A FRAMEWORK FOR COLLABORATIVE PAN-CANADIAN HEALTH HUMAN RESOURCES PLANNING

FEDERAL/PROVINCIAL/TERRITORIAL ADVISORY COMMITTEE ON HEALTH DELIVERY AND HUMAN RESOURCES (ACHDHR)

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INTRODUCTION

Canadians want timely access to high quality, effective, patient-centered, safe health services. To meet public expectations, jurisdictions across Canada must plan and manage their health delivery systems, including planning for the health human resources (HHR) required to provide care within their system. As part of the "*10-year Plan to Strengthen Health Care*", signed by First Ministers in September 2004, provinces and territories are now working to complete health human resource action plans by December 31, 2005.

HHR planning does not occur in isolation, but within the context of the broader health care delivery system. Each province and territory in Canada designs its health care delivery system based on: population health needs, reliable evidence about the services that are effective in improving the health of individuals and the population, and available resources. In addition, health care delivery design is shaped by intergovernmental agreements, such as First Ministers commitments to improve patient safety, reduce wait times for medically necessary procedures, provide home care programs, and increase disease prevention initiatives. Health system design also occurs within the prevailing social, cultural, economic and political environments, which can create both opportunities and constraints.

Governments, in their role as policy makers and funders, work with partners and stakeholders – including educators, public and private sector employers, providers, Aboriginal organizations, professional associations, patients, and the public – to determine the delivery models (e.g., primary health care, acute care facilities), to deliver effective accessible services needed by their populations. Different levels of need require different levels of service, and the types and levels of service determine the requirement for health human resources.

TOWARD MORE EFFECTIVE HEALTH HUMAN RESOURCES PLANNING

People are the health care system's greatest asset. Canada's ability to provide access to "high quality, effective, patient-centered and safe" health services depends on the right mix of health care providers with the right skills in the right place at the right time.

People are also the single greatest cost in the system. Between 60 and 80 cents of every health care dollar in Canada is spent on health human resources (and this does not include the cost of educating health care providers).[1] The province of Saskatchewan reports health human resources account for 73% of its health care budget.[2]

All jurisdictions in Canada are currently experiencing shortages of health care providers, waiting times for many services, and escalating costs. The situation is particularly acute in Aboriginal communities. Faced with a potential health human resources crisis, it is time to rethink how we plan for and deliver health care services. It is time to design health service delivery models that encourage health care providers to work collaboratively and to their full scope of practice. There are opportunities for provinces and territories to learn from one another, and share effective HHR and service delivery strategies.

In the 2003 First Minister's Accord on Health Care Renewal, the provinces, territories and federal government made a commitment to work together to improve health human resources planning. While each jurisdiction will continue to be responsible for planning its own service delivery system, all have come together to demonstrate leadership in responding to those common issues that would benefit from a collaborative approach.

At the 2003 meeting, the First Ministers also recognized that, despite some improvements, the health status of Aboriginal peoples in Canada continues to lag behind that of other Canadians. They acknowledged that addressing the serious challenges to the health of Aboriginal peoples will require dedicated ongoing efforts both within the health sector and on the broad determinants of health.

At their meeting in September 2004, the First Ministers agreed to: "continue and accelerate their work on health human resources action plans and initiatives to ensure an adequate supply and appropriate mix of health care professionals"; "foster closer collaboration among health,

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[1] Kazanjian A, Hevert M, Wood L, Rahim-Jamal S. Regional Health Human Resources Planning & Management: Policies, Issues and Information Requirements. Centre for Health Services and Policy Research, University of British Columbia. Vancouver. January 1999.

[2] Ministry of Health, Saskatchewan, 2004.

THE ROLE OF THE ADVISORY COMMITTEE ON HEALTH DELIVERY AND HUMAN RESOURCES

In June 2002, the Conference of Deputy Ministers (CDM) of Health established the Advisory Committee on Health Delivery and Human Resources (ACHDHR). Its role is to:

- provide policy and strategic advice to the CDM on the planning, organization and delivery of health services including health human resources (HHR) issues
- respond to requests for advice from the CDM
- identify emerging issues and develop recommendations for Deputy Ministers
- provide a national forum for discussion and information-sharing of F/P/T issues

The focus of the ACHDHR's work is to ensure Canada has the health human resources to support the health system of the future.

post-secondary education and labour market sectors"; "increase the supply of health professionals, based on their assessment of the gaps"; and, by December 31, 2005, make public their action plans (including targets for training, recruiting and retaining professionals).

At that meeting, the federal government made a commitment to:

- accelerate and expand the assessment and integration of internationally trained health care graduates for participating governments
- develop targeted efforts to increase the supply of health care professionals to work in Aboriginal communities
- take steps to address the health needs of official language minority communities
- take steps to reduce the financial burden on students in specific health education programs
- participate in health human resource planning with interested jurisdictions.

On September 13, 2004 as part of the First Ministers Meeting (FMM), First Ministers and Aboriginal leaders met to discuss joint actions to improve Aboriginal health and adopt measures to address the disparity in the health status of the Aboriginal population. The Federal government announced at the FMM 2004 funding of $100M over five years for an Aboriginal Health Human Resources Initiative (AHHRI). The three main objectives of the AHHRI are as follows:

- increase the number of Aboriginal people working in health careers
- improve the retention of health care workers in First Nations, Inuit and other Aboriginal communities
- adapt current health care educational curricula by improving its cultural relevance and so, increasing the cultural competence of health care providers working with Aboriginal peoples.

Based on advice from all jurisdictions and key stakeholders, and recent reports on the health care system (i.e., Romanow, Kirby, Fyke, Clair and Mazankowski), the Advisory Committee on Health Delivery and Human Resources (ACHDHR) has developed a pan-Canadian framework

that will help shape the future of HHR planning and health service delivery. This document, prepared by the ACHDHR:

- recognizes the jurisdictional responsibility for health system design and HHR planning as well as determining the resources available to deliver health care
- affirms that – because of the small number of training programs across the country and highly mobile nature of the health workforce – jurisdictions cannot plan in isolation and require a collaborative pan-Canadian approach to certain aspects of HHR planning
- proposes a framework for collaborative pan-Canadian HHR planning that will support system planning
- describes the challenges in HHR planning, identifies priorities for collaborative action, and sets out tangible specific actions that jurisdictions can take together to achieve a more stable effective health workforce.

