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Building Better Programs

A STEP-BY-STEP GUIDE TO USING KNOWLEDGE MANAGEMENT IN GLOBAL HEALTH

SECOND EDITION

Ruwaida M. Salem, MPH
Sarah V. Harlan, MPH
Sara F. Mazursky, MPH
Tara M. Sullivan, PhD, MPH

with contributions on equity in knowledge management from
Reana Thomas, MPH, and Lata Narayanaswamy, PhD, MA

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This guide provides detailed guidance for how to apply the Knowledge Management Road Map. The Knowledge Management Road Map is an adapted version of the widely used P Process that was developed by the Johns Hopkins Center for Communication Programs (CCP) to provide step-by-step guidance for strategic health communication.

The Knowledge Management Road Map and this guide draw on decades of collaborative work between CCP and the United States Agency for International Development to share family planning and related global health knowledge around the world.

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111 Market Place, Suite 310, Baltimore, MD 21202 USA
https://ccp.jhu.edu • https://knowledgesuccess.org

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Discover our family of resources

This guide is part of The Knowledge Management Collection, a family of resources designed for the global health workforce to help them understand, use, and train others on knowledge management approaches, tools, and techniques.

The Knowledge Management Road Map

A five-step systematic process for generating, collecting, analyzing, synthesizing, and sharing knowledge, the Knowledge Management Road Map guides the global health workforce in applying knowledge management systematically and strategically in their programs.

The Knowledge Management Pocket Guide for Global Health Programs

The Pocket Guide provides a basic overview of the Knowledge Management Road Map and serves as a quick reference on key steps for applying the Road Map to global health programs.

Building Better Programs: A Step-by-Step Guide to Using Knowledge Management in Global Health

Using the Knowledge Management Road Map as a foundational framework, this detailed guide demonstrates how to develop and implement a systematic and equitable knowledge management strategy to improve the efficiency and effectiveness of global health programs.

Equity in Knowledge Management Checklist

Designed to be used with the *Building Better Programs* guide, the Equity in Knowledge Management Checklist is a practical tool for the global health workforce to integrate equity as they design, implement, monitor, and evaluate knowledge management interventions.

Knowledge Management Training Package for Global Health Programs

Comprising trainer's guides, presentation slides, exercises, tools, and templates, the Knowledge Management Training Package is a comprehensive set of training materials to develop the skills and capacity of global health program staff in the systematic knowledge management process and in specific knowledge management approaches, such as share fairs and content management.

All resources are available for download at www.kmtraining.org

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Acronyms

AI	artificial intelligence
CCP	Johns Hopkins Center for Communication Programs
CLA	collaborating, learning, and adapting
EAST	easy, attractive, social, and timely
ICMM	Improving Contraceptive Method Mix
ICT	information and communication technology
IUD	intrauterine device
K4Health	Knowledge for Health
KM	knowledge management
LARCs	long-acting reversible contraceptives
LGBTQIA+	lesbian, gay, bisexual, transgender, queer or questioning, intersex, asexual, plus
MEL	monitoring, evaluation, and learning
PMs	permanent methods
PANCAP	Pan Caribbean Partnership Against HIV/AIDS
SMART	specific, measurable, appropriate, realistic, and timely
SUCCESS	Strengthening Use, Capacity, Collaboration, Exchange, Synthesis, and Sharing
USAID	United States Agency for International Development
WHO	World Health Organization

Glossary of Equity-Related Terms

Colonialism The combination of territorial, juridical, cultural, linguistic, political, mental/epistemic, and/or economic domination of one group of people or groups of people by another (external) group of people.[1]

Decolonizing global health The deliberate process of dismantling unequal power structures and supremacy, within and between countries including between previously colonizing and colonized nations, in the work to improve the health of populations.[2,3]

Diversity Any characteristic that can be used to differentiate groups of people from each other.[4] It can also be thought of as the differences in people's identities.

Equity in health The absence of unfair, avoidable, and remediable differences in health status among groups of people, whether those groups are defined socially, economically, or geographically. Health equity is achieved when everyone can attain their full potential for health and well-being.[5] While the term "equity" is sometimes used interchangeably with "equality," generally equality is considered to exist when all individuals and groups of people are given equal *treatment*, regardless of need or outcome, whereas an equitable approach focuses on achieving more equal *outcomes*, recognizing that some groups who experience social injustices such as discrimination or poverty may need more support or resources to achieve the same health outcomes as more advantaged groups.[6]

Equity in knowledge management for health programs The absence of unfair, avoidable, and remediable differences in knowledge access, creation, sharing, and use among groups of health workforce members, whether those groups are defined socially, economically, or environmentally. Equity in knowledge management for health programs is achieved when all people in the health workforce have the information, opportunities, skills, and resources they need to define and participate in the process of knowledge access, creation, sharing, and use to improve health programs.

Gender A culturally defined set of economic, social, and political roles, responsibilities, rights, entitlements, obligations, and power relations associated with being female and male, as well as the power relations between and among women and men, boys and girls. The definitions and expectations of what it means to be a woman or girl and a man or boy, and sanctions for not adhering to those expectations, varies across cultures and over time and often intersects with other factors such as race, class, age, and sexual orientation. Transgender individuals, whether they identify as men or women, are subject to the same set of expectations and sanctions.[7]

Gender equity The process of being fair to women and men, boys and girls. To ensure fairness, measures must be taken to compensate for cumulative economic, social, and political disadvantages that prevent women and men, boys and girls from operating on a level playing field.[7]

Gender homophily The preference to interact with people of the same gender.[8]

Health workforce All people who are engaged in actions whose primary intent is to enhance health.[9] This consists of both clinical staff (e.g., physicians, nurses, midwives, community health workers) and management and support staff who do not deliver services directly but are essential to health systems (e.g., managers, accountants).

Identity The economic, social, and environmental traits that make a particular person or group different from others.

Inclusion The active and intentional valuing of the skills, experiences, and perspectives of all diverse members of a community such that each person is provided with the opportunity to participate fully in creating a successful and thriving community.[4]

Intersectionality "A lens for seeing the way in which various forms of inequality often operate together and exacerbate each other"[10] to create unique experiences of discrimination and oppression.[11] The term and concept were first introduced by Kimberlé Crenshaw,[12] who explains, "We tend to talk about race inequality as separate from inequality based on gender, class, sexuality or immigrant status. What's often missing is how some people are subject to all of these, and the experience is not just the sum of its parts."[10]

Knowledge management A systematic process of collecting knowledge and connecting people to it so they can act effectively and efficiently.

Marginalization The act of excluding, or taking power away, from a group or groups of people based on their identity.

Neocolonialism The control and/or exploitation of countries with fewer resources and less power by countries with more resources and power through indirect means.[13]

Privilege Unearned rights extended to a group of people based on their identity (e.g., race, class, gender, ability).[4]

Power over The ability of some individuals or groups to exercise control over, or to influence, the behavior of others and to decide who will (or won't) have access to resources.[14] This type of power is built on force, coercion, domination, and control.[15]

Power to The productive potential of power and the possibilities or actions that can make a difference, create something new, or achieve goals without the use of domination.[15]

Power with Shared power that grows out of collaboration and relationships. It is built on respect, mutual support, solidarity, and collaborative decision making, leading to collective action and agency.[15]

Power within The sense of confidence, dignity, and self-esteem that comes from gaining awareness of one's situation and realizing the possibility of doing something about it.[14]

Preface to the Revised Edition

One of our most valuable assets to addressing global health challenges is knowledge management (KM)—the process of collecting and curating knowledge and connecting people to it so they can act effectively. How we manage knowledge—and eventually decide how to use it—can affect individuals, families, communities, health systems, and policies. This *Building Better Programs* guide is built on the Knowledge Management Road Map, a foundational framework that provides a systematic process for the global health workforce to use KM to enhance the efficiency and effectiveness of their programs, with the ultimate aim of improving health and saving lives. We use the World Health Organization's definition of the health workforce to include "all people engaged in actions whose primary intent is to enhance health," comprising both clinical staff (e.g., physicians, nurses, midwives, community health workers) and management and support staff who do not deliver services directly but are essential to health systems (e.g., managers, accountants).[9]

This revised edition of the *Building Better Programs* guide strives to surface, integrate, and strengthen issues related to equity across KM processes and systems. According to the World Health Organization, health equity is the "absence of unfair, avoidable and remediable differences in health status among groups of people" and is "achieved when everyone can attain their full potential for health and well-being."[5] Likewise, in KM for health programs, equity is the absence of unfair, avoidable, and remediable differences in knowledge creation, access, sharing, and use among groups of health workforce members, whether those groups are defined socially, economically, or environmentally. Equity is achieved when all people in the health workforce have the information, opportunities, skills, and resources they need to define and participate in knowledge access, creation, sharing, and use to improve health programs. Programs must therefore address the *unfair* and *avoidable* differences among groups of health workforce members that are rooted in social injustices such as discrimination, with the ultimate goal of achieving more equal KM outcomes across the health workforce.

A crucial first step to creating equitable KM systems and processes in global health programs is to recognize and understand the interconnected relations between power and privilege. Power, in this context, refers to the ability of some individuals or groups to exercise control over, or to influence, the behavior of others and to decide who will (or won't) have access to resources. Privilege is the special benefit or advantage afforded to particular individuals or groups of people, giving them access to valuable resources not

because of anything they do, or fail to do, but simply because of their identity—in other words, because they are a member of a particular social group that wields power.[4,16]

The global health field is not immune to power and privilege differentials, which are rooted in unequal relationships between high- and low-income countries arising from the "pillars of colonialism" and neocolonialism (the control of countries with fewer resources and less power by countries with more resources and power through indirect means) including economic power imbalances, racism, and inequitable gender norms and practices.[17-19] These power and privilege imbalances in global health are also embedded in KM systems and processes within global health programs.

What counts as knowledge and whose knowledge counts are fundamental questions of power and privilege.[20] Predominant methods of KM in global health used today were designed both by and for people with historically more power and privilege as a reflection of the society in which the methods were developed. For example, the global health field, grounded in scientific methods, places strong emphasis on knowledge produced through health research, with randomized controlled trials seen as the gold standard for identifying evidence-based interventions with high efficacy.[21] While such knowledge is certainly critical to improving health and saving lives, there is growing recognition that experience, "know-how," and lessons learned from both successes and failures—sometimes referred to as experiential knowledge—are also critical to ensuring the effective delivery of these evidence-based interventions at scale and under real-world conditions.[22]

What has been lacking in this conversation is that the emphasis on traditional research methods, and often the exclusion, dismissal, or devaluation of experiential knowledge, reflects the power imbalances inherent in the global health field whereby those from high-income countries have typically decided what the "appropriate" forms of knowledge generation and exchange are.[23,24] These types of power imbalances do not only appear at the global level.[25,26] Rather, power imbalances manifest at regional and country levels, such that health workforce members working at central levels of the health system may wield more decision-making power than those at more localized levels. It is also important to recognize that KM systems and processes should integrate and include local knowledge from the community members that the health programs seek to serve.

The differentials of power and privilege within a social system also operate on people's intersecting identities—their overlapping and interconnecting identities—affecting their ability to generate, share, and use knowledge. Each person has many identities, both personal (traits that make them different from others, such as their name and personality) and social (affinities they have with other people, such as their religion, race, and ethnicity).[27] Some identities can be seen relatively easily, such as assumed race or

gender, while others are not always easy to see, like a disability, socioeconomic status, or education level. In addition, one's identity may change over time. Intersectionality recognizes that by focusing on a single identity or aspect of marginality, we may fail to appropriately recognize and remedy experiences resulting from a combination of marginalized positions.[12,24] For instance, consider a program officer's co-existing identities related to gender, physical ability, and socioeconomic status when it comes to accessing KM products: a male program officer with low vision (a significant visual impairment) may be excluded from accessing the latest evidence and best practices because, although his gender identity may hold more power and privilege, the default KM processes that often rely on written text do not consider people with disabilities. That person, however, may be at lower risk of exclusion if their socioeconomic status enables access to support services for their disability, such as assistive technology tools for reading. These elements of a person's identity are indivisible, interacting to shape the person's unique experience.

The guidance in this revised edition on creating equitable KM systems is part of a journey we started with a gender analysis[28] to inform the design of the USAID-funded Knowledge SUCCESS project that champions the strategic and systematic use of knowledge to strengthen health systems, with a specific focus on family planning and reproductive health programs. The gender analysis made it clear that gender equity in KM—the fair treatment of all people in KM systems and processes regardless of sex or gender identity—was central to achieving effective KM. As we continued to reflect on these ideas, especially as calls were made to decolonize global health and parallel efforts were undertaken to address diversity, equity, and inclusion, we became increasingly aware that gender is one of several overlapping lenses of analysis that are critical to strengthening KM for health programs. These movements helped to highlight the marginalization of people in the global health workforce including women, Black people, People of Color, and those from the "Global South."[18,29] They also amplified the importance of recognizing the spectrum of people's identities (and the intersection of those identities) and specifically addressing the needs of people with historically less power and privilege to reshape the systems in which we work, including our KM systems.

We view diversity (the differences in people's identities) and inclusion (the active and intentional valuing of people of diverse identities) as tools to help us achieve equitable KM systems, processes, and outcomes. Working toward diversity and inclusion means intentionally including all members of the health workforce in KM, including the people from the communities that the health programs are serving. Valuing their ideas, skills, practices, and experiences makes intuitive sense when seeking to produce and share more rooted, situated health knowledge. Including diverse health workforce members—such as people of different gender identities, race, ethnicity, and nationality—in leadership

and decision-making roles in KM is also vital to help shift gender and other social norms that support power and privilege inequities and imbalances.[30] With this intentional focus on diversity and inclusion, we can help shift negative and detrimental forms and effects of "power over" individuals and groups toward positive expressions of power and agency, including "power to" take action, "power with" others to take collective action, and "power within" to recognize your own self-worth and capacity to take action.[14,15] These shared power structures and inclusive approaches, in turn, will create more successful KM interventions and global health programs.

This revised edition strives to integrate equity considerations during each step of the Knowledge Management Road Map as a starting point on our journey to creating more equitable KM systems and processes. We invite our readers to continue this reflection by sharing comments at KMCollection@knowledgesuccess.org, so that all of us can continue evolving toward equitable KM.

About This Guide

Why Use This Guide?

All global health workforce members—from community health workers and physicians to program managers and policy makers—need access to high-quality scientific evidence and programmatic experience to do their jobs effectively.

With this knowledge, global health workforce members can help save and improve people's lives. Knowledge management (KM) is a multidisciplinary approach to better share and apply this critical knowledge and expertise at global and regional levels and, especially, at various levels of a country's health system. The **Knowledge Management Road Map** is a systematic process for using KM in global health programs. This guide on Building Better Programs provides detailed guidance for how to apply the Knowledge Management Road Map.

This guide will help you to:

- Implement a systematic KM strategy to enhance the efficiency and effectiveness of your health programs
- Choose the appropriate mix of KM tools and techniques for sharing and using critical knowledge in your health programs
- Understand how to put the Knowledge Management Road Map into action through a practical program example
- Integrate equity principles and practices into KM systems and processes to ensure maximum effectiveness of KM interventions

Who Is This Guide For?

The primary audience for the *Building Better Programs* guide is global health program managers with responsibility for implementing and overseeing interventions, such as KM, to improve the efficiency and effectiveness of health programs. However, the guide may also be useful for the global health workforce working across any level of the health system, such as frontline health workers, clinic providers, policy makers, or donors, who play a role in KM activities—whether they recognize those activities explicitly as KM.

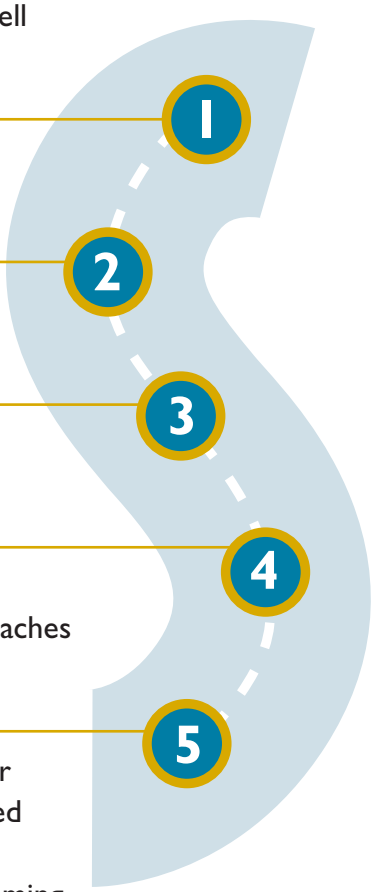
The Knowledge Management Road Map focuses on KM as a systematic *process*, not just a single product or activity. While there may be instances in which an organization or project decides to implement a specific KM tool or technique—such as convening a share fair, conducting usability testing on a website, or posting a member directory online—our goal in sharing the

Road Map is to encourage the use of inclusive and equitable KM systematically and strategically in global health programs to promote continual knowledge sharing and application that evolves with changing conditions.

Strategic use of KM does not mean you need a large budget and unlimited resources. Even with a small budget, you can use the Knowledge Management Road Map to apply KM strategically in your global health programs. The Road Map is meant to guide you through the strategic process, starting first with assessing your health information needs and formulating a strategy for your KM activities, but you can scale the specific tasks within each step of the Road Map according to your needs and budget.

What Is the Knowledge Management Road Map?

The Knowledge Management Road Map is a five-step systematic process for generating, collecting, analyzing, synthesizing, and sharing knowledge in global health programs. Equity is a key consideration throughout all steps, as well as in broader KM systems and processes.



- **Step 1: Assess Needs** to understand the extent of the health program challenge and identify how KM may help solve it
- **Step 2: Design Strategy** to plan how to improve your health program using KM interventions
- **Step 3: Create and Iterate** using new KM tools and techniques or adapting existing ones to meet your health program's needs
- **Step 4: Mobilize and Monitor** by implementing KM tools and techniques, monitoring their effects, and adapting your approaches and activities to respond to changing needs and realities
- **Step 5: Evaluate and Evolve** to explain how well you achieved your KM objectives, identify factors that contributed to or hindered your KM intervention's success and its impact on program outcomes, and use these findings to influence future programming

For a checklist of items to consider when creating equitable KM interventions, see our companion Checklist for Assessing Equity in Knowledge Management Initiatives.

How Is This Guide Organized?

For each step of the Knowledge Management Road Map, this guide includes:

- An **overview** of the step, including its **goal**, with **equity** considerations highlighted
- **Tasks** to complete within each step
- Intended **outputs** as a result of successfully completing the step
- A practical **case study** of how a particular project—in this instance, the Improving Contraceptive Method Mix (ICMM) Project in Indonesia—put the step into action

Although the guide presents each step sequentially, in practice, the steps often overlap. All steps should be considered at the outset of the process. Specifically, the final two steps, Step 4: Mobilize and Monitor and Step 5: Evaluate and Evolve, need to be discussed and planned for early in the process, during Step 2: Design Strategy.

In addition to the five key steps of the Knowledge Management Road Map, **three cross-cutting concepts of collaborating, learning, and adapting** (CLA) are woven throughout the process. The CLA Framework provides a flexible approach to support and enhance KM and ongoing learning for more effective program cycle implementation, as promoted by the Bureau for Policy, Planning, and Learning at the United States Agency for International Development (USAID).[31]

Each CLA concept can be applied to health programs:

Collaborating involves engaging with key stakeholders to understand the local context, design health programs appropriately, and keep abreast of changes. It also involves coordinating efforts within an organization and among partners and other stakeholders to increase productivity and extend the organization's influence and impact beyond its program funding.

Learning occurs before, during, and after program implementation. When health workforce members learn, they generate, capture, analyze, share, and apply information and knowledge to improve programs. Programs should pause periodically to reflect on and synthesize new learning, and then intentionally share and validate that learning with other partners, donors, and implementers.

Adapting within a health program requires application of the learning that occurs and making iterative course corrections during implementation to respond to changing needs, priorities, and realities. Such adaptations are crucial to increasing the impact of programs.

