EMPANELMENT
A Foundational Component of Primary Health Care
CONTENTS

4 Introduction
5 Empanelment: What Is It?
6 Empanelment: How to Do It
11 Uses and Benefits of Empanelment: Why Do It?
12 Conclusion
13 References
14 Appendices: Methods/Terms
THIS OVERVIEW WAS PRODUCED by the Joint Learning Network for Universal Health Coverage (JLN), an innovative community of practitioners and policymakers from around the world actively exchanging tacit knowledge on challenges faced and co-developing practical solutions to implementing universal health coverage (UHC). JLN’s country-led, country-driven model of learning and governance ensures learning outcomes are aligned with countries’ priorities and bridges theory and practice. The resulting tools, harnessing the practitioners’ joint expertise and experiences, are equipping countries with the how-to’s of designing and implementing efficient, equitable and sustainable health care systems, while contributing to global knowledge resources for achieving UHC.

This work is licensed under the Creative Commons Attribution-ShareAlike 4.0 International License (CC BY-SA 4.0). To view a copy of this license, visit https://creativecommons.org/licenses/by-sa/4.0/legalcode. The content in this document may be freely used and adapted in accordance with this license, provided it is accompanied by the following attribution:

“Empanelment: A Foundational Component of Primary Health Care ©2019, Joint Learning Network for Universal Health Coverage, Ariadne Labs, Comagine Health.” If translated or used for education purposes, please contact the JLN at jln@msh.org so we may have a record of its use.

This work was funded in whole or in part by a grant from the Bill & Melinda Gates Foundation. The views expressed herein are solely those of the authors and do not necessarily reflect the views of the foundation.

For inquiries about this guide or other JLN activities, please contact the JLN Network Manager at jln@msh.org

RECOMMENDED CITATION:
Empanelment: A Foundational Component of Primary Health Care.

Product and company names mentioned herein may be the trademarks of their respective owners.
The views expressed in this document do not necessarily represent the opinions of the individuals mentioned here or their affiliated organizations.

AUTHORS

Leonard Abbam Anaman  
Ghana Health Service Headquarters

Badarch Jargalsaikhan  
Mongolian National University of Medical Sciences

Trudy Bearden  
Comagine Health

Asaf Bitton  
Ariadne Labs

Bolormaa Norov  
Ministry of Health, Mongolia

Gilbert Buckle  
Independent Consultant

Momodou Cham  
Christian Health Association of Ghana (CHAG)

Lisa Hirschhorn  
Northwestern University Feinberg School of Medicine

Fatana Ismail  
Ministry of Health, Malaysia

Wujung Lim  
National Health Insurance Service, Korea

Nik Mazlina Mohammad  
Kelana Jaya Health Clinic, Malaysia

Isaac C. N. Morrison  
Society of Private Medical and Dental Practitioners, Ghana

Juhwan Oh  
Seoul National University College of Medicine, Korea

Diane Chong Woei Quan  
Ministry of Health, Malaysia

Hannah Ratcliffe  
Ariadne Labs

Gandimaa Riimaadai  
Health Department of Arkhangai Province, Mongolia

Sondi Sararak  
Ministry of Health, Malaysia

Jonathan Sugarman  
Comagine Health

ACKNOWLEDGMENTS

Ahmad Jet Alamin Adyas  
An Nasr University Cirebon, Indonesia

Nur Balqis Zahirah Binti Ali  
Ministry of Health, Malaysia

Heitham Awadalla  
Federal Ministry of Health, Sudan

Anna Kennedy  
Ariadne Labs

Wounhun Kim  
National Health Insurance Service, Korea

MiSook Kim  
National Health Insurance Service, Korea

Yanghee Kim  
National Health Insurance Service, Korea

Borwornsom Leerapan  
Faculty of Medicine Ramathibodi Hospital, Thailand

Xiaoyun Liu  
Peking University Center for Health Development Studies, China

Oyungerel Nanzad  
Ministry of Health, Mongolia

Stephanie Anh Ngo  
World Health Organization

Nuria Toro Polanco  
World Health Organization

Nguyen Thi Thang  
Health Strategy Policy Institute (HSPI), Viet Nam

Hassan Semlali  
Ministry of Health, Morocco

Adi W Soerjo  
Puskesmas Public Primary Health Care Service, Indonesia

Lina Stolyar  
Ariadne Labs

Khuong Anh Tuan  
Health Strategy Policy Institute (HSPI), Viet Nam

Resi Natalia Turnip  
Ministry of Health, Indonesia

Pham Van Hien  
Health Strategy Policy Institute (HSPI), Viet Nam

Won Whang  
National Health Insurance Service, Korea
An emerging body of evidence from across the globe shows that health systems based on a foundation of strong primary health care (PHC) are more efficient and produce higher value and better health outcomes.\textsuperscript{1–5} As the global health community recently reaffirmed at the Global Conference on Primary Health Care and through the Astana Declaration\textsuperscript{6}, PHC is a critical strategy for countries hoping to achieve the ambitious dual agendas recently adopted by the global health community: universal health coverage (UHC)\textsuperscript{7–9} and integrated people-centred health services (IPCHS)\textsuperscript{7,10}.

A foundational strategy for building or improving PHC systems is empanelment (sometimes known as rostering in some parts of the world).\textsuperscript{11–12} Empanelment is the implementation of systematic, intentional, and continuously refined processes to identify and assign people to specific health care facilities, teams or primary care providers, which are then responsible for these people’s care.\textsuperscript{†}

In many health care systems, empanelment is an important early step towards effective and coordinated PHC and can begin a paradigm shift from disease treatment to disease prevention. Empanelment enables PHC systems to move from reactive care oriented around visits, to proactive care that leverages the primary health care team’s potential to improve population health.

By supporting health systems and providers to define and know the population to be served, empanelment can help deliver the right care at the right place and the right time. However, there is little international guidance for defining empanelment or understanding how to implement empanelment systems in low- and middle-income countries. This document aims to fill this gap by:

1. Proposing a people-centered definition of empanelment that reflects the responsibility to proactively deliver primary care services to all individuals in a target population.

2. Relaying a standard concept of empanelment regardless of how it is referred to within a country.

3. Describing why and how empanelment is used; and

4. Identifying key domains that may influence effective empanelment.

The intended audience for this material includes health policy makers, planners and decision makers in ministries of health, and those working at the front lines of service delivery.

\textsuperscript{†} “Empanelment” is also known by a variety of other terms – see Appendix 2 — Terms Associated with Empanelment. It is also used in some countries, such as India, to refer to inclusion of hospitals as part of health insurance provider networks. This use of the term is unrelated to the process addressed in this document.
Empanelment means knowing the names of people in the denominator and leaving no one behind.

In 2018, the Joint Learning Network for Universal Health Coverage (JLN) People-Centered Integrated Care collaborative, including participants from ten countries as well as a technical facilitation team from Ariadne Labs and Comagine Health, created the following definition of empanelment. (See Appendix 1 for additional details on the methods and genesis of this collaborative.)

**Empanelment** (sometimes referred to as rostering) is a continuous, iterative set of processes that identify and assign populations to facilities, care teams, or providers who have a responsibility to know their assigned population and to proactively deliver coordinated primary health care towards achieving universal health coverage.

Empanelment should be people-centered and not provider-centered, based on the needs of the individuals served, and focused on ensuring that they feel as though they are treated as a whole person, not just as a set of diseases or conditions.

Within the definition above are several phases and steps that support and enable effective empanelment, which are illustrated in the figure below.
PHASE 0: PREPARE
As pictured above, empanelment includes three key phases. However, before initiating implementation of these specific steps, there may be a need to complete some preparatory work. More specifically, the concept of empanelment and the inherent responsibility for the health and well-being of individuals in a panel may require a culture shift. Some potential targets to increase demand and readiness for empanelment include:

- Reframe and/or reinforce the role of primary care as first contact with a responsibility to provide continuity, comprehensiveness, and coordination of care
- Provide empanelment orientation and education to all stakeholders, including the community and individuals
- Ensure a trained and competent workforce to deliver the primary care services inherent in accepting such responsibility
- Discuss the shift from reactive to proactive health care and the changes that may need to happen
- Assess and provide training about empanelment prior to full implementation (e.g., panel maintenance, population health management, creation of registries, etc.)
- Identify local cultural contexts that may impact how empanelment is implemented (e.g., women may prefer to see only female providers)
- Additionally, it is important to engage the community in empanelment, primarily by providing education and discussion about what empanelment is and what the benefits are to the individual and family in receiving care in this model

The following sections provide additional details for the key phases needed to implement and sustain effective empanelment – 1) identify, 2) assign, and 3) actively review and update panel data. Note that there will be substantial diversity in the approaches to empanelment taken by different countries, reflecting different realities of resources, existing health system design and capacity, population health needs, and community input. This diversity leads to exciting and creative approaches to empanelment, implementation, and resulting primary care and population health management.
Phase 1: Identify

**Step One:** *Identify the target population for which the health care facility, team, or provider will be responsible.* Phase 1 requires identifying both the population of interest and the names of all individuals within this population. There are a variety of strategies, which may originate from geographic catchment areas or users of the facility. Additional strategies may include identifying individuals covered by a specific insurer or those identified by a ministry of health. A critical component of this process is to consider and identify individuals and vulnerable populations that might be missed when identifying the target population (e.g., individuals who do not have a permanent residence, sex workers, etc.).

**Step Two:** *Once the entire target population is identified, develop or adapt a method to create a list of identifying characteristics (such as name, gender, and date of birth) for each member of that population.* In an optimized health system, all individuals in a population would be able to be identified and empaneled to a provider, team, or facility—described here as “full empanelment.” However, full and effective empanelment can be resource-intensive and may not be feasible in all settings or conditions. In these circumstances, *selective empanelment* can be used. This approach identifies sub-groups (e.g., individuals at high-risk or with chronic diseases such as diabetes or HIV) that may benefit from focused proactive tracking and management.

Countries often share several common barriers to the *Identify* phase, especially with the availability of data needed for empanelment. Specifically, in some countries or regions, the number of individuals is available, but the names of the individuals are not nor is additional information included such as how to contact the individuals, making it impossible to implement effective empanelment. Additionally, it can be challenging to find effective methods to identify and track individuals in order to proactively provide care to an identified population. Ideally, an electronic health record or other technological solution can maintain the list of individuals. In some countries, all individuals are given an identification number at birth; these numbers are maintained in a database, which can be used to track health records. Other technology solutions might include a database of persons residing in a geographic catchment area or a health insurance database that contains information about providers and the people who have received care from those providers. If such databases are not available, other solutions such as spreadsheets or paper-based systems can be used as well. Individuals’ privacy and control over data exchange should be assured by complying with country laws and regulations that govern privacy.
PHASE 2: ASSIGN

**Step Three:** From the list of identified individuals, assign a panel of individuals to each care team or provider. A panel is a list of people assigned to a given health care facility, care team or provider. People can be empaneled to a health care facility, identified care team, provider, or other entity. Approaches and algorithms for assigning individuals to panels can range from simple to complex and are often dictated by the ratios of providers to individuals. More complex approaches for assigning panels to specific providers or teams use risk stratification algorithms that account for acuity, equity, and care needs in targeting services toward particular groups. These algorithms may also incorporate factors such as age, sex, social needs, complexity of care needs based on clinical factors, previous health care costs accrued by individuals, and other factors.

Part of the process of assigning individuals may include making decisions about the size and composition of panels assigned to a provider, team, or facility. The simplest approach to these decisions involves assigning a specified number of individuals to a provider, team, or facility. Panel sizes vary widely and are based on many factors, including whether an optimized multidisciplinary team is in place.

**Examples of Assignment Approaches**

Below are approaches that are used to both identify the target population and to assign a panel of individuals to a facility, care team or provider.

**Geographic.** This is the simplest approach and assigns people based on a clearly demarcated area where they live. Although geographic catchment areas may be used to define the boundaries of geographic assignment, the basic existence of catchment areas is not equivalent to geographic assignment.

**Insurance-based.** In this approach, an insurer assigns individuals to a health care provider or team. The insurer may have a gatekeeping scheme in place through that particular assigned primary provider for referrals and access to other services. Individuals do not always adhere to insurance-based assignment, which can cause a mismatch between where the insurer assigns the individual and with whom (or where) care is received.

**Individual Choice.** This approach, often referred to as voluntary, allows individuals to assign themselves by choosing their health care provider(s)/care team. With this approach, if an individual chooses a care team/provider, that individual will be added to the panel of the care team or provider. This approach runs the risk of missing individuals and families that do not seek care or who move often.
In Mongolia, target panel sizes range from 1,500 to 1,800 for a team that includes one family medicine physician, four nurses, a pediatrician, and a senior midwife. However, in other countries and regions, panel sizes for a provider may range from 3,000 to 5,000—or higher. In some areas of Sudan, panel sizes can be as high as 10,000 due to the number of available providers. Ideally, the panel size should be balanced to ensure that the care team or provider can proactively deliver coordinated quality health care to all individuals in their panel. Note that panel size may affect the package of services that can be delivered.

**Step Four:** Conclude the assignment phase by ensuring that providers are aware of and acknowledge responsibility for their panels and individuals have been notified of their empanelment status. It is critical that individuals be aware of and acknowledge the provider, team, or facility responsible for their care. This is known as “bilateral transparency” and/or “mutual association.” Successful bilateral transparency means that people know who their team, provider, or facility is and the care team, provider, or facility knows the population for whom they are responsible, regardless of whether any particular individual from that population seeks care or not.

When multiple providers, care teams, or facilities are available and whenever possible, individuals’ preference for who they would like to be empaneled to should be taken into account.
PHASE 3: ACTIVELY REVIEW AND UPDATE PANEL DATA

**Step Five: Review and update panels on a regular basis.** Panels are not static; they are ever-changing and are affected by the life course of individuals. Panels change due to births, deaths, individuals relocating, changes in clinical status, and other life changes. Because of these possible changes, reviewing and updating on a regular basis is a key component of empanelment. The frequency of reviewing and updating panel data depends on local contexts and factors but is usually conducted annually or more frequently. The process of reviewing and updating panel data can be time-consuming and requires designated staff for panel maintenance.

**Panel maintenance** involves a set of activities to ensure the delivery of primary health care services to all people and communities. The graphic below outlines important aspects of active panel maintenance.

In addition, in order for empanelment to drive improvements in health outcomes, the services delivered must be of sufficient quality to be effective and include promotive, preventive, curative, rehabilitative, and palliative health services, aligning with the WHO vision of universal health coverage. Merely producing a list of people based on residence in a catchment area and associating that list with a particular primary health care facility, team, or provider is unlikely to improve the delivery of PHC.

<table>
<thead>
<tr>
<th>Determine Panel Size</th>
<th>Ensures that a health care provider or team is assigned a reasonable number of people for whom they are responsible.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide List of Individuals</td>
<td>Enables providers and care teams to know and manage the individuals listed on their panel.</td>
</tr>
<tr>
<td>Assess Supply &amp; Demand</td>
<td>Provides opportunities to balance the supply of providers and care teams with demand for services.</td>
</tr>
<tr>
<td>Risk Stratify</td>
<td>Creates the ability to identify and optimally support high-risk individuals by providing enhanced services.</td>
</tr>
<tr>
<td>Proactively Manage</td>
<td>Allows formation of registries to identify subgroups to ensure all evidence-based services are delivered.</td>
</tr>
<tr>
<td>Optimize Continuity</td>
<td>Fosters continuity with the provider and care team as well as continuity across the care continuum.</td>
</tr>
</tbody>
</table>
Empanelment is an important strategy that directly enables health systems to improve the patient experience, reduce costs and improve health outcomes. Empanelment supports primary health care systems to deliver on four key functions: first-contact accessibility, continuity, comprehensiveness, and coordination. The table below provides illustrative examples of the role of empanelment in each.

<table>
<thead>
<tr>
<th>Functions of PHC</th>
<th>Role of Empanelment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First-Contact Access</strong></td>
<td>Empanelment is one of the primary enablers of making primary health care the first point of contact for most people, most of the time. By establishing a system in which providers know the individuals for whom they are responsible, empanelment facilitates the delivery of more proactive outreach and care services. Similarly, within a system of empanelment, all individuals know who is responsible for their care and where they can go to receive services when needed. The establishment of panels also supports implementation of risk stratification systems which can be used to improve the accessibility of primary care services for those most in need.</td>
</tr>
<tr>
<td><strong>Continuous</strong></td>
<td>Empanelment establishes the basis for longitudinal relationships between individuals and their care provider/care team that can foster relational, managerial, and informational continuity over time. By designating a “home” for all people at the PHC level, empanelment facilitates both horizontal and vertical integration of care ensuring that individuals’ holistic care needs can be met at the PHC level and supporting informational continuity as people move between levels of care.</td>
</tr>
<tr>
<td><strong>Coordinated</strong></td>
<td>Empanelment establishes the denominator of individuals for whom a specific facility/provider/care team is responsible and can be used to support the development and implementation of clinical pathways and dual referral systems. Patient panels provide a critical input for tracking patient movement through the health system to support patients during care transitions and improve coordination across different providers and levels of care.</td>
</tr>
<tr>
<td><strong>Comprehensive</strong></td>
<td>Empanelment—particularly to multidisciplinary care teams—supports the provision of proactive and comprehensive primary health care services.</td>
</tr>
</tbody>
</table>
CONCLUSION

Effective empanelment requires assumption of responsibility for the health and well-being of a target population, including providing proactive primary health services based on each individual’s health status, which is a necessary step in moving towards people-centered integrated care.

This overview proposes a shared definition and language for empanelment with additional details on why and how empanelment is used. As countries grapple with higher demands on primary health systems due to increasing incidence of non-communicable diseases, effective empanelment will be a critical component to optimize the management and health of target populations.


5. Kringos DS, Boerma W, van der Zee J, Groenewegen P. Europe’s strong primary care systems are linked to better population health but also to higher health spending. Health Aff (Millwood). 2013 Apr;32(4):686–94.


APPENDIX 1 – METHODS

The Joint Learning Network for Universal Health Coverage Collaborative on Person-Centered Integrated Care (PCIC)

This work was informed by the China Health Study, a comprehensive effort led by the World Bank Group to inform health reforms in China. The China Health Study defined a service delivery model called People-Centered Integrated Care (PCIC), a strategy that aims to improve the effectiveness of health service delivery and re-balance the care delivery system through strengthening the central role of primary health care (PHC) and promoting care integration and coordination across provider settings and the spectrum of health needs. This set of strategies aims to enable the provision of the right care at the right place and the right time at a cost that is affordable to people and society.16

The China Health Study identified eight front-line service delivery tents of high-performing PCIC systems.

<table>
<thead>
<tr>
<th>Tenet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenet 1</td>
<td>Primary health care is the first point of contact</td>
</tr>
<tr>
<td>Tenet 2</td>
<td>Functioning multidisciplinary teams</td>
</tr>
<tr>
<td>Tenet 3</td>
<td>Horizontal Integration</td>
</tr>
<tr>
<td>Tenet 4</td>
<td>Vertical Integration</td>
</tr>
<tr>
<td>Tenet 5</td>
<td>Advanced information and communication technology (eHealth)</td>
</tr>
<tr>
<td>Tenet 6</td>
<td>Clinical pathways and strong dual referral systems</td>
</tr>
<tr>
<td>Tenet 7</td>
<td>Robust measurement and feedback loops</td>
</tr>
<tr>
<td>Tenet 8</td>
<td>Accreditation and certification</td>
</tr>
</tbody>
</table>

These tenets, and the body of work supporting them, were presented at the Joint Learning Network for Universal Health Coverage Global meeting in Putrajaya, Malaysia in July 2016. The Joint Learning Network for Universal Health Coverage (JLN) is an innovative community of policymakers and practitioners from around the world engaged in practitioner-to-practitioner learning to address challenges and co-produce practical solutions to implementing reforms toward universal health coverage. From this meeting, a collaborative of countries interested in pursuing service delivery reform in line with the principles outlined in PCIC was formed. After much deliberation, the collaborative selected empanelment as the core underlying enabler of all PCIC tenets and the topic of focus for the 18-month collaborative learning cycle.
Developing a Definition of Empanelment

The definition of empanelment presented in this document was co-developed with the JLN PCIC collaborative. At the first convening of the collaborative in October 2017, representatives from eight countries – Ghana, Indonesia, Malaysia, Mongolia, Morocco, South Korea, Sudan and Vietnam generated an initial definition. Over the course of approximately 16 months, members of the collaborative – which grew to include representatives from China and Thailand – iteratively edited and improved the definition and the content in this document through a combination of online surveys, in-person workshops, and the efforts of a small working group dedicated to this task (members listed below). The definition presented here was finalized in February 2019.

