EVIDENCE INFORMED POLICY MAKING

SUBMITTED BY:

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This thesis is dedicated to my parents, my sister Neha, and my brother Neel who have supported me throughout my studies. Also, this thesis is dedicated to my fiancé Neil and his parents who have been a great source of inspiration and motivation.

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HEALTH POLICY AND SYSTEMS RESEARCH

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INTRODUCTION

As the pressing need for health care systems reform grips many nations of the world, researchers have looked at novel ways to generate and define policies based on available evidence. Recently, investigators have looked to an emerging form of research known as Health Policy Systems Research (HPSR) to inform and develop policy. HPSR is a multidisciplinary form of research which unites the fields of anthropology, sociology, public health and medicine, to examine the way national health systems are structured and how effectively such systems function. HPSR is defined broadly as "the production of knowledge and applications to improve how societies organize themselves to achieve health goals, including how they plan, manage and finance activities to improve health, as well as the roles, perspectives and interests of different actors in this effort." (1) This field of research focuses specifically on six crucial "building blocks" to evaluate the efficacy of the health system – service delivery, information and evidence, medical products and technologies, health workforce, health financing, and leadership and governance. By focusing on these key areas, researchers are able to clearly see how the health care system functions as a whole and are quickly able to identify areas that need improvement. Since the 1970s, researchers began to see how the dissemination of HPSR evidence proved to be beneficial to the health ministers of low income countries in their quest to formulate better policies for their respective nations. Although the utilization of HPSR research can be beneficial for all countries regardless of their economic status, the utilization of HPSR to develop policy has repeatedly shown to be beneficial especially to the resource poor nations of the world as they share a disproportionate burden of poor health outcomes.

HPSR strategies have the potential to have a profound impact on strengthening health systems around the world, which can significantly benefit low and middle income countries (LMIC) in their mission to meet the fourth, fifth, and sixth Millennium Development Goals (MDGs) which target public health. These goals include reducing child mortality, improving maternal health, and combating HIV/AIDS, malaria and other diseases, respectively. Many recent publications have reported that weak health systems are preventing low and middle income countries from reaching the MDGs. (1, 2, 3) Strengthening health systems is currently a key component of WHO's global health agenda. (4, 5) As stated by the Director-General of WHO, Dr. Margaret Chan, "Public health [today] enjoys commitment, resources, and powerful interventions.......but the power of these interventions is not matched by the power of health systems to deliver them to those in greatest need, on an adequate scale and on time......This arises, in part, from the fact that research on health systems has been so badly-neglected and underfunded.......In the absence of sound evidence, we will have no good way to compel efficient investments in health systems."

[Dr. Margaret Chan, Director-General of WHO, Beijing, China, 29 October, 2007].

The World Health Organization has recognized the potential for HPSR and is committed to health systems strengthening, as evident with its work with the Alliance for Health Policy and Systems Research, Country Cooperation Strategies, Global Health Observatory and Evidence-Informed Policy Network. This report will discuss the role of HPSR, the importance of implementation research and knowledge translation towards developing sustainable health care systems, and examine the various WHO entities as well as other organizations involved with research uptake and evidence-based decision making, and the challenges encountered in this process.

IMPLEMENTATION RESEARCH AND KNOWLEDGE TRANSLATION

According to the 2010 UN Millennium Development Goals Report, many regions will fall short of achieving their MDG targets. (6) Weak health systems and lack of interventions based on evidence have been major obstacles in reaching the MDG targets in many low and middle income countries. (6, 7) Recent evidence has shown that barriers and facilitators of implementation must be identified and knowledge translation processes must be emphasized for evidence-informed decision making by policy makers.

Implementation research is defined as "the scientific study of methods to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve the quality and effectiveness of health services and care." (9) The purpose of implementation research is to "develop strategies for available or new health interventions in order to improve access to and use of these interventions by the populations in need" and it can facilitate decision making in a number of ways. (8) It can be used to map the context in which the policy will be implemented, identify barriers to implementation and develop practical solutions, as well as monitor and evaluate the interventions. (7) Knowledge translation is defined as "a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically-sound application of knowledge, through sustainable partnerships to improve the health of citizens, provide more effective health services and products and strengthen the health care system" (10) The processes of knowledge translation can facilitate the use of implementation research and aid policy makers in making better decisions. It encourages the researchers and policy makers to

collaborate on research that targets health systems. It gives them an opportunity to develop research questions together and work together to appraise evidence and apply implementation research in the policy dialogue. (7)

A recent example of the application of implementation research using knowledge translation processes include the scaling up of zinc for young children with diarrhea in Bangladesh, also known as the "SUZY" project. Based on the systematic reviews and recommendations of UNICEF and WHO that treatment with zinc for diarrhea among children under the age of five is effective and could save 30,000 to 75,000 lives every year in Bangladesh, two committees (National Advisory Committee and Planning and Implementation Committee) were developed to translate this evidence into policy. These committees facilitated the collaboration between the researchers and the decision makers to design and implement an evidence-informed policy which led to the approval of using zinc in addition to the oral rehydration salts for the treatment of diