ensuring appropriate re-packaging and labelling of the medicines)
2.5 Monitor medicines therapy	2.5.1 Apply guidelines, medicines formulary system, protocols, and treatment pathways
	2.5.2 Apply therapeutic medicines monitoring and assess impact, and outcomes (including objective and subjective measures)
	2.5.3 Identify, prioritise, and resolve medicines management problems (including errors)
2.6 Patient consultation and diagnosis	2.6.1 Support urgent care needs (physical and mental) of patients and others and act upon arranging follow-up care
	2.6.2 Appropriately refer the patient or carer
	2.6.3 Assess and diagnose based on objective and subjective measures (where applicable)
	2.6.4 Evaluate, assess, and develop health literacy education and counselling on medicines and healthcare needs
	2.6.5 Discuss and agree with the patient on the appropriate use of medicines, taking into account patients' preferences
	2.6.6 Document any intervention (e.g. document allergies, such as from medicines and nutrition in the patient's medicines history)
	2.6.7 Obtain, reconcile, review, maintain and update relevant patient medication and disease history

3. Organisation and Management

Competencies	Behaviours
3.1 Budget and reimbursement	3.1.1 Acknowledge the workplace organisational structure
	3.1.2 Effectively set and apply budgets
	3.1.3 Manage appropriate claims for reimbursements
	3.1.4 Ensure financial transparency
	3.1.5 Ensure proper reference sources for service reimbursement
3.2 Human resources management	3.2.1 Demonstrate organisational and management skills (e.g. plan, organise and lead on medicines management; risk management; self-management; time management; people management; project management; policy management.)
	3.2.2 Identify and manage human resources and staffing issues
	3.2.3 Recognise and manage the potential of each staff member and utilise systems for performance management (e.g. conduct staff appraisals)
	3.2.4 Recognise the value of pharmacy team and of a multidisciplinary team
	3.2.5 Support and facilitate staff training and continuing professional development
3.3 Improvement of service	3.3.1 Identify, implement, and monitor new services (according to local needs)
	3.3.2 Resolve, follow up and prevent medicines related problems
3.4 Procurement	3.4.1 Access reliable information and ensure the most cost-effective medicines in the right quantities with the appropriate quality
	3.4.2 Develop and implement contingency plans for shortages
	3.4.3 Efficiently link procurement to formulary, to push/pull system (supply chain management) and payment mechanisms
	3.4.4 Ensure there is no conflict of interest
	3.4.5 Identify and select reliable supplier(s)
	3.4.6 Select reliable supply of high-quality products (including appropriate selection and procurement processes, cost effectiveness, timely delivery)
	3.4.7 Supervise procurement activities
	3.4.8 Understand the tendering methods and evaluation of tender bids
3.5 Supply chain management	3.5.1 Demonstrate knowledge in store medicines to minimise errors and maximise accuracy
	3.5.2 Verify the accuracy of rolling stocks
	3.5.3 Ensure effective stock management and running of service with the dispensary
	3.5.4 Ensure logistics of delivery and storage
	3.5.5 Implement a system for documentation and record keeping
	3.5.6 Take responsibility for quantification and supply chain forecasting

	3.5.7 Mitigate risk of medicines shortages and stock outs through liaison and appropriate communication with healthcare staff, healthcare stakeholders, clients/customers and patients
3.6 Workplace management	3.6.1 Address and manage day-to-day management issues
	3.6.2 Demonstrate the ability to take accurate and timely decisions and make appropriate judgements
	3.6.3 Ensure the production schedules are appropriately planned and managed
	3.6.4 Ensure the work time is appropriately planned and managed
	3.6.5 Improve and manage the provision of pharmaceutical services
	3.6.6 Recognise and manage pharmacy resources (e.g. financial, infrastructure)
4. Professional/Personal	
Competencies	Behaviours
4.1 Communication skills	4.1.1 Communicate clearly, precisely, and appropriately while being a mentor or tutor
	4.1.2 Communicate effectively with health and social care staff, support staff, patients, carer, family relatives and clients/customers, using lay terms and checking understanding
	4.1.3 Tailor communication that is appropriate to the patient's needs (including health literacy, cultural or language barriers, social needs, and emotional status)
	4.1.4 Use appropriate communication skills (e.g. verbal and non-verbal) to establish and maintain rapport with the patient and others including when communicating through digital and electronic platforms
4.2 Continuing Professional Development (CPD)	4.2.1 Document CPD activities
	4.2.2 Engage with students/interns/residents
	4.2.3 Evaluate accuracy of knowledge and skills
	4.2.4 Identify learning and development needs
	4.2.5 Evaluate learning and development progress
	4.2.6 Identify if expertise is needed outside current scope of knowledge
	4.2.7 Recognise own limitations and act upon them
	4.2.8 Reflect on performance
	4.2.9 Demonstrate engagement/participation in professional development and lifelong learning activities
4.3 Digital literacy	4.3.1 Identify, manage, organise, store, and share digital information
	4.3.2 Critically appraise, analyse, evaluate, and/or interpret digital information and their sources
	4.3.3 Where applicable, participate in digital health services that promote health outcomes and engage with digital technologies (e.g. social media platforms & mobile applications) to facilitate discussions with the patient and others

	4.3.4 Maintain patient privacy and security of digital information related to the patient and workplace
4.4 Interprofessional collaboration	4.4.1 Respect and acknowledge the expertise, roles and responsibilities of colleagues and other health professionals
	4.4.2 Participate, collaborate, advise in therapeutic decision-making, and use appropriate referral in a multi-disciplinary team
	4.4.3 Engage in collaborative practice, research and service provision to optimise patient health outcomes
	4.4.4 Engage in relationship-building with health professionals allowing conflict resolution, teamwork, communication, and consultation
	4.4.5 Demonstrate mutual respect and adopt shared values of the workplace and toward patient care
4.5. Leadership and self-regulation	4.5.1 Apply assertiveness skills (inspire confidence)
	4.5.2 Demonstrate leadership and practice management skills, initiative and efficiency
	4.5.3 Document risk management (critical incidents)
	4.5.4 Prioritise work, practice punctuality and time management
	4.5.5 Develop, implement and monitor innovative ideas
	4.5.6 Recognise and describe emotional information about self and others (e.g. self-awareness, self-regulation, motivation, social skills and empathy)
	4.5.7 Demonstrate flexibility and adaptability to a variety of conditions and circumstances
	4.5.8 Recognise when affected by setbacks or stress and manage with effective coping strategies (resilience)
4.6 Legal and regulatory practice	4.6.1 Apply regulatory affairs and the key aspects of pharmaceutical registration and legislation
	4.6.2 Apply the principles of business economics and intellectual property rights including the basics of patent interpretation
	4.6.3 Be aware of and identify the new medicines coming to the market
	4.6.4 Comply with legislation for drugs with the potential for abuse
	4.6.5 Apply the principles of marketing and sales
	4.6.6 Engage with health and medicines policies
	4.6.7 Recognise the steps needed to bring a medical device or medicine to the market including the safety, quality, efficacy and pharmacoeconomic assessments of the product
4.7. Professional and ethical practice	4.7.1 Demonstrate awareness and employment of local/national codes of ethics
	4.7.2 Fulfil duty of care to the patient and the public

	4.7.3 Maintain privacy and confidentiality (with the patient and other healthcare professionals)
	4.7.4 Comply with patient privacy legislation including documentation of information
	4.7.5 Consider available evidence and support the patient to make informed choices about medicine use
	4.7.6 Obtain patient consent (it can be implicit on occasion)
	4.7.7 Recognise professional limitations of self and others in the team
	4.7.8 Demonstrate professional responsibility for all decisions made and actions taken
	4.7.9 Demonstrate awareness of socially accountable practice (including cultural and social needs; cultural safety, respect, and responsiveness; diversity, equity and inclusiveness).
4.8. Quality assurance and research in the workplace	4.8.1 Apply research findings and understand risk-benefit analyses (e.g. pre-clinical, clinical trials, experimental clinical pharmacological research, and risk management)
	4.8.2 Audit quality of service (meet local and national standards and specifications)
	4.8.3 Develop and implement standing Operating Procedures (SOP's)
	4.8.4 Ensure appropriate quality control tests are performed and managed appropriately
	4.8.5 Ensure medicines are not counterfeit and adhere to quality standards
	4.8.6 Identify and evaluate evidence-base to improve the use of medicines and services
	4.8.7 Identify, investigate, conduct, supervise and support research at the workplace (enquiry-driven practice)
	4.8.8 Implement, conduct and maintain a reporting system of pharmacovigilance (e.g. report Adverse Drug Reactions)
	4.8.9 Initiate and implement audit research activities

5 Adopt and adapt strategies for the GbCF: Case studies

The following section provides country-specific case studies where researchers/academic and practitioners have utilised the FIP GbCF as a tool to investigate and explore the extend of its relevance to local practice settings and in pursuit of nationally-tailored competency frameworks for early career pharmacists (Table 4).

Table 4 – Country Specific case studies

Origin of Study	Author(s)
1. Kuwait	Asmaa Al-Haqan^{1,2} 1. Clinical Instructor, Faculty of Pharmacy, Kuwait University. 2. International Pharmaceutical Federation FIP Global Lead WDH, The Netherlands.
2. Saudi	Salihah H. Alfaifi^{1,2}, Stephanie Bridges², Naoko Arakawa² 1. Department of Clinical Pharmacy, College of Pharmacy, Prince Sattam Bin Abdulaziz University, Saudi Arabia. 2. Division of Pharmacy Practice and Policy, School of Pharmacy, University of Nottingham, United Kingdom.
3. Lebanon	Aline Hajj^{1,2}, Rony M Zeenny^{3,4}, Marwan Akel^{4,5,6,7}, Hala Sacre⁴, Pascale Salameh^{4,8,9} 1. Faculty of Pharmacy, Saint Joseph University of Beirut, Beirut, Lebanon. 2. Laboratory of Pharmacology, Clinical Pharmacy, and Quality Control of Drugs (LPCQM), Pôle Technologie-Santé (PTS), Saint-Joseph University of Beirut, Beirut, Lebanon. 3. Department of Clinical Pharmacy, American University Beirut Medical Center, Beirut, Lebanon. 4. INSPECT-LB (Institut National de Santé Publique, d'Épidémiologie Clinique et de Toxicologie-Liban), Beirut, Lebanon. 5. School of Pharmacy, Lebanese International University, Beirut, Lebanon. 6. Federation Internationale Pharmaceutique FIP Global Lead WDH, The Netherlands. 7. Visiting Scientist, School of Pharmacy, University College London, UK. 8. Faculty of Pharmacy, Lebanese University, Beirut, Lebanon. 9. University of Nicosia Medical School, Nicosia, Cyprus.
4. Kenya	Jessica McMullen¹, Naoko Arakawa¹, Claire Anderson BPharm³, Daniella Munene⁴, Simon McGrath⁵ Affiliated with the Pharmaceutical Society of Kenya ² and Jomo Kenyatta University of Agriculture and Technology ⁶ 1. University of Nottingham, School of Pharmacy, Nottingham, United Kingdom. 2. Pharmaceutical Society of Kenya, Nairobi City, Kenya. 3. University of Nottingham, School of Education, Jubilee Campus, United Kingdom. 4. Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya.
5. Young Pharmacists Group (YPG)	Ayodeji Matuluko¹, Anisha Kaur Sandhu² 1. School of Health and Life Sciences, Glasgow Caledonian University, United Kingdom.

Origin of Study	Author(s)
	2. School of Pharmacy, Monash University, Malaysia.
6. Bahrain	<p>Sherry N. Nasralla¹, Jayanthi S. Kotian¹, Huda J. Habib¹, Dalia Bajis²</p> <p>1. Pharmacy Program, Allied Health Department, College of Health and Sport Sciences, University of Bahrain, Kingdom of Bahrain. 2. International Pharmaceutical Federation, The Hague.</p>
7. Indonesia	<p>Franciscus C. Kristianto^{1,3,4}, Yosef Wijoyo^{2,3}, Ika M.P. Wibowo¹, Sherly Meilanti^{4,6,7}, Nurul F.E. Pariang³, Roy Himawan^{3,4,5}</p> <p>1. University of Surabaya, Surabaya, Indonesia 2. Sanata Dharma University, Yogyakarta, Indonesia 3. Indonesian Pharmacists Association (IAI), Jakarta, Indonesia 4. IAI-FIP WTP National Professional Officer, Indonesia 5. Ministry of Health, The Republic of Indonesia, Indonesia 6. FIP Data Intelligence Specialist, The Netherlands 7. UCL School of Pharmacy, London, The United Kingdom</p>

6 Entry-level pharmacy graduates' self-perceived preparedness to practice with the FIP GbCF: The Bahraini experience

Authors

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Background

The Kingdom of Bahrain is an archipelagic nation located in the Persian Gulf with a total land area of 780.00 sq km and a population of around 1.6 million. Bahrain follows a universal health care system, where the government provides free healthcare services to Bahraini nationals and subsidized services for non-Bahraini residents. The healthcare system in Bahrain is structured around three main stages; namely primary, secondary and tertiary. The primary healthcare system is the cornerstone of health services in Bahrain and is supported by a network of health centres spread across the four governorates of the Kingdom. The secondary (pertaining to specialist doctors servicing outpatient clinics in hospitals) and tertiary (pertaining to hospitals) healthcare tiers are represented by hospitals in Bahrain including Salmaniya Medical Complex, Bahrain Defence Force Hospital (BDF), King Hamad University Hospital (KHUH), and psychiatric, geriatric and maternity hospitals¹. In addition to public healthcare services, private facilities offering medical, pharmaceutical and allied services are available across the country. Bahrain has a total of 322 licensed pharmacies out of which 258 are private pharmacies and 74 are part of a healthcare facility².

As part of the Bahraini government's efforts to ensure high efficiency, safety and speed in delivering healthcare services for both public and private sectors, the government issued law decree 38 in 2009 to establish the National Health Regulatory Authority (NHRA)³. The NHRA specifically sets standards of knowledge and skills to be possessed by candidates seeking to be registered practicing healthcare professionals in Bahrain. As part of the healthcare delivery team, pharmacists are expected to be qualified, trained and competent to prioritize patient care and practice safely and effectively⁴.

At the University of Bahrain (UoB), the College of Health Sciences initially offered an Associate Diploma in Pharmacy, graduating pharmacy technicians since its establishment. To upgrade the existing program to a Bachelor level, a market needs assessment at a national level, involving leading employers in Bahrain was carried out. The Pharmacy Program was then benchmarked with regional and international universities. Following benchmarking, the curriculum was developed through a series of extensive discussions and decisions of the assigned task force, comprising academic faculty and stakeholders from several pharmaceutical service sectors. A proposal was then submitted to upgrade the Associate Diploma to a Bachelor of Science in Pharmacy (BSc in Pharmacy).

The proposed degree aimed to follow a paradigm shift in pharmacy practice from a product-centred to a patient-centred approach, also known as pharmaceutical care. To meet the needs of the local and regional healthcare markets, the program's professional competencies were modified and adapted from the published Professional Competencies for Pharmacists by the Health Authority – Abu Dhabi, UAE⁵ and the National Competency Standard Framework for Pharmacists in Australia⁶.

The Bachelor program was launched in 2015, accepting its first intake of students for the 2015-16 academic year. The curriculum comprises mandatory, elective, and clinical training courses, distributed to offer 59% major required courses, 25% college and university required courses, 12% major support courses and 4% elective courses. The main disciplines emphasized in the curriculum are Pharmacology, Pharmaceutics, Pharmacotherapy in addition to clinical training over four courses, amounting to a total of 20 Credits (900 clinical training hours)⁷. The Program aims at

educating and developing students to become knowledgeable, skilful and competent pharmacists with a potential to enter the existing workforce and contribute to the advancement of national and regional pharmaceutical services⁸.

Following the graduation of the first cohort of 30 student in 2020, it was considered essential by faculty members of the program to evaluate graduates' perceived preparedness and to determine the extent to which the Pharmacy Program curriculum prepared them for their roles. "Preparedness to Practice" is a concept that examines the extent to which an educational facility prepares its graduates in terms of knowledge, skills and attitudes for their future professional roles⁹. Students develop perceptions of their preparedness as they transition through their clinical training courses embedded in the curriculum.

The International Pharmaceutical Federation Global Competency Framework (GbCF) is a valuable tool designed and developed through extensive efforts to reflect foundation-level pharmaceutical competencies¹⁰. Although the pharmacy program curriculum is focused to achieve the program competencies, the faculty members at the UoB considered using the FIP GbCF as a useful self-assessment tool to evaluate graduates' preparedness with respect to the global framework. Whilst we recognize that the GbCF has been updated recently¹¹ to reflect contemporary competencies, the research study was conducted prior the release of the updated GbCF and hence the 2012 framework was used.

The primary objective of the study was to determine the perceived preparedness of entry-level pharmacy graduates to join the pharmaceutical workforce in Bahrain utilizing the FIP GbCF. The secondary objective of the study was to explore graduates' opinions of the BSc in Pharmacy curriculum and to identify strengths and areas for improvement.

Method – Implementation of the GbCF

The study was approved by the Scientific Research and Publication Committee of the CHSS at UoB. Informed consent was acquired from the 25 participating graduates (4 males and 21 females) to complete a self-administered questionnaire determining their perceived level of preparedness using the GbCF. This was followed by three focus groups to discuss graduates' views on how various aspects of the curriculum contributed to their preparedness.

Graduates were requested to score their preparedness to carry out the different behaviors outlined in the GbCF using a 4-point Likert scale; Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1). Graduate responses to the self-administered questionnaire were analyzed using SPSS.

Focus group discussions were recorded and transcribed. Framework analysis was used for the qualitative analysis of the focus groups data¹².

Outcomes:

Findings from the questionnaire:

Analysis of the GbCF results indicated that graduates were prepared in the domains of Pharmaceutical Public Health Competencies (mean = 3.3 ± 0.4), followed by Professional/Personal Competencies (mean = 3.2 ± 0.3), then Pharmaceutical Care Competencies (mean = 3.1 ± 0.4) and finally Organization and Management Competencies (mean = 2.7 ± 0.5). Overall students agreed on preparedness in the subdomains of Communication Skills (mean = 3.7 ± 0.4), Professional and Ethical Practice (mean = 3.6 ± 0.3), Health promotion (mean = 3.5 ± 0.4) and Medicines (mean = 3.5 ± 0.4) similarly. However, most graduates disagreed on their preparedness in the areas of budget and reimbursement (mean = 2.2 ± 0.8) under the domain of organization and management. Within pharmaceutical care domain, students on average disagreed they were prepared to compound medicines (mean = 2.4 ± 0.8) and monitor medication therapy (mean = 2.6 ± 0.8). No statistically significant differences existed between male and female graduates regarding preparedness.

Findings from the focus groups:

Focus group discussions with the graduates highlighted a need to provide exposure to a wider range of medications and advanced course materials in some of the major requirement courses. Graduates also emphasized that incorporating additional laboratory component as well as cases involving critical thinking within the curriculum would have prepared them more in handling patient cases and interactions. With regards to the curriculum, graduates suggested, changing certain course offerings and extending the scope of offered electives.

Graduates expressed that clinical practice courses were useful, as they were exposed to 4 practicum courses as part of their curriculum. They felt more ready to work at sites where they had spent longer training durations. Furthermore, those settings where the preceptors were more cooperative and willing to train contributed positively towards their preparedness. Discussion also revealed a need for a more standardized approach to clinical site allocations and assessments.

Overall, graduates perceived they were prepared to enter the national workforce, however, they felt less confident to continue post graduate studies or work outside Bahrain or to take up careers involving a specialization such as the pharmaceutical industry.

Limitations

The study was limited by the small number of participating graduates, however, the study group comprised 83.3% (25 out of 30 graduates) of the first cohort graduating pharmacists in Bahrain. Furthermore, the docile nature could have prevented some graduates from adequately participating in the focus groups.

Ongoing Process

Based on the results of the study, changes to the curriculum are in progress. Modification in teaching methodologies and incorporation of case studies were done in certain theory courses. Furthermore, issues related to clinical allocations and assessments are being addressed.

Future Steps

The study has helped in identifying areas of the curriculum that need improvement. In the future, a formal curriculum review is recommended to introduce suggested changes to the plan that may be of benefit to the upcoming batches. This would also include a review of the program competencies to be in line with the FIP GbCF, as studies have shown that improved graduate performance was associated with the use of competency frameworks as a tools steering the education and training activities^{13, 14}.

As the study was performed on the first cohort prior to entry into the workforce, an extension to the study to include a follow up after entry would be of benefit. The GbCF can further be utilized to explore graduates' confidence in performing their duties. Furthermore, another study is to be conducted to assess/evaluate graduate preparedness to enter the workforce following the amendments carried out within the pharmacy program.

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7 Development of early career training for newly-graduated pharmacists in Indonesia: Steps to identify gaps in early career development

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Summary of the case study:

There have been various efforts made by the Indonesian Pharmacists Association (IAI) in collaboration with relevant stakeholders to improve the quality of the pharmacy workforce in Indonesia. This includes exit examinations for graduate candidates and recertification programme requirements every five years with a credits-based system. However, there has been a challenge in obtaining recognition and trust from other health professionals and the public. Also, many practising pharmacists seem to have a stagnant performance throughout their careers. One possible reason is the unavailability of a competency framework, which could be used as a tool for their professional development. There has been an established career path by the Indonesian government, but this only applies to pharmacists with the status of civil servants who practice in public health facilities.

In 2019, IAI signed a memorandum of understanding with the International Pharmaceutical Federation (FIP) to implement a workforce transformation program (WTP) in Indonesia. The WTP includes the development of frameworks, a professional recognition system and a national training programme. This is to support the development of foundation training and advanced practice in Indonesia.

1. Current tool and frameworks:

Currently, Indonesia has the Indonesian Pharmacist Competency Standard, which is used as a reference for pharmacy schools in designing student learning outcomes and as a guide for preparing an exit examination blueprint for prospective new pharmacists. The exams consist of two types of tests: Computer-based Tests (CBT) and Objective-Structured Clinical Examination (OSCE).¹ Following registration as a pharmacist, practising pharmacists in Indonesia have to maintain their registration by collecting 150 credit points with a duration of five years. These credit points can be obtained from various activities, such as professional practice, personal learning, community service, publications, scientific development and education. These requirements are generally applicable to all pharmacists in all areas and levels of practice. The IAI has also developed an online system to support pharmacists in documenting their document all of its professional development portfolio during practice.²

Apart from that, the Ministry of Health has issued a policy to regulate special career paths and competencies needed pharmacists with the status of civil servants who practice in the community health centres and general hospitals.³

2. National strategic priorities on early career development:

The Indonesian government has prepared a special career path for pharmacists with the status of civil servants who practice in community health centres and general hospitals. In the civil servant career scheme, there are four levels of

career progression that describe pharmacists' duties and responsibilities, starting as early career pharmacists (novice experts) to senior pharmacists (senior experts). The Ministry of Health also prepares on-the-job training for pharmacists who just started as civil servants in order to meet the competency requirements required to practice in the government's health facilities.³

As a professional leadership body in Indonesia, the IAI identified early career training as one of its priorities. A national analysis of the pharmacy workforce in Indonesia identified a need to develop foundation training for pharmacists who are still at the beginning of their careers. This is because a snapshot pyramid of the pharmacists' population in Indonesia showed a youth bulge population, creating opportunities to engage with early career pharmacists.⁴ In addition, a recent study on the development of the Indonesian Advanced Development Framework suggests a four-stage career model which includes early years career training. A structured early career Foundation Training should be planned to support all early-career pharmacists who are working in complex and challenging healthcare environments, notwithstanding other sectors. There is also a need to develop a professional recognition system and advanced practice pathways for pharmacists in Indonesia, particularly in the primary care setting, in order to improve pharmacists' expertise in medicines.^{5,6}

3. Key stakeholders:

Stakeholder engagement is crucial for a successful implementation. The IAI collaborates with several stakeholders, including the Ministry of Health and the Indonesian Pharmaceutical Council as part of the Indonesian Healthcare Professionals. The Ministry of Health plays a major role in setting pharmaceutical service standards that pharmacists must meet to provide services to patients. The Indonesian Healthcare Professional Council plays a role in several fields, such as setting standards for healthcare professional education, maintaining the quality of practice for healthcare professionals, providing guidance and supervision of practice per professional discipline guidelines.

The Indonesian Pharmaceutical Council, as one part of the Indonesian Healthcare Professional Council, specifically has a role in registering pharmacists, pharmacy workforce development, preparing national standards of pharmacy education, maintaining the quality of practice by setting pharmacy practice standards and competency standards for Indonesian pharmacists and enforcing the discipline of practising pharmacists.⁷

The IAI and its special interest groups, in collaborations with the above stakeholders, have a role in preparing training programs for its members in order to achieve the expected competencies.

4. Requirement for national competency framework:

The results of the need assessment for competency development for pharmacists in Indonesia identified gaps in the availability of competency frameworks, a professional recognition system and training programmes of competency frameworks. Filling these gaps will have an impact on better recognition of pharmacists from the eye of other health professions and the public.⁸

Having a competency development framework will be useful to support pharmacists in performing better in their practice.⁹ The competency framework can also be beneficial for other aspects, such as in preparing curriculum, developing competency-based education approach in university, preparing a blueprint for competency exams for prospective pharmacists, supporting the implementation of Pharmaceutical Service Standards set by the government and supporting the hospital accreditation process.

5. Barriers/ limitations of implementation:

Several things that hinder early career training implementation include the absence of a competency framework for newly graduated pharmacists, good preceptors who can become role models, and financial support for its implementation. An initial pilot work related to the competency framework for early career training was conducted in Indonesia, where the Indonesian Pharmacist Competency Standard (2016 edition) was compared to GbCF Version 1. The results showed conformity of around 94%¹⁰, showing a high similarity of global competency framework and the practice scope for pharmacists in Indonesia.

The Indonesian Pharmacist Competency Standard (2020 edition), as an updated version of 2016, is established as a reference or standard for initial registration by the Indonesian Healthcare Professional Council. Therefore, there is no competency framework currently available for foundation training in Indonesia.

The preceptors have an essential role in the success of the training process of early career pharmacists. Preceptors who have skills in providing constructive feedback will support the success of the preceptee.¹¹ Currently, there is a limited number of qualified preceptors (as role models and trainers for early career pharmacists) in Indonesia. This may be because many preceptors feel there is no demand to advance in their practice. Also, there is no recognition for their practices.

Another obstacle that affects the implementation of early career training is the lack of funding and personal financial barriers. Pharmacists who work in corporations (chain pharmacies and hospitals) and who have the status of civil servants may receive foundation training funds from their companies. Meanwhile, pharmacists who work independently (mostly community pharmacists) will face funding constraints to participate in foundation training.

6. Ongoing progress:

In 2019, the IAI, in collaboration with the FIP, initiated the workforce transformation programme (WTP). The Memorandum of Understanding (MoU) was signed during the FIP Congress in Abu Dhabi in 2019. As a follow-up to the MoU, the IAI appointed a National Professional Officer (NPO) and formed the WTP team as a task force responsible for the programme's implementation process. Until to date (2021), the WTP team has organised two batches of Train the Trainer (TtT) programmes. The first batch of training aimed to provide an insight into competency development strategies, including the national competency framework, competency-based training, and professional development portfolio to the prospective preceptors. The second batch of training aimed to provide further skills in identifying learning needs referring to GbCF Version 2 and providing a learning experience in building a portfolio. Currently, the WTP team is preparing a follow-up programme following the success of the two batches of TtTs.

Apart from that, from 2018 until to date (2021), the IAI has also carried out preceptor training for pharmacists who mentor pre-registration students. The results of the preceptor training evaluation showed that the participants still need further training to support their practice (e.g. pharmacotherapy of disease) and in the mentoring process (e.g. providing feedback and preparing activities in clinical placement).

7. Future steps:

The IAI plans to develop an early career competency framework through an adopt and adapt approach using the GbCF Version 2 and by involving relevant stakeholders. Following this, the IAI will develop training modules and evaluation tools and carry out a pilot program to implement foundation training. In addition, it is necessary to improve the quality of the preceptors' training in order to improve their ability in the preceptorship.

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8 Development of a localised pharmacy competency framework: Competency-Based Education Developments in Kenya

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Summary of the case study

A multi-stakeholder project originally funded by UK Aid, through the Strategic Partnerships for Higher Education Innovation and Reform (SPHEIR) programme, began work on the development of a local competency framework for pharmacists in Kenya between 2016 and 2020. The collaboration was called the Kenya-Nottingham partnership where partners included the University of Nottingham, the University of Nairobi, Kenyatta University, Jomo-Kenyatta University of Agriculture and Technology, Maseno University, Masai Mara University, the Kenyan Association of Manufacturers (KAM), the International Pharmaceutical Federation (FIP) and the Pharmaceutical Society of Kenya (PSK). The Commission for University Education (CUE), the education regulators in Kenya, were also invited to participate with initial discussions and supported the development of competency-based education (CBE) for initial pharmacy education in Kenya.

During the Kenya-Nottingham partnership discussions, stakeholders expressed a concern that pharmacy education in Kenya was lacking in various aspects, particularly in terms of clinical skills, entrepreneurship, and experiential education. Moreover, there is a deficit of pharmacy professionals in the country and concerns that many pharmacy stores and outlets are managed by unqualified staff leading to reported issues with medication safety and service quality (1, p56.). Considering changes within the profession and calls for curricula to be responsive to local needs, the competency-based approach was highlighted as a promising model to assist with modernising the curriculum and reinforcing professional standards.

As no framework currently exists in Kenya, or in neighbouring countries, a research project was initiated which aims to identify the applicability of the FIP Global Competency Framework (GbCF) to the Kenyan context. The objective is to first analyse the relevance of each behavioural statement in the GbCF for practicing pharmacists in Kenya. Secondly, a consensus development panel workshop formed of Kenyan pharmacy stakeholders, will take place to discuss the survey results together with local needs, to develop a comprehensive and localised competency framework. The aim is to assist undergraduate curriculum development, lifelong learning and synchronise quality in pharmaceutical care.

Current tools and frameworks

One approach to equip healthcare professionals with the necessary prerequisites to engage in patient and population-centred healthcare, in a transformative, ethically, locally, and globally responsive way, is through the competency-based education approach. Developing competencies provides criteria for the 21st century health professional capable of adapting to rapidly changing local and global conditions whilst also cultivating values around social accountability. (2).

The World Health Organization (WHO) states that “Several key challenges affect the ability of countries to regulate the education of their health professionals. These include outdated and irrelevant practice acts, lack of clear core competencies guiding both education and practice, and lack of capacity to reliably measure attainment and maintenance of competency” (3). Competencies have now been incorporated globally into healthcare professions, including pharmacy which is apparent from the creation of a Global Competency Framework (GbCF) in 2012 by the International Pharmaceutical Federation (FIP) (4). As the GbCF was created using an evidence-based approach and is intended to cover all sectors of pharmacy practice, reviewing existing frameworks and consulting with representatives around the globe, it was deemed as a suitable framework to use as a basis for the competency framework development for Kenya.

Currently, there is no national competency framework (CF) for pharmacists in Kenya. CBE is also not incorporated within undergraduate education. There is however some mention of developing competencies as part of the post-registration continuing professional development (CPD) guidelines, but the guidance is minimal and does not include a structured framework. There are 5 core competencies outlined in the guidelines which are: (1) employing evidence-based practices, (2) applying quality improvement, (3) providing patient centred-care, (4) working in inter-professional teams and (5) making use of ICT (Pharmacy and Poisons Board, 2013). Undertaking CPD is mandatory in Kenya to maintain annual licensure and continue to practice pharmacy. There is a need to improve the connection between undergraduate learning and lifelong learning post-registration. CBE is positioned to develop and maintain expertise throughout practice. In an ever changing healthcare landscape the student-centred and self-directed learning aspects of CBE are important to instil at the initial education stages and training of healthcare professionals so that they can be continued effectively throughout all stages of practice (5).

Strategic national priorities

Recent educational reforms in Kenya, in line with the long-term development plans for the country known as Kenya Vision 2030 (6), have begun initiating a competency-based curriculum within the basic education levels, covering primary and secondary educations. This reform has been designed in the context of sustainable development and described as a curriculum that will ‘emphasize the importance of not only developing skills and knowledge but also applying these to real life situations’ with the vision ‘to enable every Kenyan to become an engaged, empowered and ethical citizen’ (Republic of Kenya, 2017). However, these reforms do not yet extend to higher education. Pharmacy education in Kenya requires reform with respect to the local needs and enabling pharmacists to engage and respond to these in order to utilise the professions potential to contribute towards Universal Health Coverage (UHC) (7), a priority within the Kenya Vision 2030 agenda (Kenya Vision 2030 Delivery Secretariat, 2020). Therefore, CBE development for pharmacy education in Kenya has the potential to help meet and unify both health and educational plans and priorities nationally.

Key Stakeholders

Since the conclusion of the Kenya-Nottingham SPHEIR project, the University of Nottingham has continued to fund research developing the framework with collaboration from the PSK and Jomo-Kenyatta University. For the purposes of designing the final framework a consensus development panel will be created, this panel will be made up of a number of stakeholders, including practicing pharmacists, from the following groups; community pharmacy, industrial pharmacy, hospital pharmacy, supply chain pharmacy, the Ministry of Health (MoH), academia, students, patients/service users, the PSK, and the Pharmacy and Poisons Board (PPB). In addition to these, representatives from the Kenya Medical Association (KMA) and the National Nurses Association of Kenya (NNAK) will also be included to encourage inter-disciplinary communication and collaboration. To create a competency framework that can apply across all sectors of pharmacy in Kenya it is important that a broad range of stakeholders are consulted both from practice, governance and academia. Engagement with internal and external bodies ensures the framework creation process is collaborative and encourages commitment (8). Cooperation with stakeholders from the three interacting systems of education, (governance, resources, pedagogical culture) is also important, as suggested by McCowan (9), in order to implement meaningful change in higher education, especially with the complexities involved in implementing CBE (10).

Requirement for a national competency-based framework

Pharmacy education in Kenya has undergone substantial change in recent times, in terms of both increasing numbers of institutions offering pharmacy programmes and in terms of the diversification of the content of those programmes

which differ in curriculum, delivery and scope. The role of pharmacy is also evolving from manufacturing and distribution of medicinal products to increasingly more patient and community orientated concerns (11).

Significant shortages are predicted in the healthcare workforce by 2030, particularly in low- and middle-income countries such as Kenya (12). As part of international plans to address inadequate healthcare provision and the impact this has on wider systems, together with the country's own agenda to become a middle-income country by 2030, universities in Kenya have engaged with a period of pharmacy education reform (6). Competency-based pharmacy education has been extensively adopted worldwide, promoted as an approach that assists towards relating theory to practice, and supporting learning outcomes that fulfill the health needs of the population (2). Therefore, competency-based education is an attractive model to incorporate within pharmacy education reform activities in Kenya.

Barriers/limitations of implementation

Barriers and limitations to CBE development in Kenya are similar to those currently experienced within other countries in the sub-Saharan Africa region (13). Challenges include a lack of educational literature from limited research capacity in this region (14). Furthermore, as highlighted during discussions in the Kenya-Nottingham partnership, academic capacity, teaching resources and infrastructure are all limited making any large scale transformation extremely difficult. Additionally, the use of information technology is inconsistent and obstructed by lack of academic experience and economic resources. A particular concern from the partnership, related to the large class sizes in public Kenyan universities, perceived as a barrier to the implementation of some of the common features of CBE including role-play, seminars, and simulated learning environments. The hegemonic teaching practices across higher education in Kenya remain traditional and didactic in nature, in part due to the challenges related to implementing alternative teaching methods for large classes. Previous work on higher education in general in Kenya supports many of the challenges that were raised by the members of the Kenya-Nottingham partnership (9).

Ongoing Progress

A survey has been created to establish the perception of pharmacists in Kenya in terms of how they rate the relevance of the behavioural statements in the International Pharmaceutical Federation's (FIP) Global Competency Framework (GbCF v2) to their current practice (15). The PSK will distribute this by the end of 2021, with appropriate approval from a local research board. The PSK are actively involved with the promotion of professionalism and ethics and are well placed, as advocates for development of the pharmacy profession, to reach the pharmacy workforce in Kenya and champion the localised competency framework.

After the survey on the applicability of the GbCF v2 has been distributed and the results have been analysed these will be presented to a consensus development panel which will consist of key pharmacy stakeholders. Stakeholders will be invited to an online workshop to discuss the competencies in more detail and establish which competencies, and their associated behavioural statements, need to be amended and/or what is irrelevant to design the first competency framework for the Kenyan context.

Future Steps

This study will contribute to a limited field of literature on CBE in Sub-Saharan Africa. Exploring the reform of pharmacy education via the creation of a competency framework can be utilised to advance the pharmacy profession in Kenya, facilitate curriculum development and subsequently aid improvements in healthcare for the nation. This framework could be used to inform CPD practices in Kenya with the view of better linking the skills from undergraduate education to lifelong learning. Creation of an advanced level framework may also be warranted in the future to support pharmacists with career progression and promoting leadership, vital for achieving improved healthcare outcomes. In a similar study on competency framework development in Japan, results suggested scant development of organisation and management competencies throughout pharmacist's careers (16). These competencies are now included in advanced level frameworks in countries such as Australia and the UK (17, 18), and similar developments in Kenya are suggested to support incremental and sustained development of the pharmacy profession.

The final framework and results of the survey and workshop will be disseminated via national and international conferences and through the publication of peer reviewed articles. Consequently, this will ensure that the framework is available as a tool for driving educational development for the initial education and training of pharmacy students in Kenya and as a starting point for further CBE development as well as bringing together the nation's goals for both health and education reform.

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9 The Development and Validation of a Foundation Competency Framework for Pharmacists: The Kuwait Experience

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Summary of the case study

Evidence suggests that the use of competency frameworks as education and training tools aids in the identification of learning needs and supports the design and development of learning activities which collectively lead to improvement of performance and advancement of practice.^{1,2} The Global Competency Framework (GbCF) for early career development from the FIP was found to be a potential precursor for the creation of country-specific frameworks. Competencies included in the FIP GbCF have been developed with reference to more than 40 countries worldwide and the FIP GbCF has been found to be relevant and provide initial guidance for foundation-level scope of practice across all settings around the globe (International Pharmaceutical Federation, 2012b). Therefore, the GbCF was chosen as the base for the development of the Kuwait Foundation Competency Framework (KFCF).

Country Background

The State of Kuwait is located to the northwest of the Arabian Gulf with a total land area of 17,818 km². The country's health expenditure is ranked third in the national budget, after public works and education. The healthcare system in Kuwait provides primary, secondary, and tertiary healthcare services in both public (government) and private sectors. In 2017, the total number of pharmacists in Kuwait was 4377 (this includes governmental, private, and semi-governmental sectors).

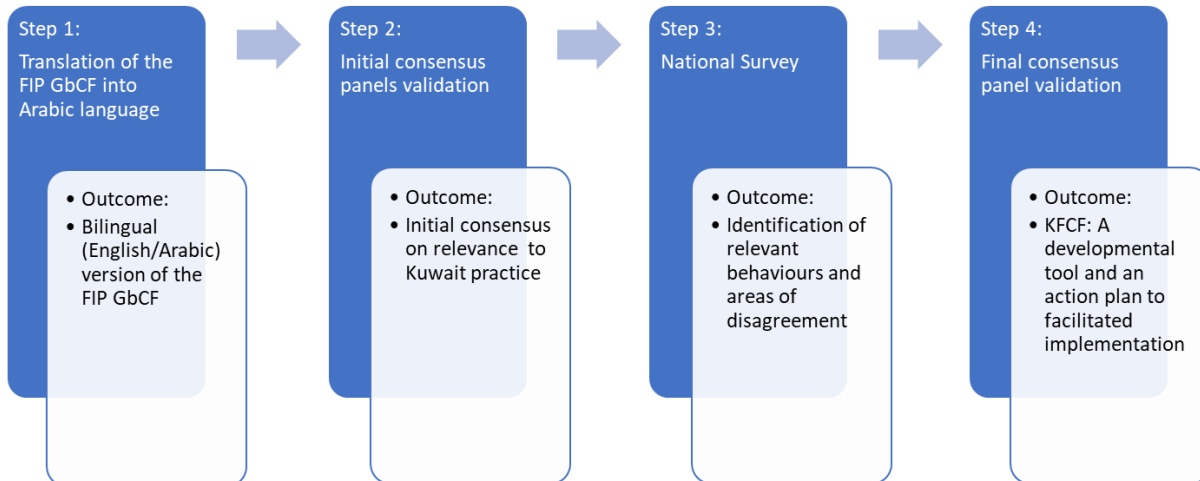
Current tools and frameworks

A previous study in Kuwait has found that areas in need of systematic development for pharmacy workforce were foundation training for early career pharmacists, competency development and competency frameworks, and policies and regulations that would enforce the profession development.³ Pharmacists, on the other hand, were found in need of early career maps and frameworks to support a seamless transition into early career practice. These frameworks were viewed as necessary to consolidate needs-based foundation training infrastructures for the novice workforce towards advanced practice. The study concluded that educational reform in the context of workforce development is now imperative and would provide the education and training required to create an accountable, flexible and adaptable workforce. Another study showed that education providers in Kuwait acknowledged the existing gap between initial education and actual practice, a gap that they believed could be filled by sustainable workforce strategies as well as effective continuing education and training tools.⁴

Implementation of the GbCF

An "adopt and adapt" process was followed to develop the KFCF; an evidence-based tool to supplement professional development training programmes at foundation level. This process involved four consecutive steps: translation, consensus development and validation by expert panels, public consultation, and acceptance and validation by pharmacy stakeholders (Figure 1). Countries such as Ireland, Singapore, and Croatia followed a similar approach to develop their country-specific pharmacy competency framework.⁵⁻⁷

Figure 1: the four steps 'adopt and adapt' process



1- Translation

Translation of the FIP GbCF into the Arabic language was necessary to ensure collaboration and proper communication with the Ministry of Health (MoH) later on, as all documents used by the MoH in Kuwait should be written and communicated in the Arabic language. Early translation of the document would also ensure several stages of validation by multiple users. Translation was performed using a parallel blind translation technique. In this method, two translators work independently to translate the required document to the targeted language and then meet to compare their translation, discuss any discrepancies, and agree on a final translated version.⁸ The final version of the framework was bilingual (English and Arabic) to enable pharmacists who do not read Arabic to use the framework. Further verifications were conducted in subsequent phases to ensure that the final version is a true reflection of the original document. The framework was also mapped to undergraduate curriculum. This mapping was performed to ensure continuity of education and a seamless transition from initial education to continuing education and professional development. Before starting the ‘adopt and adapt’ process, the FIP GbCF was mapped to the Kuwait University competency matrix for entry to pharmacy practice to ensure continuity of education and a seamless transition from initial education into practice. The mapping process confirmed that there are common behaviours between the two frameworks. The commonality between the two frameworks ensured that the selected GbCF might provide a seamless transition to practice. Also, the behavioural statements that were found in the GbCF but did not match with any statement in the Kuwait undergraduate framework may provide an expanded scope to practitioner pharmacists compared to pharmacy students.

2- Consensus development and validation by expert panels

Two consensus development panels were conducted to assess the relevancy and validation of the competencies and behaviours in the selected framework. Validation of the developed tool is very important before going to the implementation phase. Out of the 100 behavioural statements included in the GbCF, 70 were considered either “relevant” or “highly relevant” to pharmacists’ current practice. Findings from the consensus development panels suggested that competencies and behavioural statements included in the FIP GCF/Arabic are relevant to the practice in Kuwait. However, according to the panel responses, the degree of relevance varied according to participants’ practice settings.

3- Public consultation (a national survey)

This step involved the assessment of the relevance of the FIP GbCF behavioural statements across a wider population of pharmacists in Kuwait across all settings to develop the KFCF. A national survey was distributed to all registered pharmacist in Kuwait to assess their perception towards relevance of the competences to their current practice. Findings from the national survey showed that there is an agreement on the relevance of the behaviours included in the KFCF to current practice in Kuwait across all settings.

4- Acceptance and validation by pharmacy stakeholders

This step involved focus groups with pharmacists and pharmacy stakeholders and provided evidence of the acceptability of the developed competency framework from pharmacists’ perspectives. This was achieved by inviting

education providers, decision-makers, pharmacists, and policymakers to discuss the adaptability of the KFCF. Regarding the convenience of the developed tool, pharmacists indicated that the KFCF is a user-friendly tool and a useful guide for their professional development. Participants in this phase provided valuable comments on the design of the framework. Their input on how to refine the KFCF with regard to the assessment scale helped produce a better version of the tool. Findings from this step showed that there is a need to create a partnership between different pharmacy stakeholders to foster adaptation of the developed tool in practice.

Barriers for implementation

Lack of clear workforce development policies and strategies may hinder timely implementation of workforce education and training tools such as the KFCF. Development of sustainable workforce development strategies necessitate collaboration between all stakeholders in different institutes in the country. Actions related to academia, practice and policy should not be established in isolation; rather, a collaborative approach should be adopted.

Another important barrier that should be taken into consideration is that participation in the different implementation phases is mainly voluntary. Participating pharmacists could probably be the ones who usually attend pharmacy-related events showing more enthusiasm and commitment to the profession and may have a different perception than non-participants.

Ongoing progress and future steps

Ongoing research is currently supervised by the Kuwait MoH to develop advanced level competency frameworks and expanding the role of pharmacists to include speciality services. This will ensure that pharmacists are supported while they are evolving in their career pathways.

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10 The Lebanese Experience for Early Career Development: Bridging the Gap to Reach the FIP Global Competency Framework

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Summary of the case study

To date, the Lebanese authorities do not have a comprehensive strategy regarding pharmacy education, specialization into pharmaceutical areas, or early career development programs, and no official national competency framework for pharmacy is available in Lebanon. The Order of Pharmacists of Lebanon (OPL, the national pharmacists' association in Lebanon) attempted to fill that gap in 2017 and developed a framework inspired by the FIP Global Competency Framework Version 1 (GbCF1), among others, recently validated among a sample of Lebanese pharmacists. Since the framework has not yet been applied by the Lebanese educational bodies, it would benefit from being further adapted for early career pharmacists, using the recently published FIP Global Competency Framework Version 2 (GbCF2). Its implementation would produce practice-ready pharmacists who share homogeneous competencies, similar to what is seen in developed countries. The ultimate goal would be to optimize education and improve the pharmacy workforce at the national level to reach international standards. Nevertheless, several limitations still impede the adoption and effective implementation of such a national framework, including the unwillingness of stakeholders, the reluctance of universities, the lack of funding and resources, the geopolitical instability, and, lately, the steep economic decline of the country. Despite all these challenges and acknowledging the importance of expanding the type of services pharmacists may provide to their patients as suggested by the GbCF2, several research projects and implementation plans have been conducted or are currently ongoing to develop comprehensive strategies related to pharmacy, including the expansion of early-career training in Lebanon.

Current tools and frameworks

In Lebanon, five schools/faculties certified by the Lebanese Ministry of Education and Higher Education (MEHE) offer a pharmacy degree with different curricula. In the absence of a national accreditation system and a national framework for pharmacy education in Lebanon [1], each university develops its curriculum based on the competency framework of the selected foreign accreditation body [2,3]. The only common element is that graduates from private schools/faculties and abroad should sit for a national evaluation exam termed "Colloquium" that allows applying for a license to practice.

Given these discrepancies and heterogeneity in curricula, the Order of Pharmacists of Lebanon (OPL, the national pharmacists' association in Lebanon) took the initiative in 2017 to develop a pharmacy core competency framework. It consisted of seven domains, distributed over 35 competencies and 297 behaviors: fundamental knowledge (4 competencies, 30 behaviors), professional practice (6 competencies, 33 behaviors), personal skills (7 competencies, 56 behaviors), medicines supply (3 competencies, 42 behaviors), safe and rational use of medicines (5 competencies, 47 behaviors), pharmaceutical public health (4 competencies, 44 behaviors), and organization and management (6 competencies, 45 behaviors) [1]. The suggested framework was based on the Global Competency Framework Version

1 (GbCF1) developed by the International Pharmaceutical Federation (FIP) [4] and other frameworks [5,6] and adapted it to the Lebanese context [1]. The validation study of the competency framework was recently published and showed that the developed framework is structurally valid and reliable [7]. It also showed that pharmacy practitioners in Lebanon had major gaps upon graduation in the fundamental knowledge and medication supply [8]. However, the suggested framework has not been applied by educational institutions in Lebanon. Moreover, with the recent publication of the FIP Global Competency Framework Version 2 (GbCF2) [9], the framework could be further adapted to enhance the minimum required competencies of pharmacists in Lebanon [10] for optimal practice in Lebanon.

National/local strategic priorities and policies on early career development

To date, the Lebanese authorities do not have a comprehensive strategy regarding pharmacy education, specialization into pharmaceutical areas, or early career development programs. Pharmacy curricula in all five pharmacy schools/faculties do not prepare graduates for a specific practice after graduation. All programs focus on graduating a competent practicing pharmacist, whether in the community, hospital, or other settings, with no targeted field of work. Thus, graduating pharmacists with a Bachelor of Science degree (5-year program, as required by Lebanese regulations) can work directly with no additional training beyond graduation, provided they completed a 12-month experiential education in any pharmaceutical institution. Although all schools/faculties offer a doctor of pharmacy degree (PharmD), yet the minimum required is the Bachelor of Science in Pharmacy. The Lebanese authorities do not recommend any specific credentials for pharmacy positions, except for one specialty that requires additional training, i.e., clinical biology, the only specialty recognized by the Ministry of Public Health (MOPH) [11]. All other pharmacy specialties are considered alike; pharmacists with advanced credentials are only valued in some private sector institutions, particularly academia and teaching hospitals. Moreover, since universities develop their core competency framework based on the requirements of international accreditation bodies, pharmacy graduates might not have the competencies that match the Lebanese market needs [2,3].