These three cross-cutting concepts are presented in *Step 1: Assess Needs, Step 2: Design Strategy,* and *Step 4: Mobilize and Monitor.* However, each concept applies to all five steps in the Road Map (see Appendix). You can find more information about the CLA Framework in the CLA Toolkit.

What Is Knowledge Management?

Information and knowledge are essential assets for any organization, including health care organizations and programs. When health care providers, program managers, and policy makers use the latest evidence and experience to inform their decisions, they can provide high-quality services to their clients and patients, develop effective policies, reduce duplication of effort, and increase efficiencies. These results, in turn, ultimately support better health outcomes for people.

At the crux of this cycle is KM. Although the term "knowledge management" may be new to many people in the global health workforce, most, if not all, actually practice it every day without realizing it. When health care providers refer to the latest guidelines on how to treat a disease, they are using KM. When a program manager rolls out a new mobile application to facilitate communication between community health workers and their supervisors, they are all using KM. When policy makers refer to a research brief to inform an upcoming policy on task shifting contraceptive implant provision to nurses, they are using KM. What is the common thread between these activities? All these global health workforce members are using KM tools and techniques to access, share, and use knowledge in their work.

Defining Knowledge Management

There are many different definitions of KM, but all share common themes. We define "knowledge management" as **a systematic process of collecting knowledge and connecting people to it so they can act effectively and efficiently.** KM has been used successfully in the business sector for decades, and increasingly within global health and development, to spark innovative thinking, improve strategic decision making, and encourage dynamic learning.

THE Essential Question:

Do all individuals and groups in the global health workforce have the knowledge they need to do their jobs properly and effectively?

If not, how can KM help them do their jobs better?

The 3 Ps: People, Processes, and Platforms

Most knowledge is created, captured, and shared through human interaction—making it essentially a social act. **People**, their behaviors, and the norms that govern those behaviors must, therefore, be at the core of any KM approach, particularly since so much knowledge is in people's head and difficult to transfer to others. **Processes**, both formal and informal, help us capture and share

knowledge, while technological **platforms** that are appropriate to the context can expedite knowledge storage, retrieval, and exchange. These three components form the foundation of knowledge management.

Want to know how your organization is doing in terms of KM capacity? Based on data related to common barriers and facilitating factors for KM, the KM Index for Global Health can be used as a baseline assessment of KM capacity, an endline measure to assess changes in KM capacity over time, and/or a monitoring tool to assess KM strengths, weaknesses, and opportunities for improvement.

Applying Knowledge Management in Global Health Programs

Historically, KM has been applied at the organizational level to improve employee performance and facilitate innovation. Within global health and development, however, where resources are limited, many actors are involved, and work is geographically distributed, it is imperative to apply KM at the broader program level. Doing so can facilitate collaboration and knowledge sharing at global, regional, national, and sub-national levels. KM is used within and across health-focused institutions and organizations to:

- Ensure that relevant health knowledge—data, research findings, best practices, programmatic guidance—flows up, down, and across the health care system, including at the national, district, and community levels
- Nurture and engage professional networks to cultivate an environment within the health care system that promotes collaboration and learning
- Address human resource issues related to acquiring, sharing, using, and retaining organizational knowledge to improve decision making, processes, and services

Many global health practitioners already use KM every day in their work. Watch our animated video, Knowledge Management: Strengthening Health Services, Saving Lives, to see how, and to learn how we can be more intentional and systematic in our KM practices.

BOX 1

BARRIERS AND FACILITATING FACTORS FOR KM IN ORGANIZATIONS

A review of studies identified key factors that may help or hinder knowledge sharing within an organization.[32]

Factors that can facilitate knowledge sharing include

- Organizational culture that is non-hierarchical, values people, and encourages knowledge sharing
- Leadership and organizational structures that allow time for learning (including from failures), collaboration, and sharing
- Leadership support and opinion leaders who advocate for the use of KM along with consistent and cohesive KM promotion
- KM strategy that is clear and concise
- Provision of incentives for sharing knowledge, such as positive feedback, recognition at team meetings, or delegation of authority
- Training in KM, including how to use related technologies

Barriers to KM can be at the individual or organizational level

- Changes in management or other staff
- Information overload or individuals' lack of competency in KM or associated information and communication technologies (ICTs)
- Organizational culture and structure that is hierarchical, lacks trust, and lacks willingness to share knowledge
- Social inequalities and social biases that inform and shape production and use of knowledge
- Time and monetary requirements needed to develop a KM system
- Lack of understanding of the value of KM, tied to lack of leadership buy-in
- Lack of clarity on how to measure KM

To ensure effective KM, all global health workforce members must engage in knowledge creation, capture, sharing, and use and KM systems must value and respect each individual's unique knowledge needs, experience, and perspective, regardless of their geographic location, age, sex, gender, race, ethnicity, or other identity. However, power and privilege imbalances are embedded in global health programs and their KM systems and processes, resulting in unfair differences in knowledge access, creation, sharing, and use among groups of health workforce members. Programs must therefore address these avoidable and remediable differences, which may require providing greater support or resources to disadvantaged groups in order to achieve more equal KM outcomes across all health workforce members. To attain such equity in KM, programs should apply an equity lens throughout all steps of the Knowledge Management Road Map:

- First, consider who might be experiencing inequity in KM systems and processes, taking into account social, economic, and environmental categovries of people's identities (see Table 1), as well as which aspects of KM systems and processes are not being delivered equitably (Step 1: Assess Needs).
- Then, design and implement KM interventions that address the barriers and root causes of inequity (Step 2: Design Strategy and Step 3: Create and Iterate).
- Finally, monitor and evaluate implementation of the KM intervention and make any necessary midcourse corrections to ensure all people can engage in the intervention (Step 4: Mobilize and Monitor and Step 5: Evaluate and Evolve).

RAPID KM

Look for "Rapid KM" boxes throughout this guide for advice on how to do KM when time or resources are limited.

Equity in KM for Health Programs

The absence of unfair, avoidable, and remediable differences in knowledge creation, access, sharing, and use among groups of health workforce members, whether those groups are defined socially, economically, or environmentally. Equity in knowledge management for health programs is achieved when all people in the health workforce have the information, opportunities, skills, and resources they need to define and participate in knowledge access, creation, sharing, and use to improve health programs.

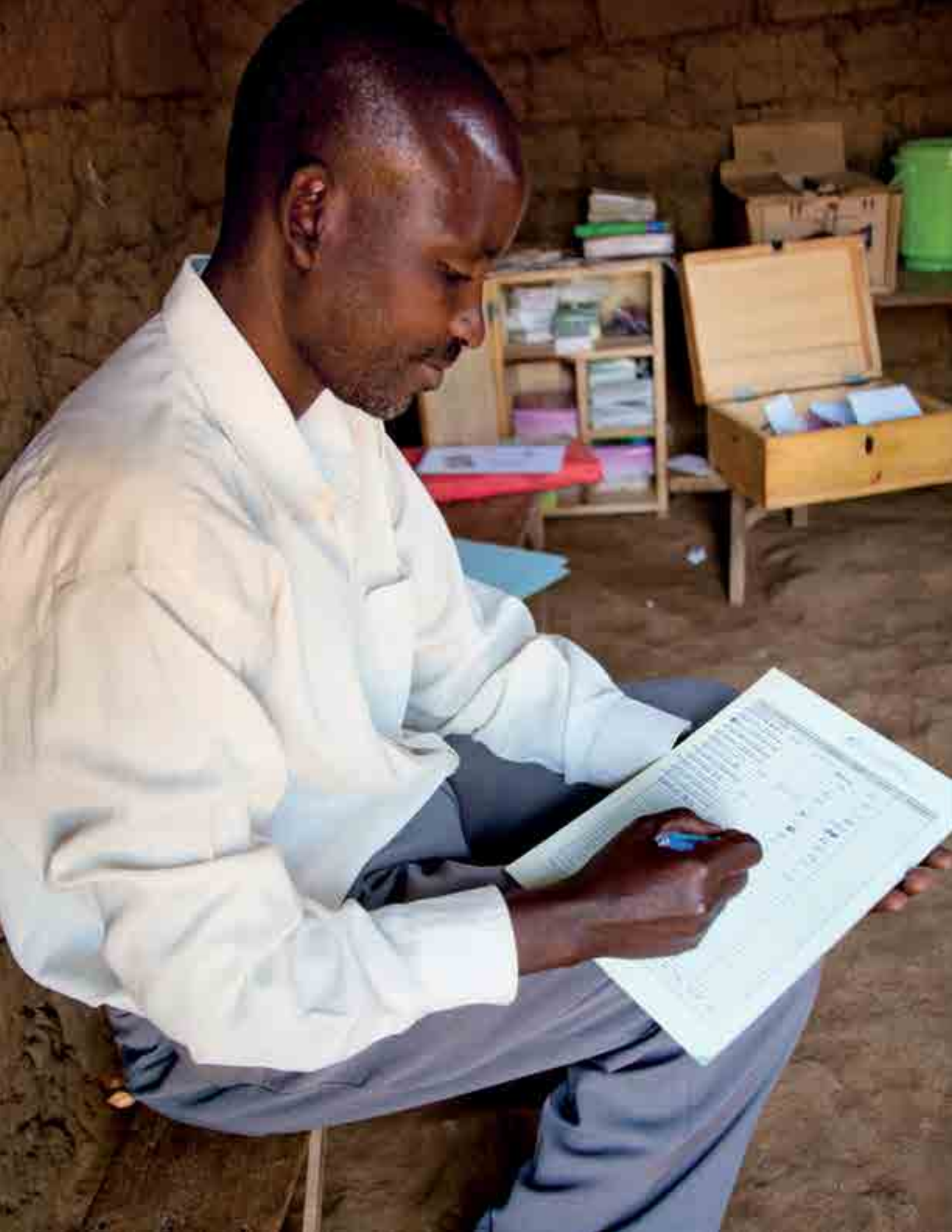
EQUITY TOOL

TABLE 1

Identities and Groups Who May Experience Inequity in Knowledge Management, by Category

Categories	Illustrative Identities	Illustrative Groups
SOCIAL	Age Race Ethnicity Physical ability Sex assigned at birth Gender identity Sexual orientation Religion Nationality Language Education	Younger staff, sometimes older staff Black, Indigenous, and People of Color Staff with physical disabilities Women or non-binary staff LGBTQIA+ staff Religious minorities Staff in low- and middle-income countries Staff whose preferred language is not the official national language Staff with no formal education or lower education
ECONOMIC	Income Occupation (including functional level/classification, division/ department, seniority)	Lower-paid staff Junior staff Interns or students
ENVIRONMENTAL	Geographic location (e.g., urban/rural, work location) Level of the health system	Staff in rural areas Staff at sub-national levels of the health system

Adapted from *High Impact Practices in Family Planning* (2021).[33]



Assess Needs

STEP 1

Overview

The goal of **Step 1** is to understand the extent of the health program challenge and identify how KM can help solve it. Starting with a needs assessment will help you to understand the current capacity for exchanging knowledge in your health program and to identify knowledge-sharing gaps. The needs assessment can also serve as a baseline snapshot of the current situation, which you can then use to compare the effects of your KM intervention later.

You may encounter obstacles to collecting formative data to inform the design of your KM intervention. For example, some stakeholders may think they already know what the problem is and how to solve it; others may object because they think there is not enough time to do a needs assessment. The goal of this step, however, is to encourage you to think through the issues, barriers, and facilitating factors to using and sharing knowledge in your global health program, including who is engaged in KM systems and processes and who is excluded unfairly. This time will be well spent because it helps ensure that the strategy and activities you put in place—and the resources you spend—are meeting a real need. Even if you have limited time or resources, you can still gather useful information quickly and easily by, for example, reviewing existing data and consulting with key stakeholders.

OUTPUT

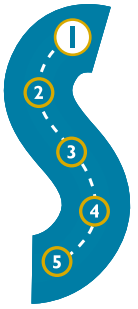
Synthesis of needs assessment findings—including an analysis of who is experiencing inequity in KM systems and processes, which aspects are not being delivered equitably, and why.

KEY TASKS

- 1.1 Identify the **health problem** that KM can help solve
- 1.2 Define the **audience** of your needs assessment
- 1.3 Decide what **key questions** you want the needs assessment to answer
- 1.4 Select and implement the appropriate **methods** to answer your key questions
- 1.5 Analyze and synthesize the needs assessment **findings**

HOW TO INTEGRATE EQUITY

Analyze the ways in which knowledge needs, barriers, and opportunities may vary depending on people's intersecting identities to inform the design of more equitable KM interventions.



▶ STEP 1.1

Identify the health problem that KM can help solve

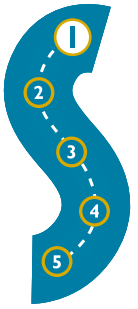
Think about the health problem you are trying to solve, who is involved in solving the health problem, and what is currently occurring compared with what should be happening. Defining the problem clearly will help you to understand how KM can help address the aspects of the problem that have knowledge implications. For example, imagine your goal as a regional hub is to scale up HIV testing and initiation of antiretroviral therapy across your region. Your network members are implementing innovative interventions to reach ambitious country targets over the next five years, but you think progress can be accelerated even more if the members share their best practices and lessons learned with each other in order to replicate or adapt what is working and avoid challenges that have hindered progress. In addition to publishing success stories and lessons learned in reports, briefs, journal articles, or blog posts, a number of other KM tools and techniques, such as peer assists, knowledge cafés, storytelling, and fail fairs, can help capture, synthesize, and share that knowledge.

▶ STEP 1.2

Define the audience of your needs assessment

Defining the problem and the audience go hand in hand. In global health programs, the audiences are typically those affected by the health problem (e.g., women of childbearing age who experience negative health effects of closely spaced pregnancies). In KM for global health programs, however, the audience is the global health workforce—in other words, the people who have an interest in solving the health problem. These can include internal project or organizational staff members as well as external partners, networks, and the broader global health community.

It is important to define the audience with specificity and to apply an intersectional lens when doing so. For example, ask yourself: Are you focused on health care providers or the supervisors of those providers? At what level of the health system does your audience operate? Delve deeper and identify specific subgroups, for example, female midwives at peri-urban health centers, female community health workers in rural areas of a particular geographic region, or male facility managers whose native language is French. Think through why you are selecting one particular audience over another: Are there specific issues about this audience that make it more important to assess their knowledge needs than other audiences? Does this audience have substantial barriers to accessing and using knowledge to inform their work? Are some of these barriers due to differences in the audience's power and privilege in KM systems and processes that should be remedied? How do the potential audiences relate to national, sub-national, and local priorities for improving health programs and outcomes? Refer to Table 1 for common subgroups of the health workforce who may experience inequity in KM systems and processes.



▶ STEP 1.3

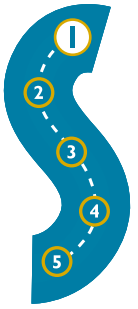
Decide what key questions you want the needs assessment to answer

Once you have identified the health problem and the KM-related audience, you should then define the questions the information needs assessment should answer. Defining the questions helps you draft relevant objectives; ensures everyone involved in the assessment understands its purpose, focus, and scope; and helps you decide which assessment methodology to use and how to collect and analyze data. Common information needs assessment questions focus on identifying the types of information that a particular audience needs, the ways in which the audience currently accesses and shares information, and the barriers they face in accessing, sharing, and using information.

The **Knowledge Management for Global Health Logic Model**, developed by the Global Health Knowledge Collaborative to assist with planning and evaluating KM interventions in global health programs, provides a useful framework for focusing the scope of your needs assessment and the types of questions it should answer (see Figure 1). As with other logic models, the Knowledge Management for Global Health Logic Model provides a visual depiction of the relationships between the resources, processes, outputs, and outcomes of KM interventions in global health programs. As you define your needs assessment questions, it is important to analyze ways in which knowledge needs and barriers may vary by the identities people hold to design equitable KM interventions. To help plan your needs assessment with equitable KM as a key goal:

Start with the ultimate outcomes that your health program is trying to achieve, then think backward through the model to identify how effective and equitable KM could help you achieve that long-term outcome and what should occur along the way to make that happen.

Think about the KM tools and techniques—the outputs of the KM cycle, which range from websites and publications to training workshops and communities of practice—that people use to capture and share knowledge and consider what is working well and what isn't in terms of their four essential elements: availability, accessibility, acceptability, and quality (learn more about these elements in *Step 3: Create and Iterate*). As part of this needs assessment step, it is important to identify what types of KM tools and techniques are already in use, particularly since a key goal of KM is to reduce duplication of effort. Referring to the Key Equity Prompts in Figure 1, as part of the needs assessment, consider the degree to which KM tools and techniques meet the needs of all audiences equitably and account for any power dynamics or other barriers that may limit certain subgroups' access to these tools. Consider cost, format, language, timing, and technology when assessing accessibility. When assessing acceptability and quality, consider whether communication materials use the appropriate tone for the



audience, give culturally relevant and context-specific examples, and offer details on the "how" of program implementation; program managers and officers typically need this information in addition to the research results that academics and decision makers often request.

Consider broader barriers related to systems and processes that prevent equitable KM. In terms of processes, think through the five KM processes—knowledge assessment, generation, capture, synthesis, and sharing—that together make up the KM cycle. Each of these KM processes has important equity considerations. It is essential to reflect on what is considered knowledge—for example, whether only evidence-based knowledge is considered to be knowledge or whether experiential knowledge is also valued—and who makes those decisions. Beyond that, consider who is involved in the process and what their preferences are. How is equity affected depending on how the process is implemented or how policies and norms influence or drive decisions? For example, gender homophily—the preference to interact with people of the same gender identity—can act as a barrier to women's ability to access knowledge within an organization because they are excluded from male-dominated partnerships and informal networks. Gender homophily can also limit men's access to and engagement with the diverse knowledge and unique perspectives of women.[28] Other examples of policies or norms where power dynamics may influence KM processes, outputs, and outcomes include authorship practices, conference or workshop attendance, and team roles, particularly as they relate to managerial or technical roles versus administrative roles.

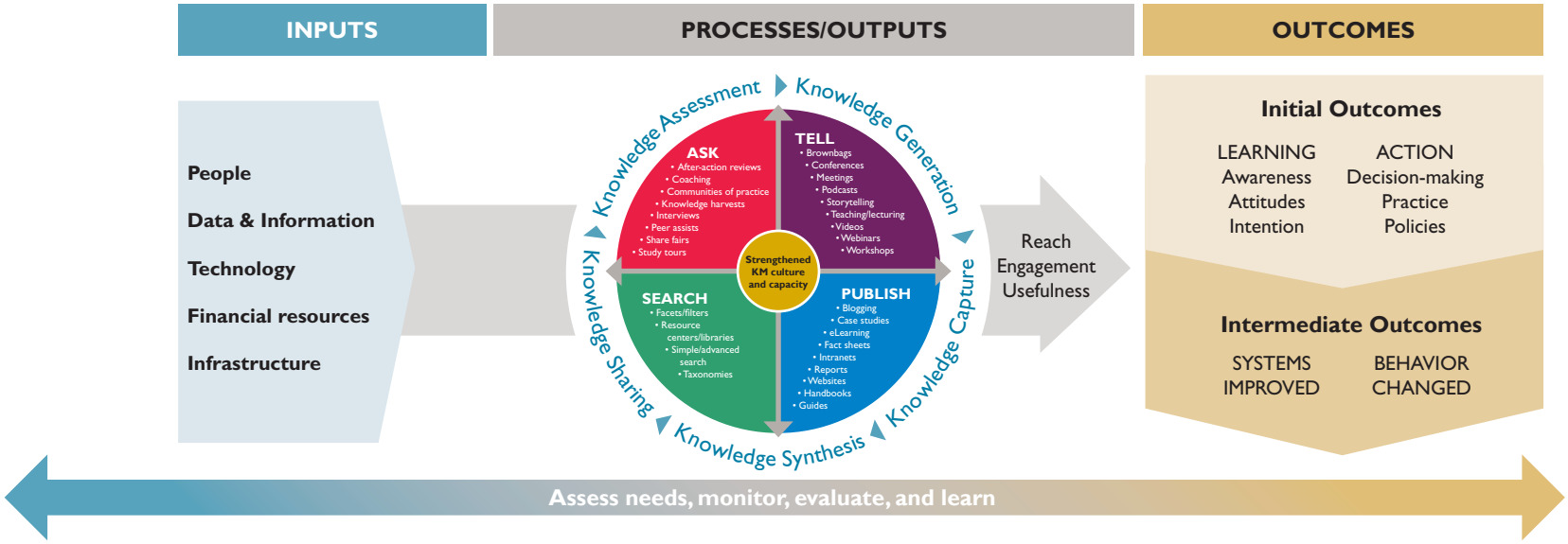
Finally, reflect on the needed inputs that make KM systems work. Key inputs for KM are people, data and information, technology, financial resources, and infrastructure. From an equity lens, it is essential to consider which voices are included or excluded due to power and privilege differentials. Consider, for example, that women make up a large proportion of the global health workforce, but men, particularly white men from high-income countries, often hold leadership positions that can influence whose knowledge counts, what counts as knowledge, and how knowledge is used and shared.[28] The way programs allocate budgets may also affect equity. For example, consider whether there is an adequate financial budget for translating KM resources into the different languages used by audience members, or whether sufficient time is budgeted for all team members to generate and share knowledge. The information and communication technologies (ICTs) used may also affect equity, considering people's unequal access to ICTs. For example, women, men, and people of other gender identities do not have equal access to digital solutions such as internet and mobile phones, particularly in low- and middle-income countries, due to men's control over access to and usage of ICT products and tools in certain communities.[28] This issue may trickle down to the health workforce.

EQUITY TOOL

FIGURE 1

Knowledge Management for Global Health Logic Model

Problem Statement » Inefficient, ineffective, and inequitable access, creation, sharing, and use of knowledge limits the quality of health policy, programs, and practice



Long-Term Outcome » Health practices and health outcomes improved through efficient, effective, and equitable knowledge management

Key Equity Prompts

INPUTS

Whose **voices** are included or excluded in KM systems?

What kinds of **data and information** are being captured, and who makes those decisions?

What kinds of information and communication **technologies** do people use, and does use vary by their identities?

How much **funding** and **time** are allocated to KM and to making KM equitable?

PROCESSES

What is considered knowledge, and **who** makes those decisions?

Who is involved in the different stages of the KM cycle: **generating ▸ assessing ▸ synthesizing, capturing ▸ sharing knowledge**? Consider how power and privilege influence these decisions.

With whom is knowledge shared, **how**, and in what **forms**? Are the methods and forms tailored to people's unique needs?

Are there **policies and regulations** or gender and other social **norms** that influence the flow of information?

OUTPUTS

Availability
What types of KM tools and techniques are **available**? What types are **used** by people of different identities?

Is there a **mix** of online and interactive tools and techniques to meet people's unique needs?

Acceptability
Does the content use an appropriate **tone** for the specific audience? Does it avoid stereotyping people or reinforcing inequitable social norms or power dynamics?

Are **culturally relevant** examples used?

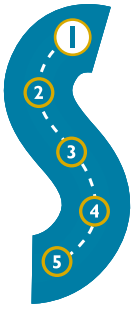
Do KM events respect the different **cultures** of attendees?

Accessibility
Who has access to the KM tools and techniques, and are there differentials based on people's identities? Consider **cost**, **format**, **language**, **timing**, and **technology**.

Quality
Are the KM tools and techniques of **high quality**? Is the information scientifically **accurate** and **recent**?

Are the KM tools and techniques, and the information included within them, **relevant** to people's specific needs (e.g., includes context-specific examples and details on the "how")?

Source: Adapted from Barnes and Milton (2015)[34] and Ohkubo et al. (2013).[35]



▶ STEP 1.4

Select and implement the appropriate methods to answer your key questions

Once you have developed your key questions, conduct a desk review to uncover what is already known about the situation. For example, conduct a literature search or reach out to colleagues to determine whether reports or publications have collected information regarding the knowledge needs of your defined audience. Seeking, collecting, and analyzing existing data and information are relatively inexpensive ways to learn about the needs of audiences (see Box 2). When using existing data, however, be sure to critically analyze whose knowledge needs may be missing from those sources.

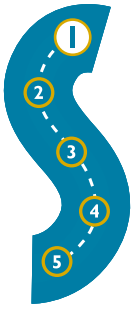
BOX 2 COMMON SOURCES OF EXISTING DATA ON KNOWLEDGE

- Service Provision Assessment data
- Literature reviews
- Evaluation reports of other relevant health programs
- Management reports
- Policy documents
- Training needs assessments
- Action plans

There may be certain gaps that will require you to collect new data to better understand the current situation. Some common methods for collecting data on knowledge needs include interviews with key informants, surveys, and focus group discussions. Network Mapping (or Net-Map)—a social mapping tool that combines the visual aspects of creating a map with either an individual or group interview—is a particularly useful method for collecting data on key questions around knowledge needs and knowledge sharing. For example, Net-Map can help you understand how information on a particular topic is shared between health care workers at different levels of the health care system. Social norms mapping tools, such as the Social Norms Exploration Tool,[36] can also be helpful to understand the social norms operating within a program that influence how health workforce members share and use knowledge. Select the method, or combination of methods, to ensure audiences of all identities can share their insights and experiences. For example, if you decide to conduct interviews, ensure that resources are available for language interpretation during the interviews, depending on the language preferences of your stakeholders.

More information about these methodological approaches can be found in the *Guide for Conducting Health Information Needs Assessments*.

For a sample needs assessment concept note and a needs assessment findings report, see the KM Training Package at www.kmtraining.org.



There are varying degrees of comprehensiveness in terms of conducting needs assessments generally, and specifically for information needs assessments. If lack of time or resources is a major constraint, you can still collect useful data informally by, for example, going to a meeting attended by your key audience and asking them a few pertinent questions. You can also consider building in needs assessment activities as part of start-up activities for the KM intervention to further refine the needs during the implementation period.

▶ STEP 1.5

Analyze and synthesize the needs assessment findings

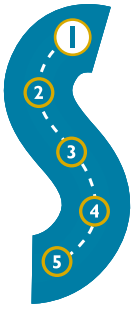
Depending on the methods you use to conduct your needs assessment, you may draw on quantitative and/or qualitative data. Quantitative data measure phenomena in numerical form, whereas qualitative data describe phenomena through words or patterns. When the two types of data are used together, they can provide complementary information, with quantitative data typically answering "how many" and "how often" questions and qualitative data answering "why."[37]

RAPID KM

Don't let limited time or budget prevent you from strategically assessing the knowledge needs of your audience. You can still collect useful information quickly and inexpensively by, for example, reviewing existing data and consulting key members of your audience at a meeting. Be sure to consult stakeholders with diverse identities and engage stakeholders who are traditionally marginalized and underrepresented.

The Pan Caribbean Partnership Against HIV/AIDS (PANCAP), a regional partnership of governments, civil society organizations, bilateral and multilateral agencies, and donors tasked with coordinating the Caribbean region's response to the HIV epidemic, provides a useful example of how a rapid KM assessment can be used to inform the design of an effective and inclusive KM intervention. They convened a few stakeholder meetings and conducted targeted key informant interviews and a rapid online survey of partners to understand the type of content that regional partners need and the methods for accessing that content. The assessment included individuals representing diverse identities, such as young professionals from civil society organizations, women and men, Black, Indigenous, and People of Color, and individuals from the lesbian, gay, bisexual, transgender, queer or questioning, intersex, asexual, plus (LGBTQIA+) community. From these sources of information, PANCAP developed an informal Net-Map and a matrix of the partners, their information needs for achieving the Joint United Nations Programme on HIV/AIDS 90-90-90 HIV treatment targets, and sources and frequency of information sharing.

Through iterative conversations about the findings with the diverse group of stakeholders, PANCAP decided to focus their KM initiative on involving National AIDS Control Program managers and civil society organizations more systematically in the partnership, with the ultimate goal of helping them to rapidly scale up the "Treat All" program. The needs assessment process took about six weeks to complete.



Much of the data emerging from the needs assessment will probably be qualitative in nature. To analyze these data, you will likely make use of content analysis approaches—systematically reading the transcripts of interviews or focus group discussions and assigning labels to highlight interesting, meaningful patterns or unique themes. Qualitative analysis software, such as Dedoose, ATLAS.ti, and NVivo, may be helpful for analyzing the information, particularly for coding large bodies of textual, graphical, audio, or video data. For example, the software can reveal meanings and relationships through tools such as word clouds, word frequency tables, and mind maps. For quantitative data, Microsoft Excel is a common and easy-to-use, yet robust, tool for storing, organizing, and manipulating data, and gives you the ability to create visual charts and graphs.

As you analyze your data, be sure to apply an equity lens. For example, you can use the Knowledge Management for Global Health Logic Model (Figure 1) as an organizing framework to classify and organize data into key equity-related themes and concepts.

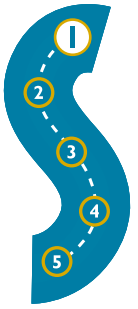
Once you have analyzed your data, the next step is to synthesize the findings in a suitable format that all stakeholders can access and draw on. This could be as formal as a needs assessment report, a short brief or memo, or an interactive presentation.

You may be surprised to discover that your needs assessment uncovered several different KM needs and gaps of which you were previously unaware. At this point, you may wonder how you will fill all these needs given your finite resources. But don't let those fears paralyze you into doing nothing or thinking that you have to do everything immediately. Instead, "Think Big, Start Small." In the next *Strategy Design* step, decide which needs should have the highest priority and focus on meeting those needs first while keeping in mind the bigger picture you will be working toward over time.

STEP 1 ASSESS NEEDS

OUTPUTS

Synthesis of needs assessment findings—ranging from a simple brief to a formal report, depending on the scope of your needs assessment and unique needs of your stakeholders—that describes the health problem, your stakeholders' perception of their knowledge needs and barriers, and your understanding of the causes, facilitating factors, and possible solutions to the KM problem. An inclusive synthesis of the findings will draw out the particular KM needs of and barriers experienced by key subgroups of interest by reflecting on their intersectional identities, such as ethnicity, gender, language, or educational status.



CROSS-CUTTING CONCEPT

Learning Before, During, and After Implementation

Before starting any KM intervention, program staff should use needs assessment findings from *Step 1: Assess Needs* to understand the specific health situation, context, and knowledge needs and barriers that affect the problem—this is the critical knowledge that informs *Step 2: Design Strategy*. For example, before starting a new KM intervention, look at evaluation results from a previous KM intervention or similar project. You can also conduct a peer assist (a KM technique) to learn from other technical experts before beginning a new project or activity (see insert on p. 47).

From there, learning continues as staff create, test, and refine KM tools and techniques.

During implementation, staff members should collect and analyze monitoring and evaluation data, and they can use KM approaches to reflect on progress and make midcourse corrections. An after-action review, for example, probes what went well, what did not go well, the factors that contributed to the successes and challenges, and what changes can be made the next time around (see insert on p. 47).

After implementation, staff members can use program findings and lessons learned to adapt activities for the next cycle or for other KM interventions or programs. Evaluation data can show which interventions worked, and to what degree, and which interventions did not. Documenting evaluation findings clearly and succinctly is therefore important to make it easier to put them into use in the future. Throughout the program cycle, staff and partners are also "learning by doing" with hands-on capacity-strengthening activities to improve KM knowledge and skills.

STEP 1 >> IN ACTION

Using KM to Translate Family Planning Evidence Into Advocacy in Indonesia

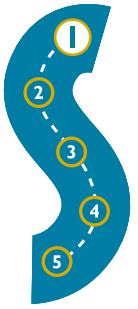
BACKGROUND

The ICMM Project was implemented in two Indonesian provinces between October 2012 and November 2016.* The project was designed to determine the effectiveness of using evidence-based advocacy geared toward governmental and nongovernmental leaders to improve access to and use of long-acting reversible contraceptives (LARCs) and permanent methods (PMs) at the district level.

This case study uses the Knowledge Management Road Map to highlight how the ICMM Project planned for and used KM to accomplish its key objective of translating evidence into advocacy. The story of ICMM unfolds over the course of this guide as each step of the Knowledge Management Road Map is explained.

TASKS	ICMM STEPS IN ACTION
STEP 1.1 Identify the health problem that KM can help solve	In many areas of Indonesia, the contraceptive method mix is highly skewed toward short-acting methods, despite their higher rates of contraceptive discontinuation compared with long-acting methods, and couples' desires to limit births. At the same time, decentralization of health services has reduced institutional support for family planning programs at the district and village levels. District- and village-level advocacy, with a special emphasis on improving the method mix by increasing access to LARCs and PMs, was identified as an important strategy to reinvigorate family planning program efforts. But evidence about women's and couple's attitudes toward family planning and their preferences for particular methods was also needed. KM was seen as a bridge between the needed research and advocacy activities.
STEP 1.2 Define the audience of your needs assessment	Key audiences for the ICMM Project were clients (typically women), midwives (the primary providers of family planning in Indonesia, who were also women), and community-level decision makers (typically men), such as mayors, religious and civil society leaders, and officials from the District Health Office. The project worked in six districts in East Java and West Nusa Tenggara, where local languages were common and a large proportion of people lived in rural areas with limited internet connectivity.

*Funded by USAID and the Australian Department of Foreign Affairs and Trade, ICMM was led by the Indonesia office of the Johns Hopkins Center for Communication Programs, in partnership with Yayasan Cipta Cara Padu, the Center for Health Research at Universitas Indonesia, the Bill & Melinda Gates Institute for Population and Reproductive Health, the Directorate of Maternal Health at the Indonesian Ministry of Health, and Indonesia's National Population and Family Planning Board.



TASKS	ICMM STEPS IN ACTION
STEP 1.3 Decide what key questions you want the needs assessment to answer	What kinds of information related to family planning, and particularly to LARCs and PMs, do service providers and decision makers need? Is this information available in local languages and tailored for local contexts? What are the active KM channels that program managers and service providers use to share knowledge? For local decision makers? Are there differences by job function or other identities of the stakeholders? What barriers do decision makers face in accessing, sharing, and using health information? What factors exist to facilitate knowledge sharing?
STEP 1.4 Select and implement the appropriate methods to answer your key questions	The project's baseline assessment examined knowledge, attitudes, and behaviors related to LARCs and PMs among clients, providers, and decision makers. The project team also talked to colleagues and partners at the national and district levels to better understand the knowledge needs of community-level decision makers. Finally, the team conducted a desk review of existing documentation, such as Demographic and Health Survey data; service data from the District Health Office, private clinics, and family planning field offices; and relevant project reports, including those from the Advance Family Planning advocacy program in Indonesia. The team considered inequities related to gender, access to technology, and language (e.g., certain information was available only in Bahasa Indonesia or English, not local languages and dialects).
STEP 1.5 Analyze and synthesize the needs assessment findings	*Active KM channels:* Program managers and service providers used regional exchanges, stakeholder meetings, online communities of practice, and partner websites to share information. Local decision makers preferred exchanging information through in-person meetings, which, although effective, were expensive and not always practical to convene. They also preferred information in their local language, rather than Bahasa Indonesia or English (which were not spoken by all communities). Email and mobile phones were used to schedule meetings and exchange files. *Barriers to KM:* A system for sharing information among district-level stakeholders was lacking; limited internet connectivity and resources in most of the areas restricted set up of an online sharing platform. *Facilitating factors for KM:* Informal networks existed within each district—often for family planning-related topics, such as maternal and child health—that allowed the decision makers to easily share information with each other at monthly face-to-face meetings. *Types of information needed:* Midwives needed access to current evidence-based information, particularly related to medical eligibility criteria for contraceptive use. Local decision makers needed information on how to create an enabling environment for provision of LARCs and PMs, including policies for training, funding of services, and other issues. *Overall findings:* ICMM identified the need to hold basic workshops and seminars in Bahasa Indonesia and other local languages on key family planning topics—including the demographic dividend, unmet need, and LARCs and PMs—and recognized the importance of revitalizing district- and community-level networks for information sharing. Taking advantage of face-to-face networks and meetings was essential due to limited internet connection in many places.

Design Strategy

STEP 2

Overview

Effective KM interventions must be supported by a well-designed strategy. The **goal of Step 2** is to create the strategy for how to improve your health program with KM, using the findings and recommendations that emerged from *Step 1: Assess Needs*. This strategy will provide direction for your KM activities—ensuring that specific gaps identified in your needs assessment are addressed, and that activities, milestones, and indicators are tracked. It will also help you use your resources effectively.

The KM strategy should be developed in a participatory manner with all relevant stakeholders, including those with diverse identities and especially those who are traditionally marginalized and underrepresented. Without this inclusive approach, your KM strategy may not be responsive to the needs of the intended audience members and could (intentionally or unintentionally) serve to perpetuate power and privilege imbalances. Say, for example, that a mixed-gender project team located in both the United States and Uganda is developing a KM strategy for a national reproductive health project in Uganda, but the men based in the United States make all the decisions on the design without genuine consideration of the ideas and experiences of the staff in Uganda, especially the women. Historical power dynamics are perpetuated in this scenario, which affect the ultimate KM strategy and may not meet the needs of reproductive health program managers in Uganda.

Programs are understandably eager to get started with implementing activities. So why take the time to develop a strategy first? Precisely because wasting time and money, or risking a low return on your investment, is not an option when resources are scarce. A thoughtful strategy helps ensure success of your intervention by:

- Determining how and where resources should be spent
- Facilitating decision making
- Getting the team on the same page
- Ensuring the team works on the right activities and priorities and doesn't waste time or resources on low-value initiatives

In short, your KM strategy will help ensure you stay on budget, meet your deadlines, and move forward throughout implementation.

OUTPUT

KM strategy that can be used by all team members to map out their KM activities and refer to for direction

KEY TASKS

2.1 Decide on **KM objectives**

2.2 Define your **audiences**

2.3 Ground the KM intervention in a relevant **theoretical framework**

2.4 Decide on **KM tools and techniques and appropriate ICTs**

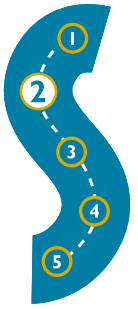
2.5 Develop a **budget and an implementation plan**

2.6 Develop a **monitoring and evaluation plan**

2.7 Bring together relevant stakeholders to **launch** the KM intervention

HOW TO INTEGRATE EQUITY

Consider equity challenges uncovered in the needs assessment as you develop your KM objectives, define the audience of your KM intervention, and decide on KM approaches. Ensure the KM team you assemble includes representation from diverse identities, including in leadership positions. Note that equitable KM requires strategic budgeting and resource management to ensure KM interventions reflect the needs of all health workforce groups for better outcomes.



▶ STEP 2.1

Decide on KM objectives

To design your KM strategy, first decide on the specific KM objectives you want to accomplish to improve your health program. Revisit the results of your needs assessment conducted in *Step 1: Assess Needs* to ensure that your KM objectives are based on actual needs. Choose three to five KM objectives, and make sure they are **SMART**:

- **S**pecific: desired outcome and audience clearly specified
- **M**easurable: achievement of the objective quantifiable and measurable
- **A**ppropriate: needs and capabilities of the audience considered
- **R**ealistic: objective can be realistically achieved with the available resources
- **T**imely: time period for achievement of the objective explicitly stated

Because your KM objectives help determine which activities to undertake to effect program outcomes, it is especially important to involve people from diverse background in this process to ensure the KM objectives represent the varied perspectives of the audiences you are trying to reach. While determining your objectives, consider the challenges your needs assessment uncovered at the input, process/output, and outcome stages of the Knowledge Management for Global Health Logic Model, including any issues of equity and the root causes of those issues (see Figure 1). Develop KM objectives that address the key challenges you are most likely to impact with your KM intervention.

These objectives can be at different levels of the logic model, consisting of the output level or the initial, intermediate, or long-term outcome levels (see Table 2). While KM interventions could support a health program's overall long-term outcomes, KM objectives will most likely be at the process, output, or initial outcome level, and sometimes at the intermediate outcome level. You may also have different KM objectives for particular subgroups of your audience to ensure equity in your KM interventions, or you may develop more nuanced KM objectives as you consider your objectives with an equity lens. For example, to ensure best practices are shared at different levels of the health system, your KM objective to reach program managers at the district level may be to develop an online portal that collects and organizes best practices by topic, whereas to reach health workforce members at the community level you may need to organize periodic meetings to share the best practices through dialogues. As another example, if your KM objective is to develop a checklist for birth attendants, applying an equity lens may prompt you to develop the checklist in multiple languages to ensure all birth attendants can access and use the job aid.

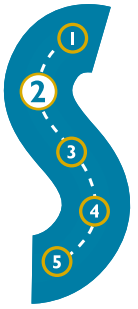
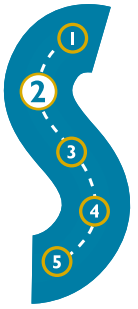


TABLE 2

Sample Objectives at Different Program Outcome Levels

Outcome Level	Description	Sample Objective
Output	KM tools and techniques resulting from the KM processes of generating, capturing, and sharing knowledge; the effect of these tools and techniques can be measured in terms of **reach, engagement,** or **usefulness**	**Reach**: Checklist in multiple languages (specify preferred languages of your audience) synthesizing essential birth practices to ensure safe childbirth developed and distributed to all birth attendants in 20 project districts **Usefulness**: At least 80% of birth attendants in 20 project districts who received the checklist indicate it is useful and easy to use
Initial Outcome	Benefits to users of the KM tools and techniques, such as health workforce members, related to improving their awareness, attitudes, or intentions (**learning**) and/or their decision making, practices, or policies (**action**)	**Learning:** At least 80% of birth attendants in 20 project districts who attend a training workshop that uses the checklist say they intend to incorporate the checklist into their daily work routine **Action:** More than 80% of birth attendants adhere to essential birth practices using the checklist within one year of training on use of the checklist
Intermediate Outcome	Benefits to **health systems** (improved access, coverage, quality, safety) and/or **client behaviors** as a result of achieving initial outcomes	At least 80% of the facilities in the 20 project districts score at least 20% higher on a **quality** index one year after a comprehensive quality improvement project that includes training birth attendants on use of the safe childbirth checklist
Long-Term Outcome	The ultimate health outcomes your overall program is trying to achieve, such as improvements in health conditions or in the health status of communities and individuals	Reduce facility-based maternal deaths in the 20 project districts by 2% one year after implementation of the quality improvement project that includes training birth attendants on use of the safe childbirth checklist



▶ STEP 2.2

Define the audience of your KM intervention

A critical step in developing your KM strategy is defining clearly who you want to reach—in other words, who the intended users are of the KM tools and techniques you are developing or the participants in the KM approaches you are implementing. Likely, your primary audiences will be the same or similar to the ones you defined in your needs assessment in Step 1—the health workforce members who, if they had better access to knowledge, could improve their performance and ultimately the health services they provide and the health outcomes of their clients or patients. But you may need to broaden your audiences, depending on the findings of your needs assessment, to include other categories of health workforce members who may facilitate or prevent your primary audience from gaining or applying the knowledge they need. Remember to refer to Table 1 for a list of illustrative subgroups within the global health workforce who may experience inequity in KM systems and processes when defining the audience of your KM intervention.

If you are struggling to understand your audiences and who should be the main focus of your KM intervention, you may want to map out all relevant audiences to determine who has the most influence over the success of your proposed KM activities. Net-Map is a useful tool to help understand audiences, knowledge flows, and influence (see insert on p. 47).

tip...

Net-Map is a useful tool for helping to understand audiences, knowledge flows, and influence. Influence, in this context, is based on the Net-Map participant's view, which includes considerations of the cultural and power norms that shape their views.

▶ STEP 2.3

Ground the KM intervention in a relevant theoretical framework

Theoretical frameworks can help ground your KM intervention and increase the likelihood of success. For example, diffusion of innovations, a theory that looks at how innovations—new ideas, products, or practices—spread within a system over time, can be used to inform KM interventions. The theory describes five types of adopters to consider when promoting a new product or idea: innovators, early adopters, early majority, late majority, and laggards (see Table 3). Different strategies can be applied to reach each type of adopter. A common application of this theory is enlisting the help of opinion leaders—the "early adopters" who are comfortable with adopting innovations—to persuade the "early majority" to adopt the innovation. Table 3 provides a brief overview of several frameworks and theories relevant to KM. The theory or theories you choose will depend to a large extent on the particular objectives of your KM intervention.

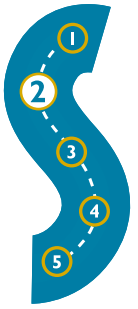


TABLE 3
Selected Theories Relevant to KM

THEORY/ FOCUS	KEY CONCEPTS	APPLICATION IN KM
Bloom's taxonomy of learning[38] *Promoting concepts, processes, and procedures in education, rather than just rote learning*	Learning centers around three domains: • Cognitive (knowledge) • Affective (attitude) • Psychomotor (skills) The level of expertise in each domain can be expressed using a multitiered scale; for example, the knowledge domain consists of six levels of expertise: knowledge, comprehension, application, analysis, synthesis, and evaluation.	Recognizing the different domains of learning can help KM activities address not only knowledge but also skills and attitudes. For example, a KM activity can help improve physicians' knowledge about LARCs as well as their skills in inserting LARCs and their attitudes about providing these methods. Identifying the level of expertise desired in each domain will also help determine specific approaches to use as well as techniques to assess effectiveness.
Diffusion of innovations[39] *How new ideas, products, and practices spread within a system over time*	There are five types of adopters to consider when promoting a new product or idea: • Innovators (want to be the first to try the innovation) • Early adopters (comfortable with adopting the innovation; tend to be opinion leaders who influence others' decisions) • Early majority (adopt new ideas before the average person; typically need to see evidence first that the innovation works) • Late majority (skeptical of change and will adopt an innovation only after the majority has tried it) • Laggards (very skeptical; hardest group to persuade)	By identifying the five types of adopters among your KM intervention's intended audience, you can then apply different strategies for reaching each segment. For example, your intervention may focus on recruiting opinion leaders to persuade the "early majority" to adopt your KM intervention.
Ideation[40] *Diffusion of new ways of thinking or new behaviors through communication and social interaction*	The likelihood of adopting a new behavior is higher when someone: • Has gained sufficient knowledge and skills about it • Has developed a positive attitude toward it • Thinks others support and practice it • Has talked to others about it • Feels good about doing it Programs can select which communication strategies to emphasize based on which factors are the strongest predictors of behavior in their given context.	When designing your KM intervention, consider which factors prevent or facilitate your audiences' adoption of the behavior you want to promote. For example, are they lacking up-to-date knowledge and could thus benefit from on-the-job training or regular workshops? Or perhaps they have the necessary knowledge but think their supervisors are unsupportive of the behavior? Having a solid understanding of these issues can help you select the most appropriate KM activities.

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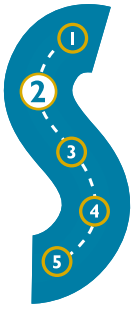


TABLE 3 (continued)
Selected Theories Relevant to KM

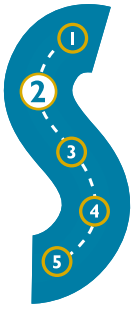
THEORY/ FOCUS	KEY CONCEPTS	APPLICATION IN KM
Stages of change[41] *Individual motivation or readiness to change behavior*	People move through five stages when adopting new behaviors: • Precontemplation (unaware of the problem) • Contemplation (aware) • Decision (intends to take action) • Action (practices the desired behavior) • Maintenance (works to sustain the behavior change) People can benefit from different interventions, matched to their stage of change, to make the desired behavior change.	Identifying your audience's current stage of behavior can help you select appropriate KM tools and techniques to move the audience from its current stage to the next, such as a job aid to help providers in the "decision" stage move to the "action" stage. Knowing your audience's current stage can also help you set realistic objectives—for instance, it is unrealistic to expect an audience who has never heard of the problem to make changes immediately.

▶ STEP 2.4

Decide on KM tools and techniques and appropriate ICTs

KM tools and techniques can range from activities that focus on collecting knowledge—such as databases and resource centers—to connecting people to that knowledge through, for example, communities of practice, conferences, or social media. They also can focus on pushing knowledge to key audiences—through press releases and publications, for instance—to enabling audiences to pull the content they need through, for example, search features. See *Step 3: Create and Iterate* for more information about these tools and techniques. Once you have identified your objectives and audiences, you can then determine the specific KM tools and techniques that are most appropriate to meet your audiences' needs and accomplish your objectives. While it may be tempting to try to fill multiple knowledge gaps with one KM tool or technique, it is important to be realistic about how many and what kind of gaps can be filled by each type of tool or technique. You should prioritize the gaps while bearing in mind the varied needs of diverse audiences, tackle the highest priorities, and plan to fill other gaps in the future. Typically, effective KM interventions use a mix of tools and techniques, including ones that collect knowledge and connect people to that knowledge, in order to engage people's diverse learning preferences and knowledge needs in different ways.

At this stage, based on your goals and objectives, you should also decide on what kinds of ICT support, if any, you will need depending on the specific KM tools and techniques you choose to implement. ICT is an umbrella term that refers to any communication device—such as radio,



television, mobile phones, or computers—and how that device can be used to "push" or "pull" information through, for example, videoconferencing, e-learning, or text messaging. These technologies can be valuable tools in your KM toolbox, helping you store the knowledge, expedite retrieval of it, and share it with others. For example, mobile phones can be used to conduct surveys and share the data in real time through electronic dashboards; databases can be used to store and facilitate access to important documents; and web-based services can be used to host video conferences.

As you decide on KM tools and techniques and the required ICT support, consider that subgroups of your audience may have different levels of access to ICT. For example, women, men, and individuals of other gender identities in low- and middle-income countries do not have equal access to the internet, and subsequently to web-based KM platforms including social media and electronic mailing lists.[42,43] Also bear in mind that inequities can sometimes be embedded into the ICT tools themselves through either implicit or explicit biases of the creators of the tools. For example, artificial intelligence (AI) systems can exhibit gender and racial bias stemming from the biases of the people developing the systems whereby women and People of Color are underrepresented.[44]

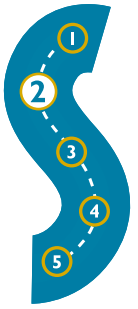
The developers may not even recognize that the sources of data these systems are learning from are biased. For instance, a widely used algorithm in the United States to predict which patients should be given extra medical care based on their health care risk was found to favor white patients over Black patients because it was not properly tested with a wider array of racial groups before deployment.[45,46] We should therefore select ICTs carefully to compensate for these built-in, systemic biases. This can be done by (1) selecting AI data sources that capture the needs of all audience members or striving to create a dataset that is representative of a diverse population; (2) combining AI tools with other tools, such as qualitative data, to consider a range of data points; and (3) pilot testing the tools with a diverse group of audiences to identify any bias or discrimination against anyone using the tool.[45,47,48]

RAPID KM

Your KM strategy can range in size, complexity, and comprehensiveness depending on your specific context and needs. A bulleted list under the following headings—even if documented within a project agreement or meeting minutes—can provide useful direction for your team as you implement your KM intervention:

- KM Objectives
- Audiences
- KM Tools and Techniques
- Appropriate ICTs
- Budget and Implementation Plan
- Monitoring and Evaluation Plan

To guide PANCAP's KM initiative, first described under Step 1, the project developed a table of the activities it planned to undertake and the rationale for the activities. The simple table, which is periodically updated to reflect ongoing refinements and improvements, serves as a rough strategy to guide staff and partners.



Rather than planning KM activities around certain ICTs, consider first the KM objective you are trying to accomplish. Then reflect on the opportunities and constraints of your setting. For example, is electricity readily available? Are your key users active online? Do they use a particular social media channel? How do the answers to these questions vary by sex, gender identity, ethnicity, or other relevant identities of your audience members? With this information, think strategically about which ICTs may be able to help support your activities and how some may be more appropriate than others for your particular audiences. ICTs can range from low-end technologies, such as teleconferencing, electronic mailing lists, text messaging, or shared synced calendars, to higher-end technologies that harness the latest digital and mobile platforms, such as multimedia messaging or interactive voice response.

At the same time, do not underestimate the value of face-to-face interaction, which can provide a rich platform to convey both explicit and tacit knowledge, allowing participants to interpret verbal and nonverbal cues from fellow participants, interact with each other directly, and convey complex and ambiguous ideas. However, it is not always possible to meet face-to-face, as these events may entail higher cost and greater coordination to organize. The COVID-19 pandemic taught us the need to cultivate flexible approaches to KM and spurred innovations in engaging people in conversations virtually through video-conferencing platforms, such as Zoom. Such platforms may be an acceptable alternative to face-to-face meetings, if reliable internet connection is available, because it allows for real-time as well as asynchronous communication.

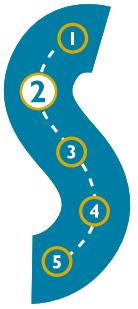
Cost, staff time, and availability are obvious drivers of the ICTs you choose, but also keep in mind that various ICTs can be combined for maximum impact. For example, a video conference with follow-up text messages, or print materials accompanied by a social media campaign or an interactive webinar, can help drive home the messages and content.

While technology can be a valuable tool in supporting KM, its value lies in how appropriate it is to the particular context, so remember to meet people "where they are." That may mean that the most appropriate tool is simple-feature mobile phones with text messaging rather than smartphones … or face-to-face meetings instead of webinars or online communities of practice.

▶ STEP 2.5

Develop a budget and an implementation plan

Once you have defined your specific KM activities and any ICT support you might need, you can develop a budget for the KM intervention. Map the necessary resources you will need to what is currently available. For example, can existing staff take on additional KM responsibilities? If not, can new staff be hired? Plan to incorporate and budget for equitable elements in your KM intervention. For example, you may need



to budget for language translation and interpretation costs to ensure your KM intervention is accessible by different audience subgroups. You may have to start small and plan for scale over time as you obtain additional resources. If your KM intervention is at a project level with a predetermined budget, rather than at a broader organizational level, you may have to adjust your KM activities—and KM objectives—based on the resources available to you. In general, plan to allocate about 10% of your overall project budget to KM to get your KM work started. Regardless of how small or large your budget is, integrating KM activities strategically into your health program—at whatever scale and scope is reasonable—will support your other health program activities and help you to reach your overall health program goals and objectives.

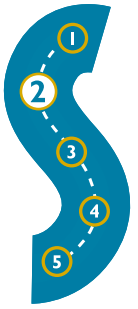
Typical KM activities require budgeting some level of effort (not necessarily at 100%) from the following human resource categories: monitoring and evaluation specialist, technical writer/editor, communications staff, graphic designer, ICT specialist and/or vendor, and project manager. One person could assume several of these roles depending on their available skill sets and the complexity of the tasks. If possible, designate one person on the team to be the equity liaison with decision-making power and clear lines of accountability. This person should be responsible for ensuring that an equity lens is taken into consideration throughout all KM activities and may orient other team members to the importance of equity throughout the project. Remember to factor in other related costs as necessary, such as printing, meeting venues, travel, and transportation.

Typical staff members with KM responsibilities

- Monitoring and evaluation specialist
- Technical writer/editor
- Communications staff
- Graphic designer
- ICT specialist and/or vendor
- Project manager

Once you have a budget with the specific activities you will conduct, you can then develop an implementation plan—this is the plan that defines who will conduct the activities and when. It is important to have an implementation plan to track your progress along the way and make necessary adjustments. The implementation plan could include such information as the start and target end dates of specific activities or tasks, the names of team members responsible for each task, and the key indicators to track the plan's progress.

As you assemble your KM team, it is important to agree to each person's roles and responsibilities. An important aspect of this planning process is to identify and communicate to the team who the final decision maker will be on different aspects of what you produce as well as who will develop and review each deliverable. Promote opportunities for diversity within KM teams and recruit people with underrepresented identities to your team, including to leadership



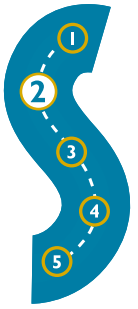
positions. For example, in many global health projects with staff based in a higher-income country, such as the United States, and in the country of project implementation, final decision makers are often the staff in the higher-income country. In addition, leadership positions are often filled by men, even in countries of implementation. Consider how these power differentials can and should be reversed.

If you are assembling a new team, it may be helpful for the team to draft a simple project agreement that clearly articulates who the members are, what the goal of the project is, how you will define success, and how you will divide labor and make decisions (see Table 4). This will help to set expectations from the outset and potentially avoid any conflict down the road. If your team includes external partners, be sure to gain their buy-in and encourage their active involvement and inclusion in the team and throughout the process.

TABLE 4
Project Agreement Components

Components	Key Questions for the Team to Answer
Members	Who is on the team? Is there gender diversity among team members? Are underrepresented groups like women and youth in decision-making positions? Is there diversity in other identities such as ability, religious affiliation, race, ethnicity, and age?
Goal	What are we trying to accomplish?
Definition of success	How will we gauge progress and achievement of our goal?
Division of labor	What are our various roles and responsibilities? Do responsibilities differ by the identities people hold, and if so, why? How do we make our roles and responsibilities equitable across the team?
Expectations	What do we expect of each other?
Communication	How and how often will we communicate with each other? How can a range of communication methods be incorporated so that all team members can participate equitably?
Decision making	What procedure will we use to make our decisions? Who should be the final decision maker? Consider the identity of team members, including their gender, ethnicity, and race, when making these decisions.
Accountability	How will we hold each other accountable and deal with conflict or agreement violations?
Contingencies	What might change? How will we adjust?
Revision	Under what conditions will we revisit or revise the agreement?

Adapted from Gunia.[49]



▶ STEP 2.6

Develop a monitoring and evaluation plan

To measure progress, identify challenges, and adapt accordingly, you will need to develop a monitoring and evaluation plan at this early stage and then plan to use it throughout implementation of your KM intervention. Your monitoring and evaluation plan can be simple or more complex depending on the resources available. Monitoring and evaluation plans typically describe:

- The aspects of the KM intervention that will be monitored
- How and how often the activities will be monitored
- Indicators to measure progress toward desired outcomes, along with data sources (see *Step 4: Mobilize and Monitor* for illustrative indicators)
- How success will be defined
- The evaluation design to assess the overall impact of the KM intervention, if applicable (see *Step 5: Evaluate and Evolve* for a more in-depth discussion of evaluation design considerations)

Common data collection methods for KM interventions in global health include web analytics, usability assessments, surveys, interviews, and focus group discussions. For a description of these methods and an analysis of strengths and weaknesses of each method, along with illustrative indicators, see the *Guide to Monitoring and Evaluating Knowledge Management in Global Health Programs* and the *Knowledge Management Indicator Library*.

Your monitoring and evaluation plan will drive how often you collect and review routine monitoring data. The frequency of data collection should be informed by project management needs for that particular data point. For example, you may want to track website analytics on a monthly basis to determine whether promotional efforts are increasing traffic to your website.

If you are planning to conduct an evaluation of your KM intervention to assess the overall impact, you will likely need to collect data before and after activity

Look for examples of KM strategies and a customizable template to help you develop your own KM strategy in the KM Training Package at www.kmtraining.org.

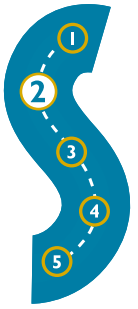
implementation (at a minimum) to determine changes. Your initial measurements, collected before you start the KM activities, include questions on background characteristics of the participants, exposure to the intervention, and indicators related to changes you hope to see among your priority audience—typically, these include changes in knowledge, attitudes, and behaviors. After your activity ends, you will collect data on these indicators again to identify whether changes occurred. Ensure the monitoring and evaluation plan specifies that data should be disaggregated by sex, age, and other factors that represent your audiences' identities and that are relevant to your program context. Develop measures that are gender sensitive, inclusive, and reflect your intended outcomes, such as the percentage of women, men, and individuals of other gender identities or people in different geographical locations involved in creating or maintaining operational systems or processes to guide KM. Such data disaggregation can help capture any power differentials in your KM intervention that need to be addressed.

▶ STEP 2.7

Bring together relevant stakeholders to launch the KM intervention

Once your KM strategy has been created, it is important to bring together all your stakeholders to launch the KM intervention. At this time, you can review roles and responsibilities, the timeline, and the necessary tools, technologies, and resources that individuals will use. This will help ensure all stakeholders understand their own and each other's roles and how their activities build on and fit with each other's contributions to the overall vision.

To ensure the success of your KM strategy, consider bringing together a diverse group of stakeholders across all levels of the work setting. This may include managers, support staff, ICT staff, relevant partners, and anyone else with a role in the KM intervention. Participation from the leadership of your health program or organization, in particular, will help ensure that the KM work is valued, understood, and supported.



Plan for Sustainability

Make your time and resource investments count by including ideas and activities in your work that will have lasting value and impact. To ensure sustainability:

- Involve the community and other key stakeholders from the beginning so they "buy in" to the work and want to help make it successful
- Include activities and interventions in your strategy that influence ongoing behaviors, not just short-term actions
- Consider community-based as well as organizational improvements that could address root causes of problems
- Mobilize networks and diverse, inclusive groups (center underrepresented groups in this space) with common interests to help support your intervention
- Connect leaders and provide training on how to develop and carry out effective policies that relate to your work
- Strengthen the capacity of staff, partners, and communities to carry on the work after the KM intervention
- Document and disseminate your strategy (or strategies) for others to use and adapt

STEP 2 DESIGN STRATEGY

OUTPUTS

A KM strategy that can be used by all team members to map out their activities and refer to for direction as the KM intervention unfolds. The strategy should define the objectives, audiences, KM tools and techniques, appropriate ICTs, budget, implementation plan, and monitoring and evaluation plan needed to achieve the defined program outcome(s).

CROSS-CUTTING CONCEPT

Collaborating

We live in a fast-paced, knowledge-driven world where resources are scarce, work is dispersed across geographic boundaries, and contexts are complex and often changing. Collaboration is needed to make the best use of limited resources and achieve maximum impact. KM tools and techniques are crucial for effective collaboration—to know how to work best with others, to avoid duplicating efforts and outdated practices, and to routinely share knowledge about what works and what does not work.

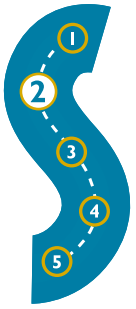
One KM technique that can help foster collaboration is a "share fair." Share fairs are participatory events—usually focused on a single topic or field—that encourage learning through the exchange of participant knowledge. They may include feature presentations, breakout sessions, and knowledge cafés that connect participants and foster meaningful discussion and opportunities for future collaboration. Share fairs and other participatory events are a great way to engage people of diverse experiences and backgrounds because they include a variety of participatory techniques. As you plan share fairs, ensure you invite people from diverse backgrounds to the event (as participants and speakers) and provide skilled facilitation that can draw out knowledge from a variety of voices in the room. For more information on share fairs, see the guide, *How to Hold a Successful Share Fair*.

STEP 2 >> IN ACTION

Key Components of ICMM's KM Strategy

With an understanding of the knowledge needs and gaps in hand, the ICMM project manager began developing a KM strategy. She worked on the plan with the project director and the program officer, and then gathered input from partners.

Tasks	ICMM Steps in Action
STEP 2.1 Decide on KM objectives	1. By April 2013, create or revitalize district-level working groups of five to seven family planning champions in each district (30–40 total across all six project districts) that meet monthly to share knowledge and help members advocate for funding and supportive policies. For example, those that encourage midwives to obtain training on insertion of intrauterine devices (IUDs) and implants. When revitalizing the working groups, the ICMM team paid attention to gender balance and other power dynamics to ensure balanced representation—for example, ensuring both rural and urban communities were represented and including midwives (exclusively women) and representatives from women's and religious groups. 2. By September 2013, hold six research dissemination meetings (one per district) to explain and discuss baseline research findings and help the district working groups determine priorities in meeting contraceptive demand, particularly for LARCs and PMs, in their districts. In-person meetings were vital for sharing research findings with all key stakeholders, because not all members of the district working groups spoke fluent Bahasa Indonesia or English (the two languages of the research reports). 3. By October 2013, conduct six Net-Mapping exercises (one per district), to help uncover power structures and dynamics that influence decision making and access to information, to inform the development of tailored advocacy work plans.
STEP 2.2 Define your audiences	The primary audience for the advocacy activities was government authorities, including staff from the Ministry of Health, the District-Level Family Planning Board, and the Ministry of Finance. The primary audience for the KM activities was members of the district-level working groups. The government authorities and decision makers tended to be men and from urban areas, while district working groups included some women and those from rural areas.



Tasks	ICMM Steps in Action
STEP 2.3 Ground the KM intervention in a relevant theoretical framework	Diffusion of innovations theory, with the concept of "change agents" as facilitators of innovations, was particularly relevant to the project's advocacy focus. In addition, the concept of an innovation moving throughout the social system over time supported the team's plan to involve representatives from throughout the community and to conduct activities over the course of several years.
STEP 2.4 Decide on KM tools and techniques and appropriate ICTs	*KM tools and techniques:* • Net-Mapping in local languages to understand the community actors, identify gender and power structures related to information flows, and help facilitate information sharing among stakeholders • Fact sheets and research briefs in Bahasa Indonesia and English and without jargon, tailored to the district/community level, to help decision makers understand family planning indicators and make decisions • Regular meetings in local languages among district working groups to ensure fact sheets and briefs were understood and to facilitate overall knowledge sharing; meeting times were tailored to the schedules of district staff (e.g., held in the daytime to accommodate midwives who may have had home responsibilities later in the day) • Updates from each of the six districts, distributed via electronic mailing lists and online portals *ICTs:* Relatively low-tech, focusing on electronic mailing lists and websites to ensure reach to those in more remote areas
STEP 2.5 Develop a budget and an implementation plan	*Budget*: Roughly 10% of the project's budget was dedicated to KM activities. The project manager served as the KM lead, with 20% of her time allocated to the project, and other ICMM staff—including the project director, program officer, two principal investigators, and two regional program officers—also contributed to KM activities. *Implementation plan*: The KM implementation plan for ICMM was incorporated into the overall project implementation plan, with some activities listed under advocacy (e.g., Net-Mapping) and others listed under research (e.g., development of research briefs).
STEP 2.6 Develop a monitoring and evaluation plan	Similarly, the KM monitoring and evaluation plan was included within the overall performance monitoring plan for ICMM. Sample monitoring indicators included the number of dissemination meetings held and the number of research briefs produced.
STEP 2.7 Bring together relevant stakeholders to launch the KM intervention	In early 2016, the ICMM Project held launch events in each project district, during which the team introduced the research, advocacy, and KM components to the district working groups. Research staff were available to answer specific questions on indicators and data use for family planning decision making while advocacy experts answered questions about next steps and planning for follow-up workshops.

Create and Iterate

STEP 3

Overview

The **goal of Step 3** in the Knowledge Management Road Map is to develop new KM tools and techniques, or tailor existing ones, to facilitate information sharing and use to help you achieve the objectives you set forth in your KM strategy.

As with the entire Knowledge Management Road Map, this step is not done in isolation from others, but rather it overlaps with other steps. For example, you may design your initial strategy in *Step 2: Design Strategy* and begin to create KM tools and techniques to realize that strategy in Step 3. But once you receive feedback about those tools and techniques, you may decide to adjust your strategy to account for new factors. Similarly, you may launch a beta version of your KM tool, monitor its usage as described in *Step 4: Mobilize and Monitor*, and use the monitoring data to inform the next iteration of your tool.

There is no single blueprint for creating KM tools and techniques, because each tool and technique has its own specific workflows and needs, and may require different teams to be involved. For example, the author of a print publication likely has to go through many rounds of revisions and edits before working with a graphic designer to lay it out into final format. The organizer of a knowledge café, on the other hand, has to interact with many different stakeholders as she selects a location and venue, develops the agenda, reaches out to potential presenters, and invites participants. As you develop your KM tools and techniques, consider the four essential elements to effective and equitable KM tools and techniques—availability, accessibility, acceptability, and quality—to ensure the widest reach and impact among people of all identities.

OUTPUT

Effective and equitable KM tools and techniques that are ready for dissemination or implementation

KEY TASKS

We have found it helpful to think through the following **key tasks** regardless of what type of KM tool or technique you are developing:

3.1 Identify your **KM team**

3.2 **Draft** the KM tools and techniques

3.3 **Test or gather feedback** about the KM tools and techniques, revise, and retest

3.4 **Finalize** the KM tools and techniques

HOW TO INTEGRATE EQUITY

Gather a diverse and interdisciplinary team and consider the four essential elements of effective and equitable KM tools and techniques. Create spaces for continuous, participatory, non-hierarchal, and inclusive feedback—both from team members and diverse audience members.

▶ STEP 3.1

Identify your KM team

Identifying the people with the skill sets you need for your KM team is a critical step in the development process. Most often, an interdisciplinary set of skills is needed to give a team the range of expertise they need to do the job well, but exactly what those skills are depends on what types of KM tools and techniques you are developing. As you assemble your KM team, identify opportunities for roles to be filled by people of different identities, especially those who are traditionally underrepresented. Ensure women or other groups who commonly experience inequities are not automatically forced into administrative roles.

Common skill sets for KM activities include:

- Subject-matter experts who can ensure the accuracy of the content developed for your KM tools and techniques
- Writers and editors who are primarily responsible for developing the content of your KM tools and techniques
- Research assistants who provide support to writers and subject-matter experts by gathering information and data—including health workforce members' tacit knowledge that may not be codified in written formats yet has immense value—and assisting with producing initial drafts of selected content
- Communications team who helps with promoting and disseminating the KM tools and techniques to the intended audience
- Staff with specialized training in diversity, equity, and inclusion, and specialists in gender, youth, or underrepresented identities who can assess the equity of KM tools and techniques
- ICT staff with the necessary technical skills to develop digital products, such as websites and mobile apps
- Graphic designers who create visuals and layouts for both print and digital products
- Librarians who assist with conducting literature reviews and organizing and structuring information
- Meeting facilitators who have skills in planning agendas, arranging logistics, and engaging participants in active discussion for various KM techniques, such as conferences, knowledge cafés, meetings, and webinars

For a sample skills matrix for KM activities, see the KM Training Package at www.kmtraining.org.

- Project managers who can provide leadership to the team, communicate with all team members, coordinate and delegate various tasks, ensure adherence to timelines, and resolve any conflicts that might arise

Questions may arise about the similarities or differences between KM and other related disciplines, such as monitoring, evaluation, and learning (MEL) or communications. Although some of their objectives and functions can overlap, each discipline has distinct, yet complementary, roles. MEL focuses on collecting, storing, analyzing, and transforming data into strategic information to make informed decisions.[50] As such, MEL can be thought of as a KM input,[51] as it captures and organizes information, adapts it, and shares it strategically to facilitate the use of knowledge to design or improve programs. The communications field, with its focus on messaging and the use of different formats to appeal to different audiences, plays a critical role in sharing that knowledge so the audiences can effectively act on it. All these interrelated disciplines, therefore, work together to capture, share, and use knowledge and learning to improve programs.

Keep in mind that you do not necessarily need to have internal capacity for all these skills, even if you plan to develop a range of KM tools and techniques. Sometimes it can be more efficient and effective to outsource defined tasks, such as graphic design or web development, if you do not already have someone with those skills in-house.

▶ STEP 3.2

Draft the KM tools and techniques

Developing KM tools and techniques that appeal to everyone is nearly impossible. Instead, refer back to the key audiences you identified in *Step 2: Design Strategy*, and focus on meeting the major needs of these most important groups. User personas or audience profiles can help when you are at this design stage. These are reliable and realistic representations of your key audience segments that writers, designers, and others can refer to throughout the design and development process. You could also use a human-centered design approach and enlist actual members of your audience in designing the initial drafts to incorporate their direct input, which links well with the principles of sustainability outlined earlier.

KM tools and techniques fall on both a Collect–Connect continuum and a Push–Pull continuum, illustrated in the KM Tools and Techniques Matrix (see Figure 2). Some KM tools and techniques focus on collecting information—perhaps the most obvious examples are databases and libraries—while others emphasize connecting people to that information, such as workshops and webinars. Similarly, you can think of some KM tools and techniques as pushing information to people, such as news releases and publications, while others provide people with tools so they can pull the information themselves, for example, website search tools. These two continuums create a matrix in which KM tools and techniques can be thought of in terms of the broad approaches they use in the KM cycle to generate, capture, and share knowledge:

- **Asking** approaches, such as after-action reviews, knowledge cafés, peer assists, and other types of events and meetings, can be helpful for eliciting tacit knowledge.
- **Telling** approaches, such as conferences, webinars, and workshops, are useful for conveying knowledge to defined groups of people.
- **Publishing** approaches, such as job aids, e-learning courses, or websites, are efficient tools for sharing explicit knowledge with large groups of people.
- **Searching** approaches, including libraries, taxonomies in databases, and facets or filters on search engines, allow people to pull the information they need, when they need it.

FIGURE 2

The KM Tools and Techniques Matrix

Source: Adapted from Barnes & Milton.[34]

KM tools and techniques that use Asking and Telling approaches focus more on establishing connections between people and engaging them in conversations to help facilitate knowledge exchange, which is particularly helpful in eliciting tacit knowledge—the "know how" that is in people's heads (see Box 3). As such, many, but not necessarily all, of these KM tools and techniques entail hosting participatory events or meetings

to promote learning. In contrast, KM tools and techniques that use Publishing and Searching approaches work well for collecting and packaging explicit knowledge to share with others.

Taken together, these different KM approaches complement each other. Effective KM strategies will often use multiple KM tools and techniques across the two continuums, which can also help ensure that the voices of all priority audiences, regardless of their multiple and intersecting identities, are heard. Furthermore, some specific KM tools and techniques can straddle different sides of each continuum depending on how they are used, and thus do not fit neatly within one single quadrant. For example, a share fair blends Asking and Telling approaches, providing participants with opportunities to share their experiences with each other while they learn new skills and techniques. Digital health products are another obvious example: supervisors can use mobile devices to push information to health workers in the form of text messages, for example, while the health workers can simultaneously use that same platform to ask their supervisor for advice via a voice call or to search for needed information through a preloaded database.

It is beyond the scope of this guide to delve into detailed guidance on how to develop each specific type of KM tool or technique. On the next pages, we provide a selection of examples produced or supported by a range of projects and organizations in the global health field in each of the Asking, Telling, Publishing, and Searching approaches to illustrate the breadth of options available.

RAPID KM

You might be wondering how to do KM effectively when there are so many KM tools and techniques from which to choose, each with their own equity considerations as outlined in Table 5 and in the companion checklist, especially when there are competing priorities in your global health program to address. Remember you do not need to implement all the KM tools and techniques mentioned in this guide in order to do KM effectively. Instead, you should implement the most important and feasible KM tools and techniques that will meet your audience's knowledge needs.

Ideally, try to select a mix of KM approaches that both collect knowledge (from the bottom half of the matrix in Figure 2) and connect people to that knowledge (the top half of the matrix) and focus on approaches that will have the greatest impact for the most underrepresented audience members. You can use prioritization tools, such as the Importance/Difficulty matrix, to provide clarity on which KM approaches—and interventions to ensure equity—to select.

The overall goal with integrating systematic KM into your global health programs is to be more intentional with the KM approaches you use and with being equitable in those KM approaches. Many KM approaches can be implemented at little cost with compelling outcomes, such as after-action reviews and peer assists. Furthermore, you often can take simple yet meaningful steps to ensuring effective and equitable KM interventions, such as ensuring diversity on speaker panels for webinars and conferences, being mindful about how roles among project staff are assigned, and rotating facilitation of meetings to distribute power and make meetings more dynamic.

ASKING APPROACHES

- **Community of Practice**: The Global Health Knowledge Collaborative is an online and face-to-face community of practice of KM professionals. Communities of practice are an excellent way to maintain sustained conversation around mutual topics of interest. To learn more, you can take an e-learning course on the uses, benefits, and challenges with building and nurturing communities of practice or join the Implementing Best Practices Initiative to see firsthand how they operate.
- **Share Fair**: The East Africa Share Fair: Knowledge Exchange to Accelerate Progress Toward FP2020's Goal, featuring panel presentations, breakout sessions, knowledge cafés, and discussions, brought together 50 representatives from Kenya, Tanzania, Uganda, the United States, and Zambia to share ideas for future collaboration in family planning.
- **After-Action Review:** The East, Central, and Southern Africa-Health Community conducted an after-action review on the 62nd Health Ministers Conference to explore ways the annual conference could be better organized and could bring more value to stakeholders.
- **Peer Assist**: A peer assist between government, donor, and civil society representatives in Chad with those in Senegal with expertise on the Global Financing Facility (a multi-stakeholder global partnership that supports countries to accelerate progress on reproductive, maternal, newborn, child and adolescent health and nutrition) provided the Chadian Focal Points with key recommendations, lessons learned, and resources to improve financing for family planning in their country.

BOX 3 TWO FORMS OF KNOWLEDGE: TACIT AND EXPLICIT

Knowledge can be in two forms, tacit and explicit.

- Tacit knowledge is information that is in people's heads, for example, their experiences and know-how.
- Explicit knowledge is in a format that can be stored and shared with others, such as in databases or publications.

For example, a written training guide can describe the basic steps for inserting an IUD (explicit knowledge), and can even help readers visualize those steps with illustrations. But for a trainee to gain competency in IUD insertion, the trainee must practice under direct supervision to learn hands-on the actual techniques for IUD insertion, for example, how to assess—through touch and feel—whether an IUD is inserted high enough into the fundus of the uterus (tacit knowledge).

Some KM tools, particularly those that facilitate connections between people, such as knowledge cafés, peer assists, trainings, and even meetings, are better at capturing, organizing, and/or sharing tacit knowledge, whereas others work well with explicit knowledge, such as codifying guidelines in print publications. For more guidance on some of the key KM tools and techniques helpful for eliciting tacit knowledge, see the insert on p. xx.

TELLING APPROACHES

- **Webinar:** Many global health projects and organizations regularly host webinars to convene participants and facilitate a conversation around a specific topic. The Connecting Conversations series, hosted by FP2030 and Knowledge SUCCESS, was tailored specifically for youth leaders and young people and designed to encourage open dialogue and interaction.
- **Conference:** The International Conference on Family Planning, the world's largest gathering of family planning and reproductive health workforce members, provides an opportunity to disseminate knowledge, celebrate successes, and identify next steps toward improving access to and voluntary use of modern contraception.
- **Storytelling:** The United States Centers for Disease Control and Prevention uses photo essays as a storytelling approach to raise awareness about important issues in global immunization, such as polio campaigns in Africa and the contributions of female health workers in global immunization.
- **Teaching:** Knowledge Management for Effective Global Health Programs, a course offered at the Johns Hopkins Bloomberg School of Public Health, introduces participants to the evolving field of KM, organizational learning, and adaptive management in international development through real-life examples of how principles of intentional learning are leading to better development programs and can be applied to strengthen public health systems.
- **Podcast:** Audio formats, such as podcasts, are becoming a popular way to share practical lessons and experiences with a wide audience. For example, Inside the FP Story explores the details of family planning programming through honest conversations with family planning experts around the world.

PUBLISHING APPROACHES

- **e-learning:** Global Health eLearning Center, a distance learning platform, provides free self-paced internet-based courses on a wide range of global health topics.
- **Journal:** Global Health: Science and Practice, an open-access peer-reviewed online journal, aims to improve health practice in low- and middle-income countries by focusing on "how" global health programs are implemented.
- **Website:** The Costed Implementation Plan Resource Kit, hosted as a website, features guidance and tools to help program planners, ministry representatives, and technical assistance providers develop and execute a robust, actionable, and resourced family planning strategy.

- **Animated Video:** Family Planning and Conservation in the Philippines illustrates how a young conservation advocate motivates her peers to clean up the mangroves, talk about family planning, and understand connections between people, health, and the environment.
- **Data Visualization:** The Demographic and Health Surveys Family Planning Dashboard visually synthesizes key family planning data from 59 countries and 253 surveys through interactive global, country, and deep-dive views.
- **Guide:** Making Content Meaningful: A Guide to Adapting Existing Global Health Content for Different Audiences provides a framework with key steps and questions for consideration as well as activity sheets and case studies that will help users make informed decisions in the content adaptation process.

SEARCHING APPROACHES

- **Database and Taxonomy (the classification of information):** PubMed, an online database containing more than 32 million citations and abstracts of biomedical literature, also publishes its thesaurus of Medical Subject Headings—a taxonomy with the terms defined—used to index PubMed articles, along with tutorials and webinars on how to use the taxonomy.
- **Simple and Advanced Search:** Many peer-reviewed journals, such as the Lancet Global Health, provide a simple search button as well as an advanced search option for users who want to limit their search by publication date, authors, title, and keywords.
- **Search Filters:** FP insight, a tool that allows family planning and reproductive health professionals to collect, curate, and discover resources in an online hub, includes search filters on the search results page for users, posts, and collections, to help users find specific types of information.

▶ STEP 3.3

Test or gather feedback about the KM tools and techniques, revise, and retest

Once you have drafted your KM tool or technique (e.g., your website architecture or your agenda for a knowledge-sharing event), you should take some time to test it with a small group of users or gather feedback from a few stakeholders, refine it based on the feedback, and then retest and review again. Remember to be intentional about who you are getting feedback from and be mindful of the nuances produced from that feedback

depending on the identities of the stakeholders. The tools and techniques that may work for female supervisors in urban areas, for example, may not be usable for female frontline workers in rural areas. This is an opportunity to find out who is and is not able to use or contribute to the KM tool or technique. Gathering feedback, sharing the feedback with the KM team, and using the feedback to incrementally improve your KM tools and techniques are important steps to producing high-quality outputs and maintaining credibility with your intended audience.

As you gather feedback, consider the four essential elements of KM tools and techniques: they should be **available** to all members of your intended audience, **accessible** to everyone at no or reasonable cost and consistent with their needs, **acceptable** in that they are respectful of culture and sensitive or responsive to people's identities and do not reinforce inequitable gender and other power dynamics, and of high **quality**—that is, accurate, up-to-date, unbiased, and relevant.

tip...

If you get critical feedback about your initial KM tool or technique, do not worry; this is a good thing because it is easier to make changes early on in the process!

Remember the principles of iterative design: design, test, refine, retest.

These four elements, adapted from the global health field's essential elements of health services,[52,53] are inextricably linked to the economic, social, and environmental categories of identities noted earlier in Table 1. For example, information may be available on how to introduce and scale up a new contraceptive method in a health program, but the global team based in the United States that published the information in English only may not have considered the French-language needs of program managers in francophone sub-Saharan Africa, and so the information is not accessible to them. Or instructions on how to self-inject with DMPA-SC injectable contraceptive may be written at a high grade level, reflecting the education of the writers working at the national health system level, so they are not accessible to community health workers in rural areas with less education and less power in the health system even though these are the health workers who are teaching clients how to self-inject. Table 6 highlights common challenges encountered in KM tools and techniques by these four essential elements and suggests solutions for overcoming the challenges to ensure equitable and effective KM. See also the companion Checklist for Assessing Equity in Knowledge Management Initiatives for a list of items to consider when creating equitable KM interventions.

For more information about usability testing and card sorting, including practice exercises, see the KM Training Package at www.kmtraining.org.

This iterative process of development–feedback–improvement is in line with the cross-cutting principle of learning before, during, and after project implementation: at this stage, learning starts during development but before launching the KM tool or holding the KM event by getting feedback on drafts from the intended audience. Iterative design, which recognizes that it is virtually impossible to design a product with no problems from the start, is particularly relevant for KM tools such as mobile apps and websites, but the concept—if not the exact method of application—can also be relevant for other KM tools and techniques, such as print publications and even knowledge cafés. For example, you can draft the schedule or agenda for the knowledge café, obtain feedback from stakeholders, revise the agenda based on feedback, and share it with the stakeholders again to ensure their input was incorporated properly.

With iterative design of websites and mobile products, changes are made in the earliest stages of development when they are easier and less expensive to implement than at later stages. For example, you can draft simple paper prototypes (hand drawings) or wireframes to test with a small sample of representative users. Making substantive changes to those early drafts is much easier and more affordable than making complicated coding changes to a live website.

Obtaining feedback can be as simple as informally gathering information from a small group of people through meetings or email. If more resources are available, you can turn to traditional feedback or evaluation methodologies, such as focus group discussions, surveys, or interviews. For websites and mobile products, you can conduct usability testing or card-sorting exercises. Usability testing involves asking a small number of representative users (as few as five) to complete typical tasks or find information on an interface, such as a website or mobile application, while observers watch, listen, and take notes to uncover areas on the site or application that make audiences struggle. In a card-sorting exercise, representative users organize information, such as website content, into logical categories that they then label, which can be used to build the structure of the user interface.

▶ STEP 3.4

Finalize the KM tools and techniques

For KM tools, such as publications, websites, and mobile apps, once you have solved any major problems in usability or design and you feel comfortable that the tool meets your audience's key needs, it is time to go live. For other KM tools and techniques that rely on exchanging knowledge between individuals, such as participatory events and meetings, you will need to finalize the schedule or agenda and any necessary logistical arrangements, such as the meeting space. When deciding on the logistics, keep in

mind the potential barriers to participation in these events, such as caretaking duties, disability access needs, other household responsibilities, or safety concerns at night or in unfamiliar locations. Also pay attention to who is being assigned administrative tasks on your KM team as you are planning the event (e.g., are women or other groups who commonly experience inequities unfairly assumed to take on these administrative roles?).

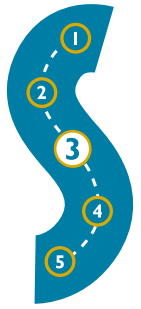
Establishing points in time when you will update your tools and techniques can be useful from a planning and budgeting perspective. For example, we generally update e-learning courses every two years and online repositories every year. But when global technical guidance changes, we update the relevant information in our KM tools without delay. For example, our seminal handbook, Family Planning: A Global Handbook for Providers, is based on the *Medical Eligibility Criteria for Contraceptive Use* from the World Health Organization (WHO).[61] When WHO updates the *Medical Eligibility Criteria*, we follow suit with corresponding updates to the Handbook.

Updating your process for knowledge exchange events is also important. Due to the nature of these approaches, we use learner evaluation feedback and after-action review data to update our guidance on these approaches after each approach is implemented rather than being bound by a particular time period. In addition, each knowledge café or community of practice varies slightly, so we share how things were adapted with our KM team so that others may learn from the most recent iteration that occurred.

STEP 3 CREATE AND ITERATE

OUTPUTS

KM tools and techniques using Asking, Telling, Publishing, and/or Searching approaches that meet the four essential elements for effectiveness and equity (available, accessible, appropriate, and quality) and are ready for dissemination or implementation



EQUITY TOOL

TABLE 5

Challenges and Solutions to Ensure Equitable and Effective Knowledge Management Tools and Techniques

ESSENTIAL COMPONENT

AVAILABILITY

Knowledge is available in a wide range of formats and a constellation of KM tools and techniques are available to everyone in the health system.

COMMON CHALLENGES	SUGGESTED SOLUTIONS
Global health workforce members in countries of implementation have indicated that the information they need to improve their programs is not always readily available, including best practices that are not contextualized or packaged in a way that is easy to use and a lack of information on what *doesn't* work (i.e., "failures") in health programs.[54]	Consider reducing dissemination of high-level "success stories" that international NGOs and donors in high-income countries tend to share. Focus instead on sharing more actionable information that health workforce members in countries of implementation need, including enough details on the "how" and context of program implementation; refer to WHO guidelines and tools to ensure more complete and accurate reporting on the design, implementation, monitoring, and evaluation of programs.[55,56]
Women are less likely than men to be cited or published in peer-reviewed literature and to present at conferences.[28]	Use a mix of KM tools and techniques to meet health workforce members' diverse knowledge and learning needs and to facilitate sharing of explicit and tacit knowledge as well as information that may be sensitive (e.g., lessons learned from failures). Interactive KM techniques, such as peer assists, can be particularly helpful in engaging diverse members to both use *and* share their own knowledge. When resources are scarce, choose the mix of KM techniques that the most disadvantaged groups can access and contribute to. Promote diversity in publishing by strengthening the capacity of women and other underrepresented voices through writing workshops, resources in different formats, and mentorship by more experienced writers. Publishers should ensure diversity in editorial teams and editorial boards. Purposively engage audiences and presenters in conferences and other KM events who differ in age, sex, gender identity, ethnicity, language, and career levels to encourage equitable participation.

TABLE 5. (continued)

ESSENTIAL COMPONENT

ACCESSIBILITY

Everyone in the health system can access knowledge and KM tools and techniques at no or reasonable financial cost and consistent with their needs.

COMMON CHALLENGES	SUGGESTED SOLUTIONS
Cost: Some information, especially scholarly literature, is hidden behind paywalls that are too costly for some health workforce members to access. Travel costs and other associated fees exclude certain groups of people from participating in in-person conferences.	When possible, projects should pay article processing charges to make journal articles open access (waivers are often provided for authors in low-income countries) or publish in noncommercial "diamond" open-access journals (those that are free to both authors and readers, such as *Global Health: Science and Practice*).
Format: Although people in the global health workforce have a wide range of learning styles, including aural and visual, much of the existing global health content is in written formats.	Make recorded conference sessions available online for those who cannot attend in person or use virtual/hybrid conference options to make them available to a wider audience.
Technology: Access to digital technologies often depends on economic and environmental conditions (e.g., income and geographic area) and social constructs related to digital literacy (e.g., age and education).	Create content in a range of formats to meet different health workforce members' learning preferences and needs, such as videos, infographics, and audio podcasts, in addition to written reports and articles.
Language: A limited number of global health resources and events are offered in languages other than English. Although English may be considered a dominant world language, in many countries around the world English is not the official language. Health workforce members need information in other languages, including indigenous languages.	When using digital technologies, use technologies that audiences are already using and are comfortable with—and that are accessible to them. When introducing a new tool, give audiences opportunities to practice and test the tool and provide alternative methods for people who cannot access or use the tool. For example, audiences logging onto virtual conferencing events with their mobile phones cannot use some interactive features (e.g., "Zoom annotation") and cannot easily toggle between windows to access shared documents; allowing them to engage in the conversation through a chatbox, for example, ensures that all voices can be heard.[57]
Timing: Ensuring that all health workforce members can participate equally in KM global health events is challenging, given that staff are spread around the world in different time zones. This challenge can be exacerbated for women who have caretaking duties and cannot attend virtual or in-person events before or after work hours. In addition, the time needed to engage in discussions may differ depending on the spoken language; for example, French translations of English text are typically 15% to 20% longer than the the English text.	Commit to translating critical resources into the preferred languages of your intended audiences (or create resources in those languages) and offer language interpretation services during events. Factor in more time for events with multilingual participants.
Power: Higher-ranking staff members (typically men) tend to determine the flow of information up and down the health system and may even hoard knowledge to increase their own knowledge and influence. At the same time, male managers may not have access to the knowledge and insights of frontline workers, who are mostly women. Women in lower-ranking positions are also less likely to receive invitations to meetings and training opportunities and may have limited access to digital technologies.	Host country and regional KM events in addition to global events to better accommodate participants' time zones. Record virtual sessions and make the recordings and summaries of key discussion points available after the event for those who cannot attend the live session. (See How to write a webinar recap.) Create opportunities for women to take on leadership and decision-making roles. Also consider how to facilitate dialogues between diverse health workforce groups, including between women and men, to ensure information flows more freely and regularly.

TABLE 5. (continued)

ESSENTIAL COMPONENT

ACCEPTABILITY

Knowledge products and KM tools and techniques are respectful of culture and sensitive/responsive to people's identities and do not reinforce inequitable gender and other power dynamics.

COMMON CHALLENGES	SUGGESTED SOLUTIONS
The reading level or tone of some publications may not match the educational or literacy level of the intended audience.	Request feedback on draft publications from intended audience members of diverse identities to check their understanding and appropriateness of the tone. Tools such as free online readability calculators (e.g., Online Utility) can measure the number of years of education needed to understand a given text. You may need to adapt a material for different audience subgroups if they have different literacy levels or translate publications into preferred local languages.
Program examples and images used in publications and presentations sometimes depict people as powerless or reinforce stereotypes and prejudices, and often images do not necessarily reflect the context or culture of the program being described. Examples include images that consistently portray women in household roles and men in workplace roles or that routinely show program staff from high-income countries, who are predominantly white, "transferring" knowledge and skills to staff in lower-income countries, who are predominantly People of Color.	Avoid using images and messages that potentially stereotype, sensationalize, or discriminate against people, situations, or places, and ensure images were taken with the consent of the subjects.[58]
KM events are sometimes scheduled without consideration for religious or national holidays observed by the health workforce attending.	Use culturally relevant and context-specific examples and images and include positive role models depicting diverse identities in publications and presentations.
Gender norms, stereotypes, and roles affect engagement and participation in trainings and meetings.[28] For example, in some settings women's home and social responsibilities may limit their engagement with webinars and conferences.	When planning KM events, carefully consider the culture of different health workforce members who are attending, for example, by considering the timing of the event (e.g., avoid religious or national holidays) or accommodating diet restrictions (e.g., Kosher, Halal, vegetarian, vegan, food allergies).
	Codes of conduct, terms of engagement, ground rules, and equity-aware meeting facilitators can create a safe and respectful environment for in-person and online KM events. For example, codes of conduct could include safety from sexual harassment for all event participants, with consequences communicated clearly at the outset.

TABLE 5. (continued)

ESSENTIAL COMPONENT

QUALITY

Knowledge and KM tools and techniques are accurate, up-to-date, unbiased, and relevant.

COMMON CHALLENGES	SUGGESTED SOLUTIONS
Incoherent or unorganized writing and poor design and layout can affect readability, quality, and use of a publication.	Get feedback from experts who can address the structure, design, and technical content of publications. For structure and design, ask if the writing is clear, organized well, and easy to understand and apply. For the content, ask how well the piece relates to available evidence in the field, how much value it adds to the existing literature, and whether you presented the arguments and evidence adequately.[60]
Limited or no evidence and citations to support claims affects credibility and confidence in the work.	Follow best practices in formatting and designing content, such as using headers to organize text, underlining or using boldface for emphasis rather than all caps, using visual cues to point out key information, and balancing text with illustrations and white space. You can also refer to useful frameworks, such as the EAST (Easy, Attractive, Social, and Timely) Framework, as you develop your KM tools and techniques to overcome common biases in knowledge management.[59]
The content focus in publications and events is sometimes biased toward communities with more power and privilege, such as those in urban or easier-to-reach areas.	Give credit when using other people's words or ideas (including tables, figures, and images). Cite original and recently published sources, and cite sources that both support and contradict your findings.[60]
While some publications have a long "shelf life," others can quickly become out of date and potentially include inaccurate information.	Be intentional about addressing diverse community needs, such as those in fragile states or with disabilities, in your KM products and events.
Poorly planned events may not take into consideration logistics for inclusion such as interpretation and timing, limiting the extent to which all audiences can benefit.	Plan and budget for content updates based on the nature of the content and the urgency for timely updates. Consider when some resources may need to be archived.
Publications often do not have a clear call to action, making it difficult for the audience to understand how they should use the information in their programs.	Help your audience by identifying specific actions they can do to improve their programs.

STEP 3 >> IN ACTION

ICMM Creates KM Tools and Techniques

Once ICMM developed its KM strategy and launched the project at the district level, the ICMM team started developing the KM tools and techniques the team had planned.

TASKS	ICMM STEPS IN ACTION
STEP 3.1 Identify your KM team	Most of the KM tools and techniques produced by the ICMM Project were designed jointly between the research team, who provided the data, and the advocacy team, who provided information about which formats were most preferred by the primary audience. The ICMM project manager, serving as the KM lead, worked with the project director, the two principal investigators, and the two regional program officers to synthesize and produce the materials.
STEP 3.2 Draft the KM tools and techniques	The ICMM Project used a mix of KM tools and techniques to ensure reach to diverse audiences including: • Concise *fact sheets and briefs* in Bahasa Indonesia and English that summarized key family planning indicators and funding for each district and messages government authorities could use to promote family planning • *Case studies*, highlighting challenges, solutions, and local partners, that were distributed to family planning stakeholders, such as district health officers and leaders of the Indonesian Midwives Association. One case study, for example, highlighted the challenges conducting advocacy in the context of the universal health coverage system in Indonesia. The case studies were tailored to include local data and examples and were discussed during in-person meetings to ensure comprehension. • Capacity-strengthening *workshops and discussion sessions*, tailored by district. For example, most districts requested information on the "demographic dividend," a key concept that can help decision makers understand family planning within the context of economic and social development.

STEP 3 IN ACTION (continued)

TASKS	ICMM STEPS IN ACTION
STEP 3.2 (continued)	• An *electronic mailing list* to share practical information with each district working group • Annual *share fairs* to share advocacy lessons learned and to work through challenges; the team worked hard to ensure gender balance in terms of participants, speakers, and facilitators • FP Voices *storytelling interviews* with 19 individuals (many of whom were women) involved in ICMM's district-level work to share lessons learned and success stories; the storytelling format helped ensure women's voices were included, especially those who were sometimes hesitant to do formal presentations at events
STEP 3.3 Test or gather feedback about the KM tools and techniques, revise, and retest	Project staff worked directly with district working groups to ensure that the various KM tools and techniques met their needs. For example, program officers attended most district working group monthly meetings and shared feedback about the tools with other project staff. Based on audience feedback, the ICMM team tailored fact sheets to include more province- and district-level information. Also, the project had initially suggested an online project portal or discussion forum for district working groups to share lessons learned with each other, but the working group members expressed a preference for in-person meetings, prompting the project to move forward with more interactive sharing mechanisms, such as share fairs.
STEP 3.4 Finalize the KM tools and techniques	After obtaining feedback, the project finalized the KM tools, including ICMM district portfolios (one for each of the six districts), case studies, and baseline research reports (tailored by district). The project revised these resources at least once a year throughout the project, or more often if new information emerged.

KNOWLEDGE MANAGEMENT

Tools & Techniques

to Share Tacit Knowledge

Net-Map

WHAT
is Net-Map?

A participatory tool used by individuals or groups that combines the visual aspects of creating a map with an interview.

WHY
conduct Net-Map?

Net-Map allows us to better understand connections, knowledge flow and bottlenecks in a community, and opportunities to improve project planning, monitoring and evaluation, and strategic networking. Facilitators of Net-Map can discover information they never would have learned through a conventional interview due to the discussion and visual cues that occur during map creation. Furthermore, the group discussion among Net-Map respondents can make clear areas of agreement and tension around the given topic.

HOW to conduct Net-Map:

Make sure you develop a specific Net-Map question. Most Net-Map questions begin with "Who influences …," such as "Who influences community health workers' access to technical knowledge on HIV/AIDS?" The selection of participants with intimate knowledge of the subject and who represent a wide range of intersectional identities and actors is also important. An ideal Net-Map group consists of 5 to 10 people: 2 facilitators (one to ask the questions and facilitate discussion, and one to take notes and record the main themes during the discussion) and 3 to 8 participants.