The key differences between the proposed pan-Canadian approach and the traditional approach to HHR planning are that the proposed approach is collaborative, and it is driven by the delivery system design which, in turn, is based on population health needs. In the proposed pan-Canadian approach to HHR planning, each jurisdiction* will continue to plan its own health care system, develop its own service delivery models, and develop and implement its own HHR policies and plans; however, it will do so within the context of a larger system that shares information and works collaboratively to develop the optimum mix and number of providers to meet all jurisdictions' needs.

Each jurisdiction will determine the scope of its delivery system, its needs now and in the future, and the types of service delivery models that will best meet its population's needs. It will then be able to determine more accurately its HHR requirements. Planning health human resources based on system design and population health needs – as opposed to relying primarily on past utilization trends – will lead to more responsive health systems. This type of planning provides an opportunity to identify: the services needed, innovative ways to deliver those services, the types of professionals required, and how to deploy them to make the best use of their skills (i.e., maximize scope of practice) – rather than continuing to plan based on how and by whom services are delivered now. The goal is to develop and maintain a health workforce that will support health care renewal.

*The province of Quebec considers health human resources planning its exclusive provincial responsibility. It did not participate in the development of this report nor does it intend to participate in a pan-Canadian strategy for collaborative health human resources planning. However, Quebec remains open to sharing information and best practices with other jurisdictions.

I. THE CASE FOR A COLLABORATIVE APPROACH TO HHR PLANNING

WHERE WE'VE BEEN – UTILIZATION-BASED PLANNING AND PLANNING IN ISOLATION

The traditional approach to health human resources planning in Canada has relied primarily on a supply-side analysis of past utilization trends to respond to short-term concerns. For example, faced with shortages in a certain profession, jurisdictions tend to add training positions; faced with surpluses, they cut training positions; faced with budget pressures, they cut or reduce full-time positions. This approach has a number of critical weaknesses:

- health care system needs are defined based on past utilization trends rather than emerging population health needs, so jurisdictions tend to plan for the past rather than the future
- planning is based on traditional service delivery models rather than considering new ways of organizing or delivering services to meet needs
- health human resources planning has tended to focus almost exclusively on physicians and nurses rather than the full range of health care providers
- planning has been based on weak data and questionable assumptions
- our planning models have tended to view health human resources as a cost rather than an asset that must be managed effectively (i.e., decisions made to respond to immediate budget pressures are not always assessed for their long-term impact on recruitment and retention)
- there has been insufficient collaboration between the education system, which produces health care providers, and the health system that manages and employs them, so the number and mix of providers the education system produces each year are often influenced by academic priorities rather than population health or service delivery needs (e.g., number of students required to maintain budgets, teaching programs and support research; educational trend to increasing specialization)
- in most jurisdictions, systems planning has not included effective strategies to ensure that appropriate health human resources are available.

The negative impact of past planning approaches has been exacerbated by the fact that, historically, each province and territory in Canada has worked independently to design its service system, develop service delivery models and plan HHR. This has resulted in competition between jurisdictions for limited health human resources.

RISKS ASSOCIATED WITH THE STATUS QUO

The status quo approach to planning has the potential to create both financial and political risks, to limit each jurisdiction's ability to develop effective sustainable health delivery systems and the health human resources to support those systems, and to fall short of the Canadian public's expectation (as reported by both Romanow and Kirby) of a seamless system from province to province.

Utilization-Based Planning

If jurisdictions continue to plan based primarily on past utilization, they will continue to experience:

- lack of capacity to anticipate and respond to changing population and health system needs
- cycles of over and under supply (i.e., peaks and valleys) of physicians, nurses, and other health providers
- high turnover and attrition
- destabilization of the health workforce
- greater competition for limited resources.

Traditional approaches to recruitment into the health professions and curriculum design will not allow jurisdictions to deliver on their commitment to improve the health status of Aboriginal peoples, or to fulfill other health commitments, such as increasing home care.

Planning in Isolation

While each jurisdiction in Canada will continue to be responsible for planning and managing its health care system, it faces inherent risks if that planning is done in isolation. For example:

- **Unintended impacts.** Decisions made by one jurisdiction can have unintended impacts on other jurisdictions. For example:
  - A change in one jurisdiction's health care system design could have a negative impact on the supply of certain providers for other jurisdictions. The risks are greater in the current reform environment where unilateral action by any one jurisdiction could

undermine system stability and affect other jurisdictions' ability to deliver on health commitments (e.g., reducing wait times, improving the health status of Aboriginal peoples).

  - Not every jurisdiction has training programs in all health professions. If a jurisdiction that produces a significant proportion of a certain type of health provider for other parts of the country (e.g., medical perfusionists) reduces enrollment in that program, it may severely disadvantage other provinces.
  - If one province decides to increase the number of training positions for specialist physicians, it may draw students away from family medicine programs in other provinces, and exacerbate the current shortage of family physicians.
  - A decision to increase entry-to-practice requirements in one jurisdiction puts pressure on other provinces and territories to do the same. Changes to entry-to-practice requirements may have an impact on the quality and safety of health services, compensation, labour supply and distribution, the post-secondary education and health systems, and labour mobility – both within the jurisdiction where the change occurs and in other provinces and territories.
  - If one jurisdiction increases wages paid to health care providers, it may draw health care providers from other provinces and territories or trigger demands for higher wages that make it more difficult for other jurisdictions to manage health care costs.
  - Incentives offered by some jurisdictions can encourage inappropriate mobility, drawing providers from one under-serviced area to another.

- **Mismatch between supply and needs.** Insufficient collaborative planning between jurisdictions (and between the health system and the education system) contributes to the oversupply of some providers and undersupply of others.
- **Costly duplication.** All jurisdictions are investing resources in: developing HHR data and forecasting/simulation models and developing planning frameworks. Without collaboration, these models will not be able to capture the impact of decisions in other jurisdictions.
- **Inability to respond effectively to international issues/pressure.** The international licensing and quality control issues created by both global competition for a limited number of providers and new technologies are often beyond the capacity of any one jurisdiction in Canada (e.g., digital teleradiology systems will give people in small, remote communities better access to MRIs and CT scans but there is a risk that the scans could be read by radiologists outside Canada who are not licensed to practice here). Canada may be at a disadvantage compared to other governments in presenting a united front on HHR issues if its jurisdictions are not collaborating on issues of international interest.

WHERE WE WANT TO BE: SYSTEMS-BASED, COLLABORATIVE PLANNING

Jurisdictions across the country want to give all Canadians timely access to high quality, effective, patient-centered, safe health services. To do this, they need a collaborative approach that supports their individual efforts to plan and design health systems, based on population health needs, and identify the HHR required to work within their service delivery models. The appendix describes one example of a conceptual HHR planning model, which illustrates the range of factors governments must consider when designing their health systems and identifying their HHR requirements.

Given the relatively small number of health education programs across the country and the mobility of health human resources, jurisdictions across Canada are already highly interdependent in health human resources. It is in everyone's best interests to participate in a more collaborative approach to HHR planning.

Experience with HHR Collaborations to Date

Canada has already had some experience and success with collaborative HHR planning, including collaboration between different ministries at both the regional and pan-Canadian levels. For example:

- The Atlantic Provinces (Nova Scotia, Newfoundland & Labrador, Prince Edward Island, and New Brunswick) are working together to develop current and future HHR requirements for 30 major health occupations. Through the Atlantic Advisory Committee on Health Human Resources (AACHHR), Atlantic government departments responsible for health and post-secondary education are assessing the adequacy of health education and training programs in the region in relation to the demand. Each province has completed a labour market analysis to determine current and future supply and demand for major health occupations based on the current health care system of the four Atlantic Provinces. This work will provide an HHR simulation model that will allow the provinces to identify the possible impact of policy decisions on HHR requirements, gaps and major issues. These projects were supported by a financial contribution from the Human Resources and Skills Development Canada (HRSDC). As a result of these initiatives, the provinces will have: supply and demand data, an inventory of both pre-service and continuing education and training programs, an environmental scan of education and training issues, and a scenario-based education and training program forecasting tool. Regional collaboration has enhanced the work that each province does individually, improved the region's ability to predict future health education and training needs, helped develop strategies to maintain a skilled,

adaptable health workforce, provided opportunities for jurisdictions to share information, and strengthened the region's capacity to address labour market and health human resource issues.

- Since 2002, the ministries of health and post-secondary education in the Western Provinces (British Columbia, Alberta, Saskatchewan, and Manitoba) and the Northern Territories (Yukon, Northwest Territories and Nunavut [since 2005]) have been collaborating within the Western & Northern Health Human Resources Planning Forum. The Forum, which was initially established as an information sharing process, has been transformed into an active regional collaborative body. All members were acutely aware of the growing need for cross-jurisdictional work in HHR planning and met the challenge by establishing a Secretariat. The Forum has now undertaken 20 regional projects (each one involving a number of jurisdictional partners) with funding from Health Canada's HHR Strategy. All projects have committed to sharing the outcomes among the members, with some having pan-Canadian implications. Projects have included initiatives such as: developing a standardized approach to describing core competencies for licensed practical nurses (LPNs), best practices for clinical education, a health science clinical placement network, and an assessment process for international medical graduates; and holding a national meeting on physician compensation.
- Through the Canadian Task Force on Licensure of International Medical Graduates, the provinces, territories and federal government have developed a series of recommendations designed to create a “nationally integrated approach to the assessment and training of international medical graduates” (IMGs) that maintains rigorous standards for licensure while giving all jurisdictions greater access to foreign-trained physicians. The recommendations, which include a standardized evaluation process, more supports and programs to train IMGs, and a national database to increase capacity to recruit and track IMGs), have been approved by the Conference of Deputy Ministers and are now being implemented. The process was so successful that it is now being applied to the assessment, training and licensure of internationally educated nurses and allied health professionals, beginning with those professions with severe supply problems (i.e., pharmacists, medical laboratory technicians, medical radiation technology, occupational therapists, and physiotherapy).
- In October 2004, federal, provincial and territorial Ministers of Health announced the creation and implementation of a pan-Canadian process to manage proposals for changes in entry-to-practice credentials for medical and health professions. The aim is to determine whether proposed changes are based on sound evidence and serve the interests of patients and the health care system. The Coordinating Committee on Entry-to-Practice Credentials analyzes each proposed change and prepares a report for provincial and

territorial governments summarizing its strengths and weaknesses as well as its impact on patients, quality and safety of health services, labour supply and distribution, the post-secondary education and health care systems, and labour mobility. (The province of Quebec is not participating in this initiative, but continues to collaborate by sharing information.)

- At the request of the Advisory Committees on Population Health and Health Security and Health Delivery and Human Resources, a subcommittee with representatives from the federal and provincial governments, the public health delivery system and academics worked together to create a framework that sets out goals, key objectives, and proposed strategies for collaborative public health human resources planning. In June 2005, the Deputy Ministers of Health approved the framework in principle and asked the Pan-Canadian Public Health Network and the Public Health Agency of Canada to take the lead on pan-Canadian aspects of public health human resources planning, to refine the strategies and to determine priorities, required resources, and other framework's dissemination and implementation issues. The framework is designed to help all jurisdictions develop a vibrant sustainable public health workforce.

THE BENEFITS OF A SYSTEMS-BASED, COLLABORATIVE APPROACH TO PLANNING

A more collaborative, pan-Canadian approach to certain aspects of systems planning would have immediate benefits, including:

- greater capacity to implement policies and priorities to improve both access to and quality of health care services at a cost Canadians can afford
- greater capacity to influence the factors that drive the health care system, determine health human resource needs, share best practices, and affect health status and system outcomes
- less costly duplication in planning activities, and better forecasting/simulation models
- improved information sharing to support compensation and related collective bargaining processes
- better understanding of the interjurisdictional and national picture of the workforce (through a common minimum data set) and greater capacity to address common HHR issues
- greater workforce stability in all Canadian jurisdictions, and more appropriate labour mobility
- health systems that are less vulnerable to global pressures and better able to retain providers educated in Canada and compete in a global market for skilled health care workers.

II. THE CHALLENGES

CHALLENGES IN APPLYING THE FRAMEWORK

In moving to a more collaborative system design and needs-based approach to planning, Canada faces a number of challenges. All Canadian jurisdictions are limited in their ability to apply the proposed framework by the lack of:

- high quality, consistent data on all major health disciplines, and the lack of national data standards, including common definitions and a common approach to collecting data
- consistent information on HHR productivity, workload, utilization, demand and efficacy
- information about educational facilities and their capacity
- capacity to assess health needs, model delivery systems, and forecast the demand for health human resources
- capacity to analyze HHR data and translate it into useful knowledge
- funding for ongoing data and modeling initiatives.

CHALLENGES IN COLLABORATIVE PLANNING

While there are clearly advantages to taking a more collaborative approach to some aspects of planning, there are also challenges. For example:

- How can Canada enhance its capacity for collaborative HHR planning, while still ensuring that each jurisdiction has the flexibility to make its own system planning decisions?
- How will jurisdictions determine which activities are shared responsibilities and which are more appropriately pursued at the provincial, territorial, regional or federal levels?
- How can the system avoid creating another structure that might limit rather than enhance HHR planning capacity?
- How will collaborative HHR planning link with other provincial, territorial, regional and federal health human resource initiatives currently underway?
- How will collaborative pan-Canadian efforts involve other key players? The need for collaboration and coordination around HHR planning is not limited to governments. Others who share responsibility for shaping health system design and implementing service delivery models – including educators, public and private sector employers, providers, Aboriginal organizations, professional associations, patients, and the public – must also play a key role. Closer links among all players will ensure that the number, skills and mix of providers reflect the health needs of the population and the needs of the health system.

III. THE ACTION PLAN

Appropriate planning and management of health human resources (HHR) is key to ensuring that Canadians have access to the health providers they need, now and in the future. Collaborative strategies are to be undertaken to strengthen the evidence base for national planning, promote inter-disciplinary provider education, improve recruitment and retention, and ensure the supply of needed health providers.

—2003 First Minister's Accord on Health Care Renewal

According to a survey of jurisdictions across Canada, a collaborative HHR framework will be accepted and effective if it adds value to the planning provinces and territories are currently doing, and gives them access to data, tools, models, approaches and influence that they cannot achieve on their own.

The ACHDHR has developed an action plan designed to support collaborative pan-Canadian HHR planning. The plan sets out the principles for collaboration and identifies key actions jurisdictions can take together to: overcome barriers to implementing system-design, population needs-based planning; avoid the risks and duplication associated with the current jurisdiction-by-jurisdiction planning approach; and increase their HHR planning capacity – while respecting jurisdictional authority and regional planning initiatives.

The proposed action plan addresses the FMM 2003 Accord, and supports and builds on the FMM 2004 commitment to "continue and accelerate their work on health human resources action plans and initiatives to ensure an adequate supply and appropriate mix of health care professionals", and to "foster closer collaboration among health, post-secondary education and labour market sectors". Specifically it supports the federal, provincial, territorial governments' agreement to "increase the supply of health professionals, based on their assessment of the gaps" and, by December 31, 2005, to make public their action plans (including targets for training, recruiting and retaining professionals).

ASSUMPTIONS

The action plan to support collaborative pan-Canadian HHR planning is based on the following assumptions:

- As jurisdictions design their systems to meet population health needs, the types of professionals required and the way they are deployed may change. HHR planning must consider the design of the health care system of each jurisdiction and the chosen service delivery models.
- Pan-Canadian collaboration will enhance each jurisdiction's capacity to plan the health workforce, to monitor trends, to anticipate future needs, and to achieve planning goals.
- Effective HHR planning requires timely accurate information. As the quality of data to support HHR planning improves, planning models may have to be refined or adjusted.
- Effective HHR planning requires better integration between the education system that prepares providers and the health system that employs and deploys them.
- The HHR sector – unlike other (market driven) workforces – will continue to be largely publicly funded and, therefore, will require a different (i.e., non-market driven) approach to forecasting both supply and demand.
- Strategic investment in health human resources planning, including recruitment, retention and healthy workplace initiatives, has the potential to significantly reduce costs associated with absenteeism, workers' compensation, and staff turnover.
- Effective HHR planning will ensure greater accountability for HHR decisions which, in turn, will lead to more appropriate, better quality of care (i.e., it will help ensure appropriate providers are providing appropriate care, and reduce or eliminate inappropriate services).
- Resource deployment and utilization remain the responsibility of the appropriate jurisdictions.

VISION

Improved access to appropriate, effective, efficient, sustainable, responsive, needs-based health care services for Canadians, and a more supportive satisfying work environment for health care providers through collaborative strategic provincial/ territorial/ federal health human resources planning.

PRINCIPLES

Effective coordinated and collaborative pan-Canadian health human resources planning will:

- enable each jurisdiction to design its health care system based on population health needs and identify the human resources required through a process that is patient-centred, culturally sensitive, evidence-based, and outcomes directed
- be responsive to health care renewal and changes in system design
- foster patient safety
- be culturally sensitive and responsive to the health needs of Aboriginal people
- provide a flexible health workforce that has the knowledge, skills, and attributes to work in quality driven, innovative, cost-effective, interdisciplinary service delivery models
- support the provision of safe and healthy workplaces
- actively engage educators, employers, funders, researchers and providers in the planning process
- respect jurisdictional differences and jurisdictional responsibility for service delivery, and reflect the shared responsibility to provide leadership within the health care system.

GOALS

1. To improve all jurisdictions' capacity to plan for the optimal number, mix, and distribution of health care providers based on system design, service delivery models and population health needs.
2. To enhance all jurisdictions' capacity to work closely with employers and the education system to develop a health workforce that has the skills and competencies to provide safe, high quality care, work in innovative environments, and respond to changing health care system and population health needs.
3. To enhance all jurisdictions capacity to achieve the appropriate mix of health providers and deploy them in service delivery models that make full use of their skills.
4. To enhance all jurisdictions' capacity to build and maintain a sustainable workforce in healthy safe work environments.

CRITICAL SUCCESS FACTORS

The table beginning on page 19 lists the priority objectives to achieve the goals, as well as the proposed short-term, medium-term and long-term actions for each objective and their outcomes.

To apply the planning framework and implement the action plan, jurisdictions must continue to work together to:

- clarify and guide the planning agenda
- identify ongoing mutually beneficial opportunities for coordinated and collaborative action
- increase capacity for HHR planning, monitoring, analysis and strategic decision making by providing infrastructure support for data development, research and forecasting
- develop appropriate management mechanisms and implementation tools, and encourage their consistent use.

Actively pursuing a collaborative action plan will also help ensure that HHR planning is a strategic priority in all jurisdictions and is appropriately resourced, and that health system decisions with HHR implications made in one jurisdiction do not have unintended consequences for other jurisdictions.

The success of the framework and the action plan depends on the commitment of all involved to making the transition from the status quo to a more collaborative approach. The critical success factors to applying the framework and building that commitment are:

1. Appropriate stakeholder engagement

Future HHR planning will be driven by health system design and service delivery models which are based on population health needs. As providers work within new service delivery models, their jobs may change, and they may have to develop new skills and competencies. Because of the variety of factors that affect the health workforce, a wide range of stakeholders must be engaged.

Stakeholder engagement will evolve over time. Based on the significant progress already made in collaborative HHR planning at all levels, effective stakeholder engagement will involve consultation and timely communication, as well as incentives to support new ways of doing business.

2. Strong leadership and adequate resources

Effective change requires leaders. The system must identify leaders at all levels – within each jurisdiction, in the education system, among employers, among providers – who will work as a team to champion collaborative HHR planning and share the vision.

Effective collaborative HHR planning will also require government commitment and is dependent on First Ministers, Ministers and Deputy Ministers continuing to allocate resources to support the planning function, including inter-governmental and inter-jurisdictional (regional) planning.

3. Clear understanding of roles and responsibilities

HHR planning initiatives are occurring at many levels. Some issues are best managed at a local health care agency level, some at a provincial/territorial level, some through bi-lateral agreements between jurisdictions, some through regional collaboration and some through pan-Canadian collaboration. For collaborative pan-Canadian efforts to succeed, all those involved must have a clear understanding of their roles and responsibilities.

4. A focus on cross-jurisdictional issues

The focus of the pan-Canadian approach will be on cross-jurisdictional issues. Leaders will work to add value – to existing jurisdictional planning, and to develop tools that will support and enhance each jurisdiction's or region's ability to develop HHR policy and plans.

Priorities will be established based on consultation with all jurisdictions, and will reflect common cross-jurisdictional issues. Key issues will be identified, and plans developed to address them.

5. A change in system or organizational culture

A more collaborative pan-Canadian approach to HHR planning will involve a change in culture. To make these changes, the system must understand the current cultural landscape (e.g., the attitudes and expectations of educators, employers and providers; traditional ways of working), the changes required, the changes already occurring, and the readiness to change.

As part of assessing the current culture, the stakeholders will focus on health care providers as a valuable asset, and take into account their needs and aspirations. Systems planning will include identifying issues that affect recruitment and retention, and making decisions that support healthy workplaces and increase job satisfaction.

6. Flexibility

A Pan-Canadian HHR Framework must be flexible and responsive to any jurisdiction's changes to its system design and the impact of those changes on HHR.

OBJECTIVES AND ACTIONS

The following tables list the objectives and actions required to achieve the four goals, as well as the potential outcomes. Actions that are already underway are highlighted. The tables illustrate how a broad range of activities relate to one another and how they come together to form a strategic approach to collaborative HHR planning.

Investments from the provinces, territories and the federal government will be required to implement all the proposed actions and achieve the desired outcomes. The amount of investment required will be specified in the more detailed work plans.

Goal 1. To improve all jurisdictions' capacity to plan for the optimal number, mix, and distribution of health care providers based on system design, service delivery models, and population health needs.

OBJECTIVES	ACTIONS			OUTCOMES
	Short-Term 1-2 years	**Medium-Term 2-4 years**	**Long-Term 4+ years**	
1.1 Improve capacity to assess population health needs, and demand for services, including Aboriginal health needs.	Plans and tools that inform jurisdictions in preparing Dec/05 action plans. An inventory of forecasting/simulation tools and models.	Need-based models for scenario planning that take into account various service delivery models. Forecasting/simulation models to assess the impact of different service delivery models and project HHR requirements. Indicators to monitor HHR demand.	Ongoing development and enhancement of forecasting/simulation models.	Increased capacity to articulate future service delivery and HHR needs as a basis for planning.

Goal 1. To improve all jurisdictions' capacity to plan for the optimal number, mix, and distribution of health care providers based on system design, service delivery models, and population health needs.

OBJECTIVES	ACTIONS			OUTCOMES
	Short-Term 1-2 years	**Medium-Term 2-4 years**	**Long-Term 4+ years**	
1.2 Support jurisdictions' capacity to: develop, implement and evaluate innovative service delivery models that meet population health needs; and share results across jurisdictions.	An analysis of HHR success factors that support appropriate use of HHR.	Updated success factors and an evaluation of how they are being integrated into the delivery system.	An expert analysis of the impact of a knowledgeable health care consumer, the increasing role of self-care, and the increasing demand for alternative care providers (e.g., naturopaths, chiropractors, traditional Chinese medicine) on HHR needs over the next decade.	Enhance interprofessional patient care management. Better monitoring and evaluation of health reform initiatives (e.g., innovative service delivery models, changes in professional roles).
1.3 Develop a comparable approach to collecting HHR data.	Minimum data set to guide HHR data collection and standards for collecting comparable data on new professional groups. Indicators to monitor the supply of health professionals produced by the education system.	Changes in how data is collected in all jurisdictions. Development of supply-based profession-specific databases for pharmacists, occupational therapists, physiotherapists, laboratory technologists, and radiation technologies. New methodologies that can be used to capture information on workload, productivity and utilization.	Unique identifier for all health professionals. Implementation of selected supply data databases.	More consistent comparable HHR data. Better information and key descriptors on HHR supply. Increased capacity to plan for a range of health care providers. Better understanding of workload, productivity and utilization. A 5-10 year data master plan to support HHR planning, forecasting, monitoring and evaluation.

Goal 1. To improve all jurisdictions' capacity to plan for the optimal number, mix, and distribution of health care providers based on system design, service delivery models, and population health needs.

OBJECTIVES	ACTIONS			OUTCOMES
	Short-Term 1-2 years	**Medium-Term 2-4 years**	**Long-Term 4+ years**	
1.4 Improve data on the Aboriginal health workforce, including developing the data to assess current participation rates and monitor progress.	An assessment of current data gaps, and strategies to address them.	An Aboriginal health workforce database for non-traditional workers.		Increased capacity to plan and manage HHR to meet the needs of Aboriginal communities.
1.5 Enhance collaboration and provide evidence on issues such as number, mix and distribution of health providers.	Physicians, Nursing and Pharmacy sector studies, and Health Executives situational analysis.	Other possible agreed upon sector studies, such as cancer care.		Increased capacity for all jurisdictions to do evidence-based planning with mutual understanding and recognition of the roles of different partners including health providers, educators and employers. Fewer profession specific and sector based studies.

Goal 2. To enhance all jurisdictions' capacity to work closely with employers and the education system to develop a health workforce that has the skills and competencies to provide safe, high quality care, work in innovative environments, and respond to changing health care system and population health needs.

OBJECTIVES	ACTIONS			OUTCOMES
	Short-Term 1-2 years	**Medium-Term 2-4 years**	**Long-Term 4+ years**	
2.1 Improve our understanding of health education and training systems.	Minimum dataset for education capacity and student demographics. A report on the production capacity of education programs including education curricula, and an analysis of the extent to which current curricula align with health system needs and health policy (based on established indicators). A database of nursing education programs. An inventory of training opportunities that support career laddering within and among health professions and disciplines.	A database of education programs for other professions. A strategy for career laddering in the health professions.		Better understanding of the production capacity (i.e., number and mix) of education programs. More opportunities for career development and increased retention.

Goal 2. To enhance all jurisdictions' capacity to work closely with employers and the education system to develop a health workforce that has the skills and competencies to provide safe, high quality care, work in innovative environments, and respond to changing health care system and population health needs.

OBJECTIVES	ACTIONS			OUTCOMES
	Short-Term 1-2 years	**Medium-Term 2-4 years**	**Long-Term 4+ years**	
2.2 Align education curricula with health system needs and health policy.	The active engagement of education institutions in planning for the number, mix, knowledge, skills and attributes of future health providers. An analysis of the extent to which current education curricula align with current and future health system needs and health policy. Pilot projects in interprofessional education. A consistent approach to responding to requests to increase entry-to-practice requirements, including principles and an evidence-based process to review and evaluate proposed changes.	Proposed changes to education curricula to provide greater alignment with current and future health system needs and health policy. Development of interprofessional curricula.		An increase in the number of students enrolled in collaborative education programs. An increase in the number of providers prepared to work in collaborative interprofessional teams. A flexible workforce with the skills to respond to health needs. An education system that supports continued competence (e.g. career-laddering, shifting). Changes in entry-to-practice requirements will not have a negative impact on costs or access to services. Changes in entry-to-practice requirements will lead to better health outcomes.

Goal 2. To enhance all jurisdictions' capacity to work closely with employers and the education system to develop a health workforce that has the skills and competencies to provide safe, high quality care, work in innovative environments, and respond to changing health care system and population health needs.

OBJECTIVES	ACTIONS			OUTCOMES
	Short-Term 1-2 years	**Medium-Term 2-4 years**	**Long-Term 4+ years**	
2.3 Develop targeted efforts to recruit Aboriginal people to health careers.	A promotion campaign on health careers targeted to Aboriginal youth.	An increase in the number of Aboriginal students in health education programs.		More care and more culturally sensitive services for Aboriginal people. Improved health status for Aboriginal people.
2.4 Develop targeted efforts to develop a culturally and linguistically diverse workforce that can respond to population health needs.		An increase in the number of students from official language minority communities in health education programs.		More culturally sensitive health services for official language minority communities.
2.5 Reduce the financial burden on health students.	Assess the potential of new loan and loan repayment strategies for students in all health professions.	Strategies to address the financial burden on students in other professions.		An increase in high quality applicants for health education programs.

Goal 3. To enhance all jurisdictions capacity to achieve the appropriate mix of health providers and deploy them in service delivery models that make full use of their skills.

OBJECTIVES	ACTIONS			OUTCOMES
	Short-Term 1-2 years	**Medium-Term 2-4 years**	**Long-Term 4+ years**	
3.1 Understand health providers' roles based on scopes of practice and skills.	An examination of the potential role of new providers and provider assistants. Strategies to ease HHR mobility and support the FPT strategic agenda.	Strategies to address any legal, regulatory barriers to collaborative practice (e.g., tort reform). Paper to examine the feasibility of pan-Canadian harmonization of scopes of practice, including an inventory of the current scope and roles of regulated providers and identification of differences. Extend recognition of credentials accepted in one jurisdiction across the country.		Increased ability to optimize the health workforce and make effective use of their skills. Increased ability of jurisdictions to optimize the health workforce. Greater labour mobility. Increased satisfaction of providers. Greater efficiency in recruiting HHR.
3.2 Develop more common approaches to addressing HHR compensation issues.	Common principles for negotiating physician schedules and payments. A cross-jurisdictional Health Labour Relations database.	Evaluation of the cross-jurisdictional Health Labour Relations database continued relevance.	Compensation models that support appropriate HHR supply, mix and mobility.	More appropriate HHR mobility. A level playing field among jurisdictions.

Goal 4. To enhance all jurisdictions' capacity to build and maintain a sustainable workforce in healthy safe work environments.

OBJECTIVES	ACTIONS			OUTCOMES
	Short-Term 1-2 years	**Medium-Term 2-4 years**	**Long-Term 4+ years**	
4.1 Accelerate and expand the assessment and integration of internationally trained health care graduates.	Removal of barriers to the assessment, training and licensure of physicians. Consistent processes to assess, license and train internationally trained physicians.	Removal of barriers to the assessment, training and licensure of nurses. Consistent processes to assess, license and train internationally trained nurses.	Removal of barriers to the assessment, training and licensure of allied health professionals. Consistent processes to assess, license and train internationally trained allied health professionals.	An increase in qualified health care providers.
4.2 Enhance attractiveness of careers in health care.	A general marketing campaign promoting all health careers. A framework for public health HR. An action plan to enhance the attractiveness of family medicine, with recommendations for key stakeholders and jurisdictions.	Strategies to enhance and promote careers in specific sectors, based on health system design and service delivery models.		A more stable workforce. An adequate supply and mix of public health professionals to meet population and community needs. An increase in the number of post-graduate medical students who select family medicine as their first choice for residency programs. An appropriate supply of health providers. Greater job satisfaction for health providers. Greater retention of health providers. Increased applications and enrollments to health professions and careers to support health system design.

Goal 4. To enhance all jurisdictions' capacity to build and maintain a sustainable workforce in healthy safe work environments.

OBJECTIVES	ACTIONS			OUTCOMES
	Short-Term 1-2 years	**Medium-Term 2-4 years**	**Long-Term 4+ years**	
4.3 Increase the capacity to address health and safety issues, and reduce work-related illnesses, injuries and absenteeism.	Healthy workplace initiatives and best practices. Establish partnership with Worker's Compensation Board to reduce work-related illnesses.			Workplace health and safety improves. Costs related to illness and disability drop. Retention improves.

IV. CONCLUSION

Health human resources planning occurs within a health system, and is driven by health system design and models of service delivery which, in turn, are based on population health needs.

Health human resources planning is an evolving science. All players will have to continually assess the impact of service design decisions on HHR, and make adjustments: trying different strategies, reflecting on their impact, and making corrections as required. In this way, all players will work together to maximize the potential benefits of collaboration, while minimizing any unintended consequences of a pan-Canadian approach.

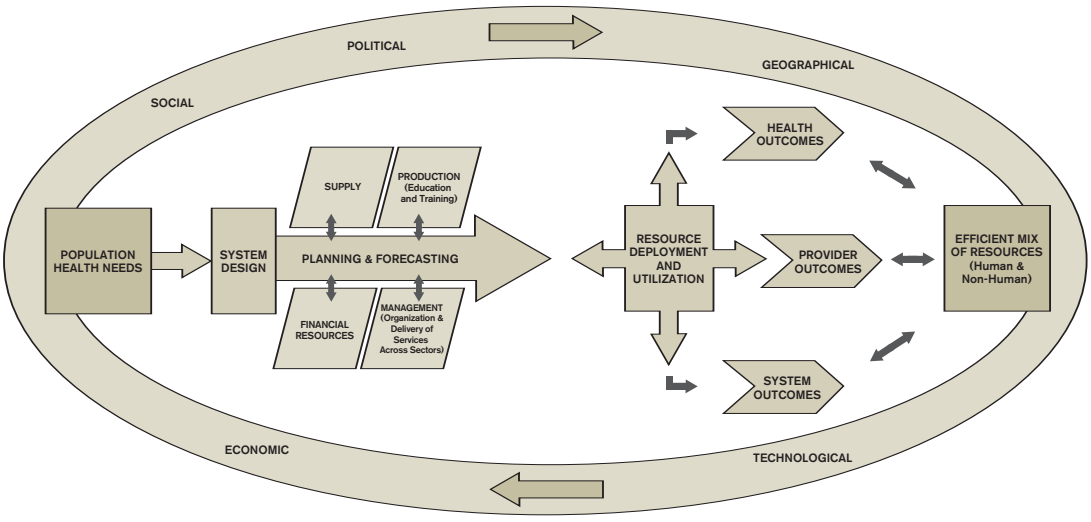
Jurisdictions and their health care systems must be clear about what they expect to achieve through collaborative HHR planning. Collaborative pan-Canadian HHR planning has the potential to help each jurisdiction develop and maintain a health workforce with the skills to support its service delivery system and give its citizens timely access to high quality, effective, patient-centered, safe health services. To ensure that pan-Canadian HHR planning achieves these outcomes, jurisdictions will establish realistic milestones and develop mechanisms to monitor progress.

APPENDIX: EXAMPLE OF A CONCEPTUAL MODEL FOR HHR PLANNING

BY GAIL TOMBLIN MURPHY

Figure 1 illustrates a conceptual model for population needs-based, system design driven HHR planning. It was developed by O'Brien-Pallas, Tomblin Murphy, Birch, and Baumann (2005). [Fig. 1]. The model has been adapted from earlier work by O'Brien-Pallas, Tomblin Murphy, Birch, Baumann (2001) and O'Brien-Pallas and Baumann (1997), and has been constructed from Anderson's (1995) service utilization model, Donabedian's (1966) quality of care framework, Leatt and Schneck's conceptualization of technology in human services organizations (1981), and work of a Canadian think tank summarized by Kazanjian, Pulcins and Kerluke (1992). It is designed to include the essential elements of health human resource planning in a way that captures the dynamic interplay among a number of factors that have previously been conceptualized in isolation of one another (O'Brien-Pallas, 2002). It provides policy makers and planners with a guide to decision-making which takes account of current circumstances (e.g., supply of workers) as well as those factors which need to be accounted for in HHR planning (e.g., fiscal resources, changes in worker education and training). This conceptual model considers factors that, though important in the HHR planning process, may not have been considered in planning to date. These factors include social, political, geographic, economic, and technological factors.

Figure 1: Health System and Health Human Resources Conceptual Model[1]



[1]O'Brien – Pallas, Tomblin Murphy, Birch, 2005 (adapted from O'Brien – Pallas, Tomblin Murphy, Birch, & Baumann , 2001, and O'Brien – Pallas & Baumann, 1997)

At the core is the recognition that health human resources must be matched as closely as possible to the health care needs of the population (O'Brien-Pallas 2002).

When used to guide planning, a conceptual model like the one above can help policy makers and planners take into account the impact a range of dynamic variables on:

- current circumstances (e.g., supply of workers)
- the number and skills required which need to be accounted for in HHR planning (e.g., fiscal resources, changes in worker education and training).
- other factors important in the HHR planning process that may not have been considered in the past, such as social, political, geographic, economic, and technological factors.

Planners can use this type of model as the basis for simulations which, in turn, can provide needs-based estimates of the health human resources required to achieve health, provider and system outcomes.

ELEMENTS OF THE CONCEPTUAL MODEL

The description of the elements of the conceptual model is based on the work of O'Brien-Pallas (2002).

Population health care needs (Needs-Based Factors) reflect the multivariate characteristics of individuals in the population that create the demand for curative as well as preventative health services. Population health needs are influenced by several factors (Eyles, Birch, & Newbold, 1993) such as actual and perceived population health status, socio-economic status, demographics, and health behaviours. Health need is influenced by social, cultural, political, contextual, geographical, environmental and financial factors. Population health needs are also influenced by the determinants of health including such things as: people's biological endowment and individual responses, the social and physical environment in which they live, the economic conditions (i.e., productivity and wealth) of their society, and the accessibility and quality of the health care system.

It is important for researchers and planners to have an accurate picture of the current and predicted health status of the population. As Figure 1 illustrates, population health needs are influenced by, and in turn influence, a number of other elements of the conceptual model (O'Brien-Pallas, 2002). The failure of utilization and supply driven approaches to HHR planning can be traced to the failure to adequately link planning to the health care needs of the population.

System Design. The design of health care services impact human resources requirements. The health system is designed to address the given level of need of the population. Governments (policy makers and funders) in partnerships with stakeholders determine the delivery models (e.g. primary health care and acute care facilities), to deliver services, and the associated level of services required. These planning activities are also shaped by inter-governmental agreements such as First Ministers commitments to improve patient safety, reduce wait times for medically necessary procedures, provide home care programs, and increase disease prevention initiatives.