Regarding clinical pharmacy, all the accredited schools/faculties endeavor to develop the clinical skills of pharmacy graduates, particularly during senior years. Furthermore, Lebanon currently offers three pharmacy residency programs [12,13], two of which being accredited by the American Society of Health-System Pharmacists, known as Postgraduate Year 1, beyond the 6th year [12]. Nevertheless, no law mandates the presence of a clinical pharmacist in any institution, except for a requirement among hospital accreditation standards, which is delaying the implementation of clinical pharmacy in practice.

It is well known that policies related to early career development should clearly define training sites, learning outcomes, expectations, and competencies [7]. Consequently, an early-career training program was recommended by the OPL in 2017, based on market needs assessment [14], suggesting additional homogenized training during the first two years after graduation for all intended fields of work, even to become a community pharmacist. Early-career development competencies and related activities were suggested and were termed “postgraduate training”. This suggestion is still waiting to be approved by the Ministry of Public Health.

Key stakeholders

The main stakeholders to be potentially involved in implementing the GbCF (1 and 2) include faculties/schools of pharmacy, the MEHE, the MOPH, the OPL, and market-related stakeholders (pharmaceutical institutions, companies, industries, and related organizations). Moreover, appropriate implementation of such a framework would require collaborative work between national partners and international organizations, including the accreditation bodies of the respective universities.

Requirement for national competency framework

Due to the growing number of non-specialized graduates since 2004 and the lack of career guidance, unemployment rates among pharmacists have been increasing. Moreover, to create more opportunities, medical representative job positions in pharmaceutical companies have been restricted to pharmacists by a parliamentary law amendment in 2010 (Law 367, Article 73) [15]. However, the pharmacy situation is further exacerbating due to the current socio-economic and sanitary crisis [1]. Hence, there is a need for a comprehensive strategic plan, including a system to curb the number of non-specialized pharmacy graduates, in addition to early-career training and guidance on practices beyond community practice, in accordance with the market needs. Implementing the optimized national competency framework and early-career training would thus be crucial to produce practice-ready pharmacists who share homogeneous competencies by specialty area, as is seen in developed countries. Such a framework would identify gaps in education, training, and work experience, thus providing a tool to match curricula objectives with expected outcomes that best fit the local market needs [16].

Barriers/ limitations of implementation

Several barriers hinder the implementation of a national competency framework at the national level; it requires laws and regulations and the willingness of decision-makers and all stakeholders. Universities might not be readily willing to shift and change curricula, especially if these changes are not required by the accreditation bodies assessing their programs. Other factors include the lack of funding and resources, geopolitical instability, and, lately, the unprecedented economic decline of the country.

Ongoing progress and future steps

The previously validated framework in Lebanon focuses on general competencies, while the suggested postgraduate training links it to practice and activities. Further improvement of this tool would help pharmacists advancing their careers while fostering their professional development and paving the way for advanced practice [9], thus acknowledging the importance of expanding the type of services pharmacists may provide to their patients as suggested by the GbCF2. In that context, several research projects/development plans have been conducted or are currently ongoing to have a comprehensive strategy and expand early-career training in Lebanon. These projects highlighted some gaps related to 1. Pharmaceutical public health; 2. Pharmaceutical care; 3. Organization and management; as well as 4. Professional/personal development: Continuing Professional Development (Table 1).

In conclusion, these assessment projects are expected to guide strategic planning so that Lebanese pharmacists regain their place as pillars among healthcare professionals. The ultimate goal would be to improve the pharmacy workforce and education at the national level, reaching international standards.

Table 1. Global Competency Framework – Early Career Training Version 2 (GbCF2): Implementation in Lebanon and room for improvement.

Competencies as defined by the GbCF2 [9]	Ongoing/ready-to-implement project
1. Pharmaceutical Public Health	
1.1. Emergency response	Hospital and community pharmacists readiness to fight COVID-19 in Lebanon [17,18]
1.2. Health promotion	Public health competencies and education in Lebanon (ongoing)
1.3. Medicines information and advice	- Medical promotion, patient pressure, social media, physician knowledge, and antimicrobials prescription (ongoing). - Patients' Perceptions Regarding Pharmacists' Healthcare Services [19]. - Societal perspectives of community pharmacy in Lebanon [20]
2. Pharmaceutical Care	
2.1. Assessment of medicines	Good pharmacy practice assessment among community pharmacies in Lebanon [21,22]
2.2. Compounding medicines	Good pharmacy practice assessment among community pharmacies in Lebanon [21,22]
2.3. Dispensing	Prescription and dispensing guidelines in Lebanon [23]
2.4. Medicines	- Good pharmacy practice assessment among community pharmacies in Lebanon [21,22] - Medical promotion, patient pressure, social media, physician knowledge, and antimicrobials prescription (ongoing)
2.5. Monitor medicines therapy	-Knowledge of and readiness for medication therapy management among community pharmacists in Lebanon [24] -Good pharmacy practice assessment among community pharmacies in Lebanon [21,22]

2.6. Patient consultation and diagnosis	Good pharmacy practice assessment among community pharmacies in Lebanon [21,22]
3. Organization and Management	
3.1. Budget and reimbursement	- Upgrading Pharmacy Education to Produce Practice-Ready Pharmacists in Lebanon [14]. - Advanced pharmacy competencies assessment in Lebanon (ongoing)
3.2. Human resources management	- Upgrading Pharmacy Education to Produce Practice-Ready Pharmacists in Lebanon [14]. - Advanced pharmacy competencies assessment in Lebanon (ongoing)
3.3. Improvement of service	- Upgrading Pharmacy Education to Produce Practice-Ready Pharmacists in Lebanon [14]. - Advanced pharmacy competencies assessment in Lebanon (ongoing)
3.4. Procurement	- Upgrading Pharmacy Education to Produce Practice-Ready Pharmacists in Lebanon [14]. - Advanced pharmacy competencies assessment in Lebanon (ongoing)
3.5. Supply chain management	- Upgrading Pharmacy Education to Produce Practice-Ready Pharmacists in Lebanon [14]. - Advanced pharmacy competencies assessment in Lebanon (ongoing)
3.6. Workplace management	- Upgrading Pharmacy Education to Produce Practice-Ready Pharmacists in Lebanon [14]. - Advanced pharmacy competencies assessment in Lebanon (ongoing)
4. Professional/Personal Development	
4.1. Communication skills	Empathy among community pharmacists in Lebanon [25]
4.2. Continuing Professional Development (CPD)	- Mandatory continuing education (since January 2014) [11] -Attitudes of Lebanese pharmacists towards online and live continuing education sessions [26]
4.3. Digital literacy	-Attitudes of Lebanese pharmacists towards online and live continuing education sessions [26] -Lebanese pharmacists' confidence and self-perceptions of computer literacy and online education [8,26]
4.4. Interprofessional collaboration	-Implementation and evaluation of interprofessional education programs in Lebanon [27-29]
4.5. Leadership and self-regulation	-Gaps in leadership, ethics and entrepreneurship among healthcare professionals in Lebanon (ongoing)
4.6. Legal and regulatory practice	
4.7. Professional and ethical practice	Gaps in leadership, ethics and entrepreneurship among healthcare professionals in Lebanon (ongoing)
4.8. Quality assurance and research in the workplace	-Quality in Lebanese higher education institutions (ongoing) -Role of research in improving teaching skills (ongoing)

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11 Development of a national competency framework for pharmacists in Saudi Arabia: a mixed-methods study

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Summary of the case study

In 2016, the Saudi government launched an initiative to modernise the health sector services and to shift the existing two-third ratio of expatriate health workforce, including pharmacists, to one-third by 2030 (1). To satisfy these plans, pharmacy education standards and outcomes must be tailored to reflect these changes. Hence, evaluation of pharmacy education curricula and outcomes is crucial to ensure the quality of educational curricula, in order to produce graduates equipped with need-based competencies. Currently, no national-level competency framework exists for pharmacists in Saudi Arabia. Therefore, this project was designed to explore the extent to which the current Saudi pharmacy education curriculum can prepare competent pharmacists through identifying and defining core competencies required to address societal healthcare needs in Saudi Arabia.

Current tools and frameworks

Competency-based education (CBE) is an educational paradigm that aims to respond to changing societal and patients' needs and advances in healthcare (2). Regardless of country or region, this educational model aims to instil in the health graduates the competencies required to provide care services that meet societal healthcare needs (3). As the core element of CBE, competencies are often acquired and developed through education, training and work experience. In Saudi Arabia, however, no national competency framework exists for pharmacists in any stage of practice. The National Commission for Academic Accreditation and Assessment (NCAAA), the national accrediting institute for higher education in Saudi Arabia, has published a detailed description of learning outcomes for both the Doctor of Pharmacy (PharmD) and Bachelor's degree in Pharmaceutical Sciences (BPharm) programmes but without having identified any associated competencies (4).

Strategic priorities: Saudi Vision 2030

In 2016, the Saudi government launched a national transformation programme known as Saudi Arabia's Vision 2030 (1). This initiative aims to promote robust economic growth independently of oil, the traditional source of income. Among many sectors, reforms have been designed to modernise the health sector by optimising the capacity of hospitals and healthcare centres, enhancing the quality of therapeutic health services, promoting preventive care, and activating primary care services as the first port of call into the healthcare system.

Another objective of the Vision 2030 for the health sector is to shift the existing two-third ratio of expatriate health workforce to one-third by 2030. To fulfil this objective, the Vision aims to reform the labour market by increasing job opportunities for Saudi nationals and setting new regulations to replace expatriate workers with Saudi citizens. The vision advocates improving education and training opportunities to increase the capacity and skills of Saudi professionals, enabling them to replace a significant proportion of the expatriate workforce in the health sector.