1. List all relevant actors on sticky notes and place them on a large sheet of paper.
2. Examine links (e.g., financial, informal, authoritative) between the different actors and draw the links with colored markers.
3. Add stackable discs (such as checker pieces) to represent the level of power and influence of the various actors in the particular area of interest.
4. Discuss the goals of the various actors by adding -/+ signs to signify the actors' influence on the topic.
5. Continue discussion and determine next steps of how to strengthen weak links and leverage strong ties with influential actors.
6. If Net-Map results are being used for research, enter the Net-Map data into computer software, such as Visualizer, to obtain quantitative data regarding centrality (a measure of connectedness) and other social network characteristics.

For more information, see the Net-Map Toolbox.

Peer Assist

WHAT
is a peer assist?

Facilitated event in which peers with relevant experience share their knowledge and experience with a person or team requesting help on a specific problem or activity.

WHY
conduct peer assists?

Peer assists enable people to learn from others' experiences and apply the lessons learned to a new task, allowing for more efficient and effective task completion. Peer assists enable knowledge transfer by helping people:

- Support collective learning, cross-linkages, and networking
- Stimulate new perspectives and new lines of inquiry
- Increase willingness to learn from one another and establish an open culture of learning

HOW to conduct peer assists:

A peer assist works well with groups of up to 15 to 20 people, which include the host team (the team asking for input and assistance) and the resource team (the team sharing their knowledge and insights). As you plan your peer assist, define the specific problem for which you are seeking help; find out who else has already tackled or solved a similar problem; and select participants across an organization, rather than up through an organizational hierarchy. Strict hierarchies can hamper the free exchange of knowledge. It is important to seek out peers who can be open with each other and can challenge or offer ideas without feeling threatened. The facilitator should be someone outside the host team.

1. If the teams are new to each other, allow time in your agenda for them to get to know one another. It is important to build rapport so that the group can work openly together. It is also good practice to co-develop ground rules to guide the conversation, for example, that all ideas are good, and that all voices and opinions are equal and important. Such ground rules can be especially important to bring awareness to possible gender and power dynamics in the space due to the identities of the participants and to ensure that people share power in that space.
2. The host team presents the context, history, and ideas regarding the task or issue at hand—maintaining an openness and flexibility, as the resource team's suggestions may redefine the task. (It may help to send background materials to the resource team in advance.)
3. The resource team should ask questions and have a dialogue with the host team to develop a good understanding of the issues.
4. The resource team identifies options to solve the problem. The host team listens carefully, without interruptions, and the facilitator records these options. The facilitator may want to note who has and has not spoken from the resource team and encourage those with traditionally less power in the room to add their ideas to ensure that all voices have a chance to contribute.
5. The resource team presents its final feedback. The host team needs to take the recommendations from the resource team without interrupting or defending past efforts and decisions.
6. The host team acknowledges the contributions of the resource team and notes the feedback that was particularly useful.

For more information, see Conducting Peer Assists by the Asian Development Bank.

After-Action Review

WHAT

is an after-action review? Structured review process or debrief—usually a meeting—that allows project teams to reflect on an event or task they have just accomplished and analyze what happened and why, what worked well, and what can be done better or differently in the future.

WHY

conduct after-action reviews?

After-action reviews enable us to learn from our experience and apply the lessons learned to the next phase of the project or to accomplish the task more effectively the next time it is done. After-action reviews enable knowledge transfer by helping us:

- Capture best practices and identify lessons learned from implementation experience
- Capture multiple perspectives of what happened and why
- Encourage feedback for improved performance

HOW to conduct after-action reviews:

1. For optimal results, create and maintain an open and trusting environment so participants can speak freely. It may be helpful to ask the group to set some group norms to acknowledge and create an opportunity to both identify and then transform the potential gender and power inequities in the meeting by, for example, agreeing in advance that all voices and opinions are equal and important and ensuring that women aren't automatically forced into administrative roles before, during, or after the review. Try to set a neutral tone; the after-action review should focus on process more than people.
2. Use a discussion guide to help unearth reflections about successes, set-backs, and recommendations. Common questions include:
   - What did we set out to do?
   - What did we actually do?
   - If there were differences, what caused them?
   - What worked, and why?
   - What did not work, and why not?
   - What are some future opportunities?
3. Engage all team members in providing feedback and solutions.
4. Record key points for the team's use, focusing on actionable recommendations that will improve the process. The team can agree to share important recommendations with others in the organization, and how to share them.

For more information, see After-Action Review: Technical Guidance by USAID.

Fail Fair

WHAT
is a fail fair?

A way to ease people into conversations about failures, enabling others working on similar projects to identify and respond to challenges in the hopes of making other projects more successful.

WHY
conduct fail fairs?

Unlike either a formal or informal after-action review, information shared during a fail fair is presented in a very relaxed, fun environment. Since humor is infused throughout the event, very important lessons are communicated without the additional caveats often found in written documents. Most important, however, is the lack of judgment from the audience. Everyone knows you did not intentionally ignore protocols or purposefully set out to underperform.

HOW **to conduct fail fairs:**

Aim to hold the fail fair toward the end of the work day, ideally in a location outside of the office (but consider how or whether this may affect engagement of people with different identities, for example, women who may have home and social responsibilities that prevent them from extending their work day). At a minimum, try to create a more relaxed environment of the conference room you use for the fail fair by, for example, using interesting chair setups that enable people to mingle and connect. There is no specific recommended number of presenters. Consider starting the fair by having someone in a position of power talk about their own experience with failure to model trust and acceptance of admitting failures.

Typical ground rules include:

1. No names—you cannot talk about other people by name or directly name a project or organization.
2. No blame—you cannot blame others.
3. No recording, including no webcasting, no blogging, no live tweeting of identifiable information, no archiving of presentations on either an intranet or a public website.
4. You can only speak about projects you worked on.
5. Information shared during a fail fair must not be used to the detriment of any person, place, or thing—trust must be maintained.
6. Keep the presentations short—5 to 10 minutes is recommended.
7. Audience participation is required.

For more information, see How to Discuss Failure—and Not Get Fired! by the World Bank.

Mobilize and Monitor

STEP 4

Overview

In *Step 3: Create and Iterate*, you developed KM tools and techniques or tailored existing ones to meet audience needs and bridge knowledge gaps. Now it is time to put these into action. For example, if you developed a publication, such as a job aid, it will now be put to use in the appropriate setting. As you put these tools into action, you will also be monitoring their use, based on the monitoring and evaluation plan you developed in *Step 2: Design Strategy*, making any necessary midcourse corrections as needed to ensure you reach your KM objectives, including equitable KM production, access, and use, to ultimately improve your health program. Therefore, the **goal of Step 4** is to implement the KM tools and techniques you developed and to monitor and adapt them as necessary.

OUTPUT

Effective and equitable KM tools and techniques implemented and in action, along with a continuously updated monitoring tracking tool and adjustments to the KM intervention as indicated by monitoring

KEY TASKS

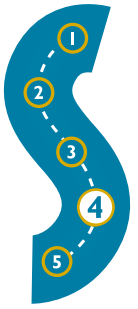
4.1 **Implement** your KM intervention and keep the team updated

4.2 **Review progress** toward KM objectives

4.3 **Adapt** as necessary

HOW TO INTEGRATE EQUITY

Disaggregate monitoring data by the relevant identities of your audience (e.g., sex, gender identity, geographic location, age) to monitor for equity, while also reflecting on how different identities interact to create unique challenges and/or opportunities for engagement with the KM intervention.



▶ STEP 4.1

Implement your KM intervention and keep the team updated

As you begin to implement your KM intervention, you will want to set up routine meetings and other avenues for regular and ad hoc communication with the KM team members. It is often helpful for the implementation team to have a standing meeting to update one another on progress, coordinate with team members and outside agencies, and address any issues that are affecting implementation and could result in changes to the timeline, budget, deliverables, and/or staffing needs. Routine communication also provides an opportunity to share successes and acknowledge your team's work as well as discuss overall challenges. To ensure your team gets the most out of progress updates, encourage an environment of sharing knowledge about what has and has not been working well and asking for suggestions on how to improve processes.

From time to time, it may be helpful to structure team meetings differently—for instance, to generate new ideas or promote learning. Fail fairs, for example, can ease team members into conversation about failures in a relaxed fun environment (see the insert on p. 47).

As you implement your KM intervention, support your team to integrate equity through conversations about gender equity, power, and identity as they relate to knowledge and KM. If your team does not have experience with facilitating these conversations, consider hiring an outside facilitator with experience discussing power, diversity, intersectionality, equity, and inclusion. This raised awareness and space for conversation may allow teams to actively address gender and other social inequities throughout the course of the project.

For a detailed description of data collection methods for monitoring KM interventions, see the Guide for Monitoring and Evaluating Knowledge Management in Global Health Programs

▶ STEP 4.2

Review progress toward KM objectives

During *Step 2: Design Strategy*, you defined the KM activities you would implement and the anticipated program outcomes for your initiative as well as the indicators you would need to measure your progress (see Table 6 for illustrative monitoring indicators by knowledge-sharing need and KM tool). As you implement your KM intervention, it is important to monitor your activities and processes to track what is occurring, compared with what you had initially planned to accomplish. Pairing this type of monitoring data—which can come from a number of sources, such as routine records, web analytics, and surveys—with other KM tools and techniques, such as after-action reviews, can help to uncover what is going well and what is not going well, and can foster discussions

TABLE 6

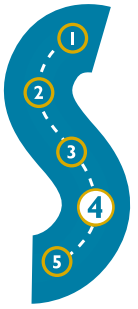
Illustrative Monitoring Indicators for KM Tools and Techniques

KM Approach	Examples of KM Tools and Techniques	Illustrative Monitoring Indicators
ASK	Practices for sharing knowledge, such as after-action reviews, peer assists, twinning, study tours, knowledge cafés, and communities of practice	• Number of people who made a comment or contribution • Number of times a KM technique is replicated • Number of people who liked the peer-assist format over a traditional presentation
TELL	In-person and online workshops, seminars, meetings, forums, and conferences	• Number of participants in a workshop • Number of sessions conducted by participants in a training of trainers • Number/percentage of participants who are satisfied with the content presented in a seminar
PUBLISH	Written documents, such as policy briefs, guidelines, journal articles, manuals, job aids, and project reports as well as digital interfaces, such as websites, e-learning platforms, and mobile applications	• Number of recipients who received a copy of a publication • Number of times a publication is reprinted, reproduced, or replicated by recipients • Average pageviews per website visit
SEARCH	Resource libraries, searchable databases, physical resource centers, and help desks	• Number of registered users of a help desk • Number of links to the database from other websites • Number/percentage of users who are satisfied with library services

Adapted from Ohkubo et al. (2013).[35]

Note: Many of the illustrative indicators in this table can be disaggregated by multiple intersecting identities to reveal inequities in the KM approach being used. For example: Number of women/men/people of other genders and other intersectional identities who made a comment or contribution; Number of young people who participated in a workshop; Number of people unable to attend due to access issues related to disability; Number of people unable to participate due to caretaking or other conflicting commitments; Number of people unable to use the KM tools and techniques due to language barriers.

about what changes might be needed to keep the initiative on track to achieve program deliverables and outcomes. Include as part of your review who is or is not using or accessing the KM tools and techniques to inform any midcourse corrections needed for more equitable KM. At a minimum, disaggregating monitoring data by the relevant identities of the intended audience (e.g., sex, gender identity, geographic location, age, language) can help reveal any inequities in the KM tools and techniques. Adding a section on equity into project reports may also hold the team accountable to these efforts throughout the project. Reviewing routine data ensures that you and your team are learning during implementation and applying that learning to improve your work.



▶ STEP 4.3

Adapt as necessary

Monitoring data are only valuable if they are used to inform decision making and enhance project performance. You and your staff should review monitoring data regularly to determine how to adjust activities, if needed, and dedicate agenda items to discuss equity across all of the project's KM tools and techniques. For example, after holding a global webinar to help health program managers and technical assistance officers translate new WHO guidance on contraceptive use for women with HIV, you might find that the number of people in a particular country or region who participated was much higher than the number of people in another country or region, or that more men than women or individuals of other gender identities participated. You can then decide to conduct a rapid survey of your audience to learn what barriers were at the root of the lack of diversity among participants. From the survey responses, you may learn that the timing of the webinar was inconvenient for people in a particular region due to time zone differences and for women who may have caretaking duties in the early morning or late evening hours. Based on what you learn, you can make adjustments to future webinars to improve reach and ensure equity, for example, by hosting regional webinars with a convenient timing for all neighboring countries or by providing webinar recordings and recaps for those who cannot attend the live webinar.

RAPID KM

You can take simple steps to monitor your KM initiative and use that data to adapt your activities. For example, you can track use of your website through free Google Analytics software to monitor your audience's interest in and use of the information you are presenting, or you can hold quarterly stakeholder meetings to reflect on progress, plan for the upcoming quarter, and share lessons learned. After-action reviews provide a structured opportunity to reflect on an activity recently completed and to analyze what worked well and what can be done better or differently in the future.

To ensure your team's practices support using monitoring data to adapt your initiative, ask[62]:

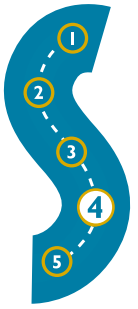
- What are we doing to regularly reflect on our activities and initiatives and the context in which we work?
- How are we using monitoring data and other types of learning to make decisions and adjustments?
- What processes and activities are in place to encourage our team to adapt?

Using data intentionally to adapt projects and activities takes time and reflection. Some teams can benefit from regular meetings to purposefully reflect on new learning that emerges from the KM initiative and activities.

STEP 4 MOBILIZE AND MONITOR

OUTPUTS

Effective and equitable KM tools and techniques implemented and in action, along with a continuously updated monitoring tracking tool and adjustments to the KM intervention as indicated by monitoring. Monitoring should include discussions about gender and other inequities as they relate to knowledge and KM, with course-corrections as needed.



CROSS-CUTTING CONCEPT

Adapting

Continuously adapting to contexts and conditions and addressing inequities are key underpinnings to project learning that take place across the Knowledge Management Road Map. Learning and adapting are two sides of the same coin: learning from different time points in the project cycle naturally gives rise to adaptations (big and small) to ensure that scarce resources are well spent and that resources yield the maximum impact. Such adaptations can include testing new approaches, building on what works, and eliminating what has not worked.

To adapt programs and interventions successfully, you must create an enabling environment that encourages the design of more flexible programs and minimizes obstacles to modifying programs.[63] It also requires sustained commitment with adequate time and resources to pause and reflect on learning and progress. One way to show you are serious about this is to schedule regular reflection sessions with relevant stakeholders to gather information on context changes, new project learning, and shifting priorities, and then use that knowledge to decide on necessary adaptations.

Sources of information to inform adaptation

- Monitoring data
- Evaluation findings
- Implementation lessons
- Observations

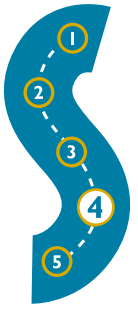
Just as all forms of knowledge—tacit and explicit, experiential and evidence-based—should be used to develop strategies, projects, and activities, all forms of knowledge should be used to adapt projects and activities. Examples of information sources include monitoring data, evaluation findings, implementation lessons, and observations.[63]

STEP 4 IN ACTION

District Stakeholders Use Knowledge to Advocate Increased Access to LARCs and PMs

After drafting the initial fact sheets and briefs and planning the first share fair, the ICMM team was ready for its key audiences to use these KM tools and techniques. The team had regular lines of communication open to ensure everyone stayed up-to-date on progress and to work through any challenges that arose.

The project also had a robust monitoring and evaluation plan in place, which included process monitoring for the project's KM components. Along the way, the project learned from implementation—through regularly collected monitoring data and reflections—and made the necessary midcourse adjustments to certain activities to make them more useful and relevant to the key audiences.



STEP 4 IN ACTION (continued)

TASKS	ICMM STEPS IN ACTION
STEP 4.1 Implement your KM intervention and keep the team updated	The ICMM team held several types of meetings throughout the project with different players based in Jakarta and Baltimore. For example: • The CCP team based in Indonesia met with the Baltimore-based team weekly via Skype to discuss operational and project management issues, including project updates, budgeting, work planning, and upcoming deadlines. • Monthly Jakarta-based partner meetings were also held to review progress, share research and monitoring results, and discuss any challenges and lessons learned from the district working groups.
STEP 4.2 Review progress toward KM objectives	The team collected monitoring data every six months to assess progress of the project. Most KM indicators related to process data, such as how many fact sheets were produced, how many participants attended share fairs, and how many capacity-strengthening workshops were held.
STEP 4.3 Adapt as necessary	Based on the information collected during regular monitoring and review of KM activities, the ICMM team decided to focus more on in-person knowledge sharing rather than online forums. After success of the project's first share fair in 2014, the project co-hosted (with the Advance Family Planning Program) annual share fair events; this model was also used at the provincial level for smaller-scale share fairs. Based on feedback about the first share fair, the ICMM team adjusted the agendas of subsequent share fairs to include more time for district work planning. Because the first share fair had only one woman speaker and no youth participants, the team made a concerted and successful effort to engage women speakers and youth participants for subsequent share fairs, and the final share fair had a youth keynote speaker. This inclusive approach resulted in the district working groups being more intentional about considering young women's issues, including incorporating adolescent data in their overall district goals.

Evaluate and Evolve

STEP 5

Overview

The **goal of Step 5** is to assess how well you achieved your KM objectives to improve your health program, including how integrating equity principles and practices contributed to your KM objectives. This includes identifying factors that contributed to or hindered success and using the findings to inform and influence future programming. Evaluation, a systematic approach used to attribute changes in specific outcomes to a program or intervention, is different from the monitoring you conducted in *Step 4: Mobilize and Monitor* to track changes in the performance of your intervention.

Not all KM interventions will have the resources or the need (e.g., if conducted at small scale) to conduct a formal evaluation. But if you want or need information on how much to continue investing in a KM intervention or whether to scale it up, an evaluation can help inform those decisions.

You should plan for your evaluation, including deciding on the type of evaluation design to use, during *Step 2: Design Strategy*. However, we have included all relevant information about conducting an evaluation, including the planning steps, in this section.

OUTPUT

Publications or presentations that synthesize evaluation findings, along with a dissemination event or series of events to share findings with key stakeholders of diverse identities and discuss how to use the findings to inform policies, other programs, and practice

KEY TASKS

Follow these **key tasks** to evaluate your KM intervention:

5.1 Decide which program **outcomes** to measure

5.2 Choose the **evaluation design**

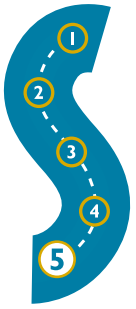
5.3 **Collect, analyze, and synthesize** the evaluation data

5.4 **Share evaluation findings** with key stakeholders

5.5 **Promote use of evaluation findings** in policy and practice

HOW TO INTEGRATE EQUITY

Qualitative, complexity-aware evaluation methods may be well-suited to identify equity-related changes in your KM intervention. Insights and lessons learned from integrating equity principles and practices in KM should be shared widely with diverse stakeholders to inform the growing field.



▶ STEP 5.1

Decide which program outcomes to measure

As you developed your KM strategy in *Step 2: Design Strategy*, you chose a theoretical framework to guide your KM intervention and identified the objectives of your KM intervention to improve your health program. If you developed objectives at the program outcome level, such as to improve provider behaviors or health policies, you will need to conduct an evaluation if you want to assess whether your intervention achieved these intended objectives. Monitoring is used to track changes in key outcomes over time, but you will need to conduct an evaluation to determine whether any of these changes can be attributed to your intervention (see Table 7).

TABLE 7
Key Differences Between Monitoring and Evaluation

	Monitoring	Evaluation
Who	Internal staff	An external evaluator, ideally
What	Track changes in program performance or in key outcomes over time	Attribute changes in specific outcomes to program activities
Why	Analyze progress against planned activities or processes	Analyze actual achievements in outcomes against planned objectives
When	Continuously	At important milestones
How	• Web analytics • Usability assessments • Surveys • In-depth interviews • Focus group discussions	• Surveys • Observation • In-depth interviews • Focus group discussions • Net-Map

The Knowledge Management for Global Health Logic Model (see Figure 1) illustrates the difference between the *inputs, processes, and outputs* that are the focus of your monitoring activities and the *outcomes* that are at the center of your evaluation. The logic model defines three levels of program outcomes that KM can influence: initial (changes in health workforce members' knowledge, attitudes, and practice), intermediate (changes in health systems and/or client behaviors), and long-term (changes in health

outcomes). As mentioned in *Step 2: Design Strategy*, most KM interventions focus on improving initial outcomes (e.g., improving birth attendants' knowledge of essential birth practices and their adherence to these practices by using a checklist), and sometimes intermediate outcomes (improving quality of delivery services). It is expected that equitable KM interventions will lead to better outcomes. Showing the impact of KM on long-term outcomes is often difficult, however, particularly since KM tools and techniques generally work in concert with other public health activities, such as those focused on service delivery, logistics, or training. Thus, it may be hard to tease out the specific impact of the KM tools and techniques. Although long-term outcomes are included in the logic model to demonstrate the overarching goal of KM, their inclusion should not set up the expectation that KM activities should be evaluated on the basis of these health indicators.

▶ STEP 5.2

Choose the evaluation design

The type of design you use for your evaluation depends on the objectives of your KM intervention and of your evaluation as well as on the resources you have available to invest in the evaluation. You should have decided on your evaluation design during *Step 2: Design Strategy*. Planning the evaluation early is necessary because, for example, if you decide to collect before (baseline) and after (endline) measures as part of your evaluation, you will need to collect the baseline measures before starting your KM activities. Taking before and after measures of key indicators, so you can see what changes over the duration of an activity or project, is an important part of having a strong evaluation design (see Figure 3). This typically involves surveying or interviewing users of KM tools and techniques; those who have been exposed to knowledge are asked if they have applied it, how they have applied it, and what effect it had.

Another important element for strong evaluation designs is to have an intervention group and a comparison/control group (that is, a group that

RAPID KM

Hiring an external evaluator will help ensure validity of the evaluation results. If your resources are limited, however, you can still conduct your own evaluation affordably to guide incremental changes to the design of your KM intervention.

For example, to assess the successes and challenges of the Nigeria Web-Based Continuing Medical Laboratory Education Program, which aimed to improve the knowledge and skills of Medical Laboratory Scientists through accredited e-learning courses, the program conducted an online survey of the scientists and in-depth interviews with their supervisors. The evaluation suggested that the project led to improvements in laboratory management, client interaction, and technical skills related to diagnostic procedures. Recommendations included expanding the topics covered under the accreditation program and diversifying the types of professional accreditation activities to include short- and long-format courses, training of trainers, and clinical presentations.

is not exposed to your KM activities). The comparison group helps you assess what would have happened in the absence of your KM intervention. If it is not possible to have a comparison group and/or to take before and after measures, there are still ways to strengthen the evaluation design. For example, you can measure the level of exposure of your participants to the KM intervention or collect data from the same participants at multiple times during the intervention.[37]

If you are interested in demonstrating impact of your KM intervention at different program outcome levels, we recommend consulting from the outset an evaluation expert, preferably someone who is also experienced in incorporating equity in evaluation, to think through the best evaluation design that can meet your goals with the resources and time available. Hiring an external evaluator to conduct the evaluation will also help ensure validity of the results. Limited resources, however, should not prevent you from measuring outcomes in the most thorough way you can afford. You and your staff can evaluate your own work internally; such internal evaluations are adequate for informing the performance of the specific intervention and for guiding incremental changes to the design, objectives, and approaches. If the stakes are higher—for example, if the results will be used to inform national program development or if you desire an objective evaluation of a mature program—then hiring an external evaluator becomes important.

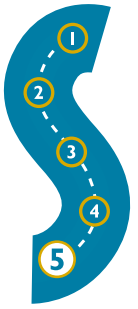
FIGURE 3

Common Evaluation Designs for Health Programs and KM Interventions

Strength of Design: Strongest → Weakest

Type of Design	Elements of the Design	Intervention		Comparison	
		Pre-Test	Post-Test	Pre-Test	Post-Test
Quasi-experimental*	Intervention and comparison groups with pre- and post-tests	X	X	X	X
	Intervention and comparison groups with post-test only		X		X
Non-experimental*	Intervention group only with pre- and post-tests	X	X		
	Intervention group only with post-test only		X		

* Quasi-experimental designs use intervention and comparison groups but assignment to the groups is non-random. Non-experimental designs use an intervention group only, making it the weakest evaluation design. Randomized experiments, often considered the "gold standard" in terms of rigorous design, are not included in this table because they are often not feasible in the real-world scenarios in which KM interventions would be implemented.



▶ STEP 5.3

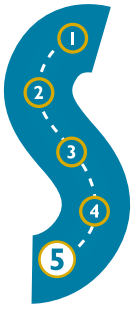
Collect, analyze, and synthesize the evaluation data

You may use a variety of data collection approaches, such as surveys, in-depth interviews, and/or focus group discussions, to evaluate your KM intervention. Using different approaches can help answer different questions. At the same time, you can use different approaches to collect the same information—a technique called data triangulation—to help verify the accuracy of that information and add credibility to the findings.

As with your needs assessment conducted during Step 1, your evaluation will likely use both quantitative and qualitative data. If you are conducting a simple internal evaluation to inform incremental improvements in your intervention, you can use commonly available software and simple analytical techniques to analyze and synthesize the data. A more rigorous evaluation will likely make use of more complex statistical methods—another reason why we recommend consulting an evaluation expert if you are interested in demonstrating impact of your KM intervention. Qualitative, complexity-aware methods, such as Outcome Mapping or Most Significant Change, assess change as an incremental process instead of an endpoint and final product. They are also participatory in nature and situated in local contexts, making them well-suited to identify equity-related transformative changes.[64]

Evaluation reports that synthesize findings usually follow the same ordered structure as research reports or articles. This familiar framework helps readers know what to expect and where to find specific types of information. Sections within a typical evaluation report include:

- **Executive Summary**: a short summary (usually one to two pages) of the entire evaluation report, usually structured similarly to the main body of the report—with background, methods, findings/results, and discussion/recommendations sections
- **Background/Introduction**: a brief description of the KM intervention and the knowledge gaps it was attempting to fill as well as the rationale for conducting the evaluation
- **Methods**: a description of data collection methods employed and how the data were collected and analyzed
- **Findings/Results**: a summary of the key findings of the evaluation with subsections organized by your key questions or common themes that emerged including a section on equity, and tables and figures to summarize the data
- **Discussion/Recommendations**: implications of the key findings for the KM intervention and future interventions; this is the most important and interesting



section of the report where you interpret the findings and reflect on their meaning, and provide recommendations for the future

▶ STEP 5.4

Share evaluation findings with key stakeholders

After assessing program outcomes, it is important to share the results with key stakeholders. Synthesizing your findings in an evaluation report is a common approach, but you may consider a number of other formats depending on your audience's needs and preferences. If your evaluation provided insights on lessons learned and best practices for integrating equity principles and practices in KM, it is vital for your team to disseminate these findings widely to inform this nascent field. It is also important to ensure that dissemination plans are designed to reach all subgroups of audiences, including those who typically may be excluded from dissemination approaches.

If you are trying to reach more than one type of audience with your results, you may want to consider several types of materials and methods. For example, if you are hoping to reach both decision makers and youth, you could consider creating an advocacy brief or infographic for the decision makers and a video or social media campaign for the youth.

Dissemination meetings should be planned with key stakeholders with diverse identities, including those who participated in the KM intervention. During these meetings, the KM team can present results to stakeholders; disseminate study materials, such as evaluation reports and case studies; and solicit feedback to validate and better understand the results. When planning for a dissemination meeting, it is important to include the same group of stakeholders who were involved in planning the KM intervention itself. These stakeholders can provide input and contribute to high-level planning for the dissemination meeting, such as its objectives, scope, size, and location. It is generally a good idea to start planning the dissemination meeting several months in advance. Finally, in the case of district-level work or multi-country evaluation studies, it might be advantageous to have a series of dissemination events, rather than one larger one. See Table 8 for other popular formats used to share evaluation results.

▶ STEP 5.5

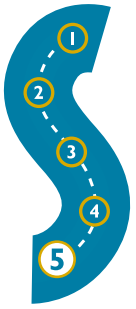
Promote use of evaluation findings in policy and practice

Once the evaluation results have been written and published, go beyond dissemination and promote actual use of the evaluation results. Research utilization strategies—that is, strategies to promote application of evidence in policies, programs, and practice to

TABLE 8

Common Formats for Sharing KM Evaluation Results

Formats	Benefits	Examples
Dissemination meetings with key stakeholders	Your KM team and other stakeholders can discuss, validate, and better understand the results.	Sample dissemination meeting agenda included in Appendix F of the guide on Conducting Health Information Needs Assessments
Journal articles	By framing your KM intervention and results in a broader way, it is applicable to a wider audience and others in the global health field can learn from your approach, helping them to plan and evaluate their own KM activities.	Article published on the use of Facebook Groups to facilitate informal learning among medical laboratory scientists in Nigeria
Evaluation reports	You can provide documentation of the full set of evaluation results and methods for those interested in the details.	Final evaluation report of the Nigeria Web-Based Continuing Medical Laboratory Education Program
Research briefs	You can offer a succinct summary of the full evaluation report for those interested in a high-level overview, or focus on one important aspect of the findings.	Brief produced by the Malawi Knowledge for Health Project highlighting the intersection between KM and health systems strengthening
Infographics	You can capture and share quantitative survey data from your evaluation in a visually appealing way.	Infographic produced by the Global Health eLearning Center about evaluation findings of the Center's study groups
Case studies	You can convey detailed analysis about your specific KM intervention.	Case studies included in the Knowledge Management for Health and Development Toolkit
Videos or other visual materials	You can help put a human face to your KM work.	Documentary produced by the Bangladesh Knowledge Management Initiative's eHealth pilot project



improve outcomes—can provide helpful ways to accomplish this.[65] For one, engaging stakeholders in the evaluation can increase ownership of the evaluation process, and will help with the needed support and buy-in once the time comes to put the evaluation results into practice. Through the research process, you can also identify champions—those who are particularly committed to the issue and in a position to mobilize for change—who can advocate use of research results. Consider selecting champions from audience members or stakeholders who can share their particular experiences from the social identities they hold (e.g., ability, gender, sexual orientation, race/ethnicity). Their advocacy may give "life" to the research results or make the findings more tangible for those who do not share the same experiences.

These champions, along with other individuals can serve as "knowledge brokers"—those who can connect researchers and non-researchers and can help present the results in a language that all can understand. This process will also involve advocacy and communication to ensure that decisions and policies are conducive to replicating and scaling a given approach, if it is proven effective.

After disseminating your results and helping to ensure their use in policy and practice, your team can look to the future. Is there another current project that can build off of these results—to replicate or scale up the KM strategy used? Will the results be used to design a new KM intervention?

It is important to have a meeting with the entire team, including stakeholders involved in the evaluation, to discuss what comes next for the KM strategy you have been testing. If funding has expired, will the government and/or other stakeholders take on this work themselves? Where will the budget come from? These are all important questions to consider as you look to the future and ensure that the KM strategy can continue to influence the health care system and lead to quality health programs.

STEP 5 EVALUATE AND EVOLVE

OUTPUTS

Published materials in a range of presentation formats to synthesize the evaluation findings, along with a dissemination event or series of events to share the findings with a range of diverse audiences. The dissemination event is also an opportunity to solicit feedback from audiences to validate and better understand the findings and to discuss how to use the findings in policies, other programs, and practice.

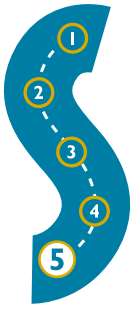
STEP 5 >> IN ACTION

ICMM Shares Evaluation Findings and Lessons Learned

As the end of the ICMM Project was approaching, the team prepared to assess how well the project achieved its overall objective of improving access to LARCs through advocacy with decision makers, to which KM played a supporting role.

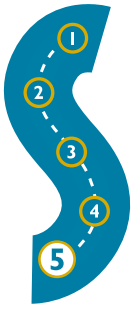
TASKS	ICMM STEPS IN ACTION
STEP 5.1 Decide which program outcomes to measure	The KM indicators included in ICMM's evaluation related to initial outcomes: service provider and policy maker knowledge, attitudes, and practices around LARCs and PMs.
STEP 5.2 Choose the evaluation design	Quasi-experimental evaluation with intervention groups (the six ICMM project districts) and comparison groups (each project district was matched with a non-randomly selected comparison group where no project activities were conducted) using baseline and endline quantitative surveys of currently married women of reproductive age (ages 15–49) in each of the intervention and comparison group areas.
STEP 5.3 Collect, analyze, and synthesize the evaluation data	Women in intervention districts were more likely than those in comparison districts to recall correct messages about family planning and to correctly identify that LARCs and PMs were appropriate methods for limiting births. There also appeared to be changes in provider behavior: women in intervention districts were more likely to have LARCs and PMs recommended by a family planning provider, suggesting an improvement in providers' knowledge after the ICMM intervention. Anecdotal evidence also suggested positive outcomes of the project's KM interventions. For example, district working group members reported using the research briefs to advocate improved access to LARCs and PMs by, for example, working with religious leaders to improve their knowledge about vasectomy or implementing policies that would support midwives' provision of IUDs and implants.

(*continued*)



STEP 5 IN ACTION (continued)

TASKS	ICMM STEPS IN ACTION
STEP 5.4 Share evaluation findings with key stakeholders	*National-level dissemination meeting*: Stakeholders involved in conducting the research and advocacy activities—such as district working groups, national-level champions and stakeholders from the Ministry of Health, National Population and Family Planning Board, and other governmental bodies—were invited to the dissemination meeting. The theme of the meeting was sustainability and how effective family planning requires a multisector approach. The participants discussed how to apply best practices from the project—such as including religious groups and youth organizations in advocacy efforts and establishing village-level working groups to ensure funding for family planning at the sub-district level—to future family planning projects in Indonesia. *Other formats*: Research briefs, a photo slideshow, a storytelling collection (online at fpvoices.org and in a printed booklet), case studies, and journal articles
STEP 5.5 Promote use of evaluation findings in policy and practice	The evaluation results were used to inform other activities in Indonesia funded by the ICMM Project donors, and the government scaled up the advocacy approach—including the KM elements such as share fairs—in dozens of districts throughout the country through their Kampung KB (Village Family Planning) program.



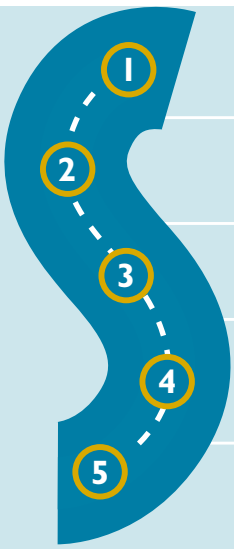
Conclusion

Now that you have explored the Knowledge Management Road Map from start to finish, we hope you can use the information included in this guide to apply KM strategically in your own health programs. Take a look at the KM Training Package at www.kmtraining.org for more tools, templates, and examples to help you put the Knowledge Management Road Map into action!

By completing the steps in the Road Map, keeping diversity, inclusion, and equity in mind and practice, you can help ensure your health program staff has access to the essential knowledge and experience to do their jobs effectively—first by assessing their perceptions of the barriers and facilitating factors to using and sharing knowledge. This important formative information will inform your KM strategy, which everyone can refer to for direction over time. The KM tools and techniques you develop, implement, and continually improve will facilitate sharing and use of that critical information that staff members and partners need to do their jobs effectively. Finally, an evaluation will help you identify factors that contributed to or hindered success of your KM activities, which you can use to influence future activities.

We believe KM can be a valuable tool in your toolbox to improve the efficiency and effectiveness of your programs by reducing duplication of effort, getting best practices in use, and applying lessons learned to overcome challenges. And remember, you can apply KM systematically in your programs, even in the face of resource constraints, by scaling the approaches and steps of the Knowledge Management Road Map to your needs.

Whether you are new to KM or well-versed in the field, we would welcome the opportunity to learn from your experiences. Please send us your feedback to help us continue the learning cycle!



STEP	OUTPUTS
Assess Needs	Synthesis of needs assessment findings—including an analysis of who is experiencing inequity in KM systems and processes, which aspects are not being delivered equitably, and why
Design Strategy	KM strategy that can be used by all team members to map out their KM activities and refer to for direction
Create and Iterate	Effective and equitable KM tools and techniques that are ready for dissemination or implementation
Mobilize and Monitor	Effective and equitable KM tools and techniques implemented and in action, along with a continuously updated monitoring tracking tool and adjustments to the KM intervention as indicated by monitoring
Evaluate and Evolve	Publications or presentations that synthesize evaluation findings, along with a dissemination event or series of events to share findings with key stakeholders of diverse identities and discuss how to use the findings to inform policies, other programs, and practice

Appendix

How to Apply the Collaborating, Learning, and Adapting Framework in the Knowledge Management Road Map

Each step of the Knowledge Management Road Map aligns with the Collaborating, Learning, and Adapting (CLA) Framework (see matrix below). People in the health workforce who have been traditionally excluded and marginalized from, or underrepresented in, knowledge management systems and processes in global health—including women, LGBTQIA+ individuals, staff with disabilities, Black, Indigenous, and People of Color, junior or lower-paid staff, and staff in rural areas or at sub-national levels of the health system—should be included throughout the process. This means sharing power more equitably within each step.

CLA Framework	Step 1: Assess Needs	Step 2: Design Strategy	Step 3: Create and Iterate	Step 4: Mobilize and Monitor	Step 5: Evaluate and Evolve
Collaborating	Involve key stakeholders, representing diverse identities (including gender identity) and expertise, in the needs assessment to ensure you design the KM intervention appropriately.	Engage key stakeholders, including both women and men, in designing the KM strategy to ensure equitable inclusion and ownership, identifying the power dynamics of those involved.	Develop an interdisciplinary and inclusive KM team within your organization and across partners to make the best use of limited resources. Identify opportunities for roles to be filled by people of different identities, especially those identities that are often underheard or underrepresented including both women and men.	Coordinate with team members, partners, and other stakeholders to implement and monitor the KM intervention. Seek their input and feedback throughout implementation, especially from those who hold underrepresented identities.	Engage key stakeholders with diverse identities and expertise early to decide what type of evaluation you need and later to disseminate and help interpret the findings.
Learning	Directly ask a diverse set of identified stakeholders, including both women and men, and draw on existing information from a variety of evidence-informed and evidence-based sources about KM needs. Share and reflect on findings together with stakeholders.	Apply needs assessment findings to design an appropriate KM strategy that fills identified needs and gaps. Share and reflect on KM strategy with diverse stakeholders, including both women and men.	Gather, share, and use feedback from stakeholders and users with diverse identities and experiences to incrementally improve your KM tools and techniques.	Review monitoring data and other sources of information with diverse team members and partners to uncover what is and is not working well. Ensure that course corrections account for power imbalances.	Document and share best practices and challenges from your KM initiative. Ensure learnings are accessible for all stakeholders and learning styles, which may include reflecting on the language used, including jargon.
Adapting	Adapt previously conducted needs assessments to meet current needs and priorities (e.g., use the most feasible or useful methodologies or fine-tune the questions asked). Reflect on stakeholder needs that may be missing from previous assessments (e.g., the needs of women or other underrepresented identities) and seek to fill information gaps.	Make course corrections to the KM strategy over time to respond to the changing needs and priorities of stakeholders holding various identities.	Make iterative design changes to your KM tools and techniques to ensure they meet your audience's diverse needs.	Implement any necessary changes to ensure the KM initiative achieves its program outcomes, and consider changes to your monitoring and evaluation indicators to ensure they still reflect important program components including the needs of stakeholders holding various identities (e.g., sex, gender identity, age, geographic location) and whose voices may not be well represented in the KM process.	Use the evaluation findings to guide incremental changes to your KM initiative or to replicate or scale up the KM strategy in another health program.

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