Planning and Forecasting reflects the varieties of available HHR planning practices and models, their assumptions, methods, data requirements, and limitations. It relates to the actual methods used to predict human and other resource requirements. Predictions of healthcare providers requirements will vary according to the methods used to make those predictions. The choice of method will be determined by a number of factors including: traditional practices, data availability, political pressure and, most importantly, the question that is being asked. It is important that forecasting and planning activities be conducted continuously with regular data analysis and outcomes assessment.

Supply element reflects the actual number, type, and geographic distribution of regulated and unregulated providers; it also recognizes that supply is fluid and is related to production as well as to factors such as recruitment and retention, licensing, regulation, and scope of practice. Supply is subject to alteration according to a number of labor market indicators such as: participation rates, provider-to-population ratios, demographic and educational characteristics of providers, employment status, and employment sector (International Labour Organization). Death, retirement, and emigration or immigration also impact the supply of providers. The geographic distribution of providers may vary according to general economic trends, work incentives, and life-style choices. Distribution of providers within health labor market segments may depend on production related factors, such as number of medical residency spaces available and the level of competition, availability of post-graduate nursing specialty training, and the technological sophistication and working conditions of competing market segments.

Supply also includes the type of service each provider is competent to provide. This is related both to production as well as to issues of standards and scope of practice, and governance (i.e., certification, licensure, regulation and local employer control) (O'Brien-Pallas, 2002).

Financial Resources provide an 'economic context' for HHR decisions and involve estimating the future size of the economy from which the particular health human resource and competing services will be funded. This allows planners to estimate the proportion of total

resources that might be allocated to health care, and the share to be devoted to health human resources. Decisions about the allocation of resources to health care and other public programmes are likely based on, among other things; the level and distribution of needs in the population and the role health human resources play in meeting those needs. It refers to the total portion of the Gross Domestic Product (public and private) that is allocated to health care (preventative and curative), health provider education, and health related research. Balance must be sought between human and physical capital. This involves determining the appropriate quantity, mix, and distribution of health services. Careful choices need to be made on the basis of the best available research and in the context of broader social choices as reflected in current fiscal realities. Financial resources must be directed to those initiatives and capital expenditures that are most likely to meet the health care needs of the population. The mix of financial resources for health must strike a balance between non-human resources (e.g., technology, drugs, hospital beds, etc.) and human resources (WHO, 2000; O'Brien-Pallas, 2002).

Production (education and training) involves the education and training of future health providers. Educational programs differ in the level of qualifications required and approaches to learning. The number of formal positions offered in any educational institution is influenced by financial resources and designated number of funded seats. The link between population health care needs and future capacity to meet those needs ought to be considered in setting production targets for seats in any health discipline (O'Brien-Pallas, 2002). This relationship has not been well explored to date.

Management, Organization and Delivery of Health Services contribute indirectly to outcomes (O'Brien-Pallas, 2002). They are key variables that influence how care is delivered (i.e. changing health care delivery models) across all sectors. Management and organizational characteristics (such as such as structural arrangements, the degree of formalization and centralization, environmental complexity, and culture each influence the way work gets done and impacts on outcomes) influence the amount and quality of care provided, provider health and satisfaction, and costs associated with delivery of services (O'Brien-Pallas, 2002).

Resource Deployment and Utilization reflects the amount and nature of the resources deployed to provide health services to the population at large. Utilization reflects the nature and type of resources utilized by the population to meet health care needs. The efficiency and effectiveness of service delivery depends to a great extent on the efficient and effective deployment and use of personnel. Decisions made about the deployment and use of personnel across all sectors of the system influences access to services and utilization by the population and outcomes (O'Brien-Pallas, 2002).

Health Outcomes are classified into those focusing on individual health and the health of populations or communities. Many indicators of health status have been developed from both primary and secondary sources including population health surveys, vital statistics mortality data, cancer registry data, hospital discharge diagnoses, and the diagnosis submitted on claims from physicians visits. Examples of some of these indicators include: premature mortality rate (PMR; i.e., death before 75); life expectancy; standardized mortality rates; mortality from cancer, injury, and chronic diseases; disease incidence; medical conditions associated with poor functional status and poor-perceived health status; low birth weight; and prenatal care outcomes. These indicators capture various dimensions of community health ranging from mortality and morbidity from cancer, injuries, and chronic diseases to disability among youth, medical conditions associated with functional limitations, and restricted activity days among the elderly (O'Brien-Pallas, 2002).

Provider Outcomes include factors such as: provider health status, retention rates, turnover rates, sick time, job satisfaction, and levels of burnout and other individual responses to work and the work environment (O'Brien-Pallas, 2002).

System Outcomes are the consequences in terms of costs (financial and other), benefits, and changes associated with the provision and use of health care resources. Measures include: hospitalization and readmission rates, home visits, expenditures on the various health sectors, the number of people treated in each health sector, the neediness of the population being serviced, case intensity, cost efficiency, discharge efficiency, proportion of acute versus non-acute care, outpatient and inpatient surgery rates, and bed occupancy rates (O'Brien-Pallas, 2002).

Contextual Features include the social, political, geographical, technological and economic context in which general resource allocations and specific HHR allocations are made. These factors influence HHR planning insofar as they represent social choices and limitations on that portion of social resources committed to health and health care. They also draw attention to the broad policy framework within which health and HHR policy must operate. HHR planning decisions are also influenced by the presence or absence of political will to incur the costs of promoting health care system reform among competing priorities. In this country, access to services, including human resources, and population health also depend on geographic considerations. The introduction of new technologies – together with the expectation such advances create – impact the production, supply and efficiency of providers. Economic factors contribute to both the health status of the population and the degree to which health care needs can reasonably be met. The opportunity costs of providing greater levels of health

human resources will always need to be weighed carefully against other social spending priorities. In addition to these contextual factors, planners need to consider the possibility of unanticipated "shocks to the system" which happen from time to time and may influence the health human resource process (e.g., sudden down or up swings in the economy, epidemic disease, catastrophic political or social upheaval) (O'Brien-Pallas, 2002).

Efficient Mix of Resources (Human and Non-human) is simply the number and type of resources that are required to achieve the best health, provider and system outcomes (O'Brien-Pallas, 2002).

The conceptual model provides the basis for health system simulations which, in turn, provide needs-based estimates of HHR requirements aimed at optimizing the range of outcomes of interest. The model is informed by research at the micro, meso and macro level. This is necessary in order to capture the complexity of the relationship among elements of the health human resource process (O'Brien-Pallas, 2002).

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