<table>
<thead>
<tr>
<th>Empanelment Overview Working Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leonard Abbam Anaman</td>
</tr>
<tr>
<td>Badarch Jargalsaikhan</td>
</tr>
<tr>
<td>Bolormaa Norov</td>
</tr>
<tr>
<td>Gilbert Buckle</td>
</tr>
<tr>
<td>Momodou Cham</td>
</tr>
<tr>
<td>Fatanah Ismail</td>
</tr>
<tr>
<td>Wujung Lim</td>
</tr>
<tr>
<td>Nik Mazlina Mohammad</td>
</tr>
<tr>
<td>Isaac C. N. Morrison</td>
</tr>
<tr>
<td>Juhwan Oh</td>
</tr>
<tr>
<td>Diane Chong Woei Quan</td>
</tr>
<tr>
<td>Gandiimaa Riimaadai</td>
</tr>
<tr>
<td>Sondi Sararaks</td>
</tr>
</tbody>
</table>

Terms Associated with Empanelment

We conducted a review of different definitions of empanelment and related terms. Related terms were identified through professional experience, a review of the literature, and polling of participants in the Person-Centered Integrated Care Collaborative within the Joint Learning Network for Universal Health Coverage (JLN). The following search terms were used while searching in Google and PubMed: “empanelment,” “empaneling,” “medical empanelment,” “patient registering,” “patient enrollment,” “attribution,” “patient assignment,” “rostering,” “patient rostering,” “panel management” and “population health management.” A total of 53 documents were reviewed.

An initial list was developed and then reviewed by the Ariadne Labs – Comagine Health facilitation team. Based on this review, additional searches were performed, especially for terms with multiple definitions. A refined list of the most relevant definitions was created and is included as Appendix 2.
APPENDIX 2 – TERMS ASSOCIATED WITH EM PANELMENT

Despite its centrality in many effective PHC systems, there is no universally accepted definition of empanelment. The following definition of empanelment is frequently cited: “Empanelment is the act of assigning each patient to a primary care provider who, with support from a care team, assumes responsibility for coordinating comprehensive services for his/her panel of patients. Empanelment is a methodology to ensure continuity of care for a practice’s patient population.”

Additionally, there are other related—but distinct—terms that are often used interchangeably for empanelment. However, there are subtle and important distinctions among them. The distinguishing feature of empanelment is its implied responsibility for proactively managing panels and the care of people included in the panel. The following is a summary of these and other terms related to empanelment.

Rostering is often used in place of empanelment, including the elements of responsibility and the importance of relationships between the person and the provider.

Enrollment formalizes the relationship between a person and a provider/care team, and includes individuals’ acknowledgement and agreement to enter into a relationship. While enrollment may be voluntary, it usually involves a dual commitment from the person and provider/care team, which may include an assumption of responsibility. This formal commitment is not included in our definition of empanelment.

Patient registries are lists of individuals that share similar health care-related information, usually a particular condition, and are created to serve a predetermined purpose. However, there is not a consistent definition of registries. In the primary care setting, empanelment enables the creation of registries because it defines the population from which registries are created. While closely related to empanelment, registries reflect sub-populations and may not include the element of responsibility. Registries are used to identify and track individuals in need of screenings, immunizations, chronic care management, and other follow-up. They can also be used to track other special populations for a variety of reasons, including research and pilot programs. A key element of using a registry is to ensure than a population of individuals receives support as needed.

Attribution is a complex term and seeks to identify the provider or providers who can be held accountable for the quality and cost of care for individuals. It is often based on insurance claims data and is frequently used in population-based payment models.

Continuity in the context of empanelment is described as an agreement of mutual association between both provider and individuals in the population, which can be measured by the extent to which individuals see that provider over time. Additionally, continuity is also described as individuals’ use of their primary source of care over time for most of their health care needs.