Key stakeholders

Developing a profession-wide competency framework should not be the exclusive responsibility of one sector. A broad spectrum of the major stakeholders, who are responsible for either the practice or education of pharmacists, have the duty to protect the interests and the wellbeing of the public (5). This requires them to assure that

pharmacists are receiving appropriate education and training and are competent to deliver the required care and services within their scope of practice. The key stakeholders involved in the practice of pharmacy or pharmacy education in Saudi Arabia are: the Ministry of Health (MOH), NCAAA, the Saudi Commission for Health specialities (SCFHS), Saudi Pharmaceutical Society (SPS), Saudi Food and Drugs Administration (SFDA), and the Ministry of Human Resources and Social Development (MHRS) (6, 7). Each of these bodies has a key role within the pharmacy practice or education, so consequently, an input and significant consideration in the development and/or adoption of a national competency framework.

As the MOH provides approximately 60% of the general healthcare services in the country, the pharmaceutical care department of the MOH has a key role in the overall regulation of the pharmacy profession within the country. It also provides pharmaceutical services within its hospitals, such as the compounding and dispensing of medicines, management of medicines storage and supply, provision of drug information as well as advanced pharmaceutical clinical services such as cardiology, infectious diseases, ambulatory care and oncology (7, 8). NCAAA undertakes the responsibility of accreditation for a broad range of higher education programmes, including pharmacy (9). However, programme accreditation is not a prerequisite for pharmacist registration by the SCFHS, the licensing and registration body for all healthcare providers in Saudi Arabia (10). In other words, the student is not required to study an accredited programme to be able to apply for a practice licence on graduation - unlike in other countries, such as the United States and the United Kingdom, in which accreditation is essential to qualify the students for licensure (11). SPS is the pharmacy professional society that represents more than 4,000 pharmacists in Saudi Arabia, providing continuing education programmes accredited by the American Council of Pharmacy Education (ACPE) (6). SFDA is responsible for the governance of all medication-related policies and activities such as manufacturing, registration, pricing, marketing and post-marketing issues as well as medications efficacy and safety (8). MOE regulates and imposes policies as well as long-term plans for all higher education institutions (12). MHRS is responsible for the recruitment of pharmacy graduates in the governmental sector.

Pharmacy practice and education: status and challenges

The pharmacy profession is continuously evolving in Saudi Arabia (13). The practice of hospital pharmacy, specifically, is considered one of the advanced practices in the Eastern Mediterranean Region (6). Overall, the provision of pharmaceutical services currently ranges from traditional distributive pharmaceutical services to advanced customised clinical services (6, 8). There are different areas of pharmacy practise such as community pharmacy, hospitals, pharmaceutical industry, regulatory institutions and academia. To practise, pharmacists must complete a PharmD or a BPharm degree from a higher education institution either nationally or internationally. Graduates from foreign pharmacy schools must additionally verify their pharmacy certificates/degrees through the SCFHS data flow system (6). All pharmacists must sit a national licensure exam and acquire a specific hours of continuing pharmaceutical education annually for re-licensing. In 2020, there were about 27,000 pharmacists, of which, 65% were non-Saudi (14).

Although pharmacy education and practice have evolved significantly in recent years, there are some challenges. The rapid growth of pharmacy schools from two in 2001 to 29 in 2020 as well as the slow progress towards accreditation at the national or international level raises questions about the quality and the outcome of the educational programmes (8, 13, 15). Also, the absence of evidence regarding the assessment of schools' programme structure, process and outcomes, adequacy of resources, achievement of competencies, and regular curriculum assessment may have caused an inconsistency in pharmacy education across schools (16). Moreover, there is a shortage of Saudi trained pharmacists, with the private health sectors dominated by non-Saudi pharmacists, including community pharmacies, and pharmaceutical companies, and inequality of workforce distribution across different geographical areas. Furthermore, the inconsistency of pharmacy practice between government and private hospitals results in an imbalanced overall pace of change in pharmacy practice compared to the increased number of schools (7, 8, 17).

Requirements for a national competency framework

With the recent policy transformation led by the government to modernise the health sector and promote workforce localisation, it is crucial to upgrade pharmacy education and training to satisfy government plans. Pharmacy education programmes must develop appropriately to reflect the country's needs and priorities (18). The 2030 Vision requires new graduates with the appropriate mix of competencies to keep pace with the health system transition. The key role of pharmacists within the health system as well as their potential to expand capacity and quality of therapeutic health services and promote preventive care underpins the need for a local competent workforce. However, in the absence of evidence regarding the core criteria to assess the quality of pharmacy education, a minimum standardisation of competencies required for effective professional performance is critical. There is a need for an evidence-based development tool to inform the development of pharmacy education programmes to become competency-based, high quality and appropriate to meet the country's needs (2, 3, 19, 20). In doing so, a huge reserve of local pharmacists would be equipped with the appropriate learning and competencies for better health services provision (21).

Towards developing a national competency framework

This project was designed to explore the extent to which the current Saudi pharmacy education curriculum can prepare competent pharmacists through identifying and defining core competencies required to address societal healthcare needs in Saudi Arabia. Owing to the limited information about societal healthcare needs and pharmacists' roles regarding pharmaceutical services in Saudi Arabia, this study employed a mixed-methods approach in three phases.

First, the corporative health needs assessment approach was utilised to provide an in-depth understanding of societal health information that reflects the local context (22). A purposively selected sample of pharmacy stakeholders and public in Saudi Arabia was recruited from September to November 2019 for semi-structured interviews and focus groups. Participants were asked open-ended questions about the local healthcare needs that can benefit from pharmacists' care and the required roles of pharmacists to meet these needs.

Second, a mixed-methods approach was utilised to develop a national competency framework based on the FIP GbCF in two steps. The first step applied an online cross-sectional survey of practising pharmacists in different settings, between August and November 2020, to investigate the relevance of the GbCF to pharmacists' practice in Saudi Arabia. The survey was fully adopted from the GbCF v1 as the GbCF v2 was not published at the time of developing this phase. The relevance to the GbCF v1 was assessed using a four-point Likert scale and the data were analysed using descriptive and inferential statistics. The second step followed a consensus development method to establish a profession-wide consensus on the list of competencies and behavioural statements involved in the GbCF v2 to be included in the national pharmacy competency framework based on the findings from previous phases of this research. A purposive sample of pharmacy policy makers and experts will be asked to participate in a consensus panel using the Nominal Group Technique (23). It will involve multiple rounds: electronic mail correspondence to establish a consensus, followed by one or two online meetings to discuss points of disagreement, then electronic mail correspondence to confirm consensus on the suggested national pharmacy competency framework.

Third, a case study method will be undertaken to map a selected undergraduate curriculum against the identified competencies of the proposed national competency framework. This will help to provide an overall reflection of the status of pharmacy education and to assess the extent to which the current pharmacy programme meets the national competency framework. It will also help to develop metrics to establish and assess core competencies in the educational curriculum.

Establishing a unified national competency framework will be indeed the ideal first step to guide pharmacy education development. It will inform the development of CBE required for graduates to maximise their capacity to the desired level of competence to meet the country's healthcare needs. The development of a national competency framework will also establish and maintain core quality elements to enrich the pharmacy education process, curriculum development, and the learning outcomes of undergraduate students as well as current pharmacists' professional development. This will ultimately impact on the profession and optimise benefits for overall national health.

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12 Building a career development toolkit for use by early career pharmacists and pharmaceutical scientists globally: The FIP Young Pharmacists Group initiative

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Summary

The International Pharmaceutical Federation (FIP) acknowledges the pivotal role played by early career pharmacists and pharmaceutical scientists in defining the directional goal of the profession and addressing health challenges worldwide. Increasingly, younger generations of the pharmaceutical workforce are represented by national and international youth platforms that work actively to amplify their perspectives and concerns to drive positive change in healthcare at local and global levels. The FIP Young Pharmacist Group (YPG) Career Development Toolkit was borne out of the FIP YPG Needs Assessment survey conducted in 2019. The survey results revealed that early career pharmacists and pharmaceutical scientists have a need for career development resources. A decision to create the toolkit was made with intention for it to be beneficial in providing sufficient guidance to early career pharmacists and pharmaceutical scientists. The FIP YPG Career Development Toolkit project was led by the Chairperson of Projects on the 2020 FIP YPG Steering Committee who managed a global working group to create the toolkit over a timeline of 6 months. The toolkit was launched in December 2020 with the post publication phase of the toolkit, such as digital events, led by the 2021 Steering Committee with input from FIP Workforce Development Hub (WDH).

Current tools and frameworks used in FIP Young Pharmacists Group

FIP Young Pharmacists Group (YPG) has supported the professional development of early career pharmacists and pharmaceutical scientists since its inception, with a strong focus on engaging young pharmacists and pharmaceutical scientists by fostering their leadership skills within different sections and special interest groups (SIGs) of the FIP. Over the years, the professional development offerings and competency development activities offered by FIP YPG have evolved with increasing capacity within the group and its leadership structure.

Since 2018, the FIP World Congress has included a two-day FIP YPG leadership development workshop for potential and current early career leaders with sessions on project management skills, succession planning, leadership styles, how to run effective meetings, and developing communication skills. The leadership development training by FIP YPG has further expanded into an online longitudinal leadership development programme (LDP), known as “LDP 2.0”. In addition, FIP YPG supports early career pharmacists and pharmaceutical scientists in making career decisions and facilitates opportunities for them to receive advice from experienced peers or senior colleagues in their areas of interest through a nine-month FIP YPG mentorship programme. FIP YPG also hosts multiple webinars all year round for professional development, with more recent webinars having evolved from the creation of the Career Development Toolkit for early career pharmacists and pharmaceutical scientists.

Other professional development resources published by FIP YPG include a 2019 mHealth report which discusses how pharmacists can utilise mHealth to improve patient care, and a resource entitled “Leading with emotional intelligence” to help young pharmacists learn and practise emotional intelligence skills. The FIP-YPG also recently published a report titled, Role of early-career pharmaceutical groups in global health, where early career pharmacists and pharmaceutical scientists were encouraged to take ownership of their future by engaging with or creating

professional groups to work together in identifying ways to make a difference by redefining pharmaceutical care to develop the best possible outcomes. This valuable report is a welcome step towards understanding and engaging the global early career pharmaceutical workforce in reshaping the future of pharmacy.

Strategic priorities

The FIP YPG Career Development Toolkit is aligned with one of the objectives of the FIP strategic outcome 6, which is to facilitate and enable the sharing of relevant knowledge and professional development tools for all members across countries and regions. This is in line with the “One FIP” vision in including the younger generation of the early career pharmaceutical workforce in FIP initiatives. It is also aligned with the FIP Development Goals, particularly FIP DG 2: “Early career training strategy”, FIP DG 4: “Advanced and specialist development”, FIP DG 5: “Competency development”, FIP DG 6: “Leadership development”, FIP DG 8: “Working with others” and FIP DG 9: “Continuing professional development strategies.”

To support policy and advocacy, FIP YPG has led several surveys. First, the "job and career satisfaction survey" was distributed between November 2019 and May 2020 to assess the satisfaction of early career pharmacists and pharmaceutical scientists in their workplace and to identify gaps in education and training for early career pharmacists and pharmaceutical scientists globally. The survey results were presented in a report at the end of 2020.

Second, a survey on the roles of national and regional young pharmacists' groups in global health was disseminated from August to October 2020 to understand the impact of young pharmacists and pharmaceutical scientists in global health.

Finally, a survey in collaboration with the New Generation of Pharmaceutical Sciences SIG, on soft skills in the pharmaceutical field was distributed to elucidate the gaps that currently exist in soft skills education and development in young pharmaceutical scientists and pharmacists, between August and September 2020. FIP YPG also supported the FIP migration survey on young and early career pharmacists and pharmaceutical scientists to assess the intention to migrate of young pharmacists and pharmaceutical scientists globally, and the "digital health in pharmacy education survey" which aimed to investigate and describe the readiness and responsiveness of educational programmes in preparing the future pharmaceutical workforce on digital health in pharmacy education.

Requirement for FIP-YPG Career Development Toolkit

The FIP YPG Career Development Toolkit was borne out of the FIP YPG Needs Assessment survey conducted in 2019. The survey results revealed that early career pharmacists and pharmaceutical scientists have a need for career development resources. The toolkit is intended to be a ready-made resource available to all early career pharmacists and pharmaceutical scientists globally with hope that it would be beneficial in providing sufficient guidance to early career pharmacists and pharmaceutical scientists.

The following objectives were set for the development of the toolkit:

1. To gather information and publish a Career Development Professional Package for early career pharmacists and pharmaceutical scientists by the end of 2020, and make this available online on the FIP website
2. To provide a good understanding of the career development tools which are available to guide career planning and the steps of career development for early career pharmacists and pharmaceutical scientists
3. To encourage early career pharmacists and pharmaceutical scientists to reflect on their professional development and identify their developmental needs.
4. To carry out an evaluation of the impact of the career development toolkit upon publication to YPG members.

Objectives 1 to 3 were met with the publication of the toolkit and a launch event on the 14th of December, 2020. In addition, a post-publication plan was devised by the core project team and handed over to the 2021 FIP YPG Steering Committee to expand on deliverable outcomes from January 2021 onwards. This culminated in frequent online events/webinars focused on the chapters of the toolkit, to address objective 3 and thereby increase the use of the toolkit by early career pharmacists and pharmaceutical scientists globally.

Looking ahead, objective 4 can be addressed by FIP YPG using instruments such as surveys to assess the impact of the career development toolkit on its users, with the possibility of tailoring this to different regions, nations and pharmacy practice contexts.

Key stakeholders

The FIP YPG Toolkit project was led by the Chairperson of Projects on the 2020 FIP YPG Steering Committee. Following the development and refinement of a project initiation document (PID), the initial approach to managing the toolkit development was to create a core project team (that comprised of two Professional Development Team members in the Projects Subcommittee and also included the 2020 President and the 2020 Chairperson of Public Relations), and then strategise on the writing of sections.

However, it soon became clear how ambitious a project the toolkit creation was and it was decided that the team be expanded to allow an opportunity for YPG members to shape the toolkit development professionally through volunteering their skills, as well as to get diverse perspectives from different regions globally. This led to a call for a toolkit development working group in April 2020, from which seven FIP YPG members were selected to form the wider toolkit working group.

The resource and expertise from the core project team and working group led to the creation of the toolkit in the space of 6 months, with continuous engagement from other key stakeholders within FIP as the toolkit went through different iterations and cycles of feedback. These stakeholders included the FIP CEO, FIP Professional Secretary, FIP Scientific Secretary, FIP Lead for Education Policy and Implementation, FIP Workforce Development Hub (WDH) Leads, New Generation of Pharmaceutical Scientists SIG, and some FIP YPG members. The 2021 FIP YPG Steering Committee has contributed to the post publication promotion of the toolkit.

Working together to create the FIP-YPG Career Development Toolkit

What went well

Creating the toolkit was a useful learning curve for all involved. It was successful due to efficient and timely project management as well as the dedication of the working group to achieve the project objectives within the stipulated time frame despite the unexpected and drastic impact of the global Covid-19 pandemic.

Working group members were spread across different time zones and managed to work effectively to meet writing deadlines by convening regularly at biweekly meetings facilitated by the Chairperson of Projects 2020. The use of a live Google Drive document which all members had access to also facilitated communication and transparency of contribution. This style of working together with meetings allowed for real time feedback, discussion and problem-solving by all members of the team. Continuous updating of writing objectives, tracking of deadlines and commitment by the members was crucial in achieving project goals. At the end of each meeting, the action points for the next meeting and task delegation were collectively decided.

Sections of the toolkit were divided amongst working group members divided to smaller groups with communication facilitated via the use of separate WhatsApp groups to allow for close communication and timely resolution of any issues that needed clarification, as well as close monitoring within the whole team on their progress with assigned sections, bearing in mind that the pandemic affected different members in many different ways. The team kept resources in a designated Google Drive Project folder and frequently populated the folder with resources and references that would aid writing of sections.

A dedicated editing team of four authors was also created to further refine the toolkit, and focus on incorporation of feedback from stakeholders, leading to the final published version of the toolkit. Overall, efficient facilitation of the working group led to timely achievement of the toolkit from initial idea to finished publication as scheduled.

What could be improved

There were key aspects to consider when building the toolkit such as creative methods of disseminating and promoting the published toolkit, discussions about its possible conversion into a mobile app or a similar digital output, and possibly building a live version of some of the resources within the toolkit on the FIP website. These ideas needed to be prioritised in the context of their feasibility in being achieved within the project timeline, bearing in mind the additional responsibilities of researching and writing the toolkit. Some of these ideas required more planning and discussion prior to being actioned. There is however, a capacity to further evolve these ideas as the toolkit gains greater use by early career pharmacists and pharmaceutical scientists globally.

Ongoing progress & future steps

The YPG has played a significant role over the past 20 years, aligning together with the FIP to establish and facilitate connections and networking among the early career pharmaceutical workforce. The YPG's goal to foster leadership and enable positive change at local, national and international levels is achieved by involving pharmacy students and next-generation pharmacists across a series of regional networking opportunities, resource-building activities, workforce development projects, digital events and working groups, for example, most recently to explore job and career satisfaction, identify gaps in education and training, gaps in soft skills education and development as well as the impact of professional organizations in an early career context. To date, based on the YPG Career Development Toolkit, FIP YPG has organized events exploring reflective practice and SMART goal-based action plans in a continuing professional development cycle webinar, discussed skill development and a growth mindset in a mentorship webinar and highlighted the positive impacts of training and certification in career progression. FIP YPG has also held events describing career progression pathways to encourage deeper reflection of pharmacy careers and we are looking to hold a digital event discussing career paths and opportunities in the pharmacy world. In our effort to provide a supportive infrastructure and resources to early career pharmacists worldwide, FIP YPG has organized our second global mentorship programme which began in September 2021. FIP YPG also hopes to launch early career education-focused projects as well.

13 Barriers, recommendations and future outlook

Case studies presented in this handbook illustrate the GbCF has a number of purposes from curriculum development and pre-registration programmes, continuing professional development (CPD), development of specialisation, and advanced practice, as well as a benchmark the professional role of a pharmacist. This supports much research showing the importance of early career training strategies. Educators, pharmacists, and high-level key stakeholders have recognised the relevancy and applicability of the FIP GbCF as precursor for country-level framework development that targets early career pharmacists and influences undergraduate competency-based curricula. However, many barriers for implementation were also acknowledged in several countries as was highlighted in some case studies presented in this handbook.

Barriers included:

- Non-existence of competency frameworks for pharmacists in countries which hinders creating strategies to guide continuing professional development
- Lack of stakeholder (pharmacists, academics, regulators) buy-in on the importance of implementing competency-based approach to support the development of early career pharmacists.
- Lack of policy development and later implementation of competency-based education and training across all educational level in a pharmacist career, i.e. From undergraduate education to advanced level training.

Future work may aim to act upon these barriers to facilitate the adaptation of early career frameworks and support pharmacists throughout their career pathways. Moreover, future work may aim at establishing multi-national partnerships. Multi-national partnership would allow exchange of experiences and encourage wider adaptation.

The following are recommendations suggested to support early career development of pharmacists in any setting:

- It is recommended for each country to have a competency framework to prepare its early career pharmacists on their professional journeys and into advanced roles relevant to their practice. This needs to be supported by evidence-based research and data gathering to better inform the competencies needed based on local and national health needs and services.
- Pharmacy leaders and relevant stakeholders need to formulate policies related to the implementation of the competency framework and foundation training in undergraduate and post-graduate pharmacy education.
- Promoting the importance of early career development of pharmacists to national organisations, including national pharmacy association, pharmacy school's association and ministry of health in countries that have not yet established early career development of pharmacists as a priority.
- Schools of pharmacy need to implement competency-based education (CBE) or aspects of CBE in the learning and teaching processes of undergraduate education and training programmes and courses.

The FIP Workforce Development Hub has expertise from around the globe that would support, engage, and guide initiatives related to early career development strategies and the development and implementation of foundation level education and training.

DG2 leads would like to invite all pharmacists and pharmaceutical scientists to use the GbCF version 2 and share their experiences with us through our email: education@fip.org

If you have any question on this framework or any feedback, please do not hesitate to contact us through our email: education@fip.org. We hope this framework will have a benefit to educators, regulators and practitioners in all countries to support early career pharmacists.

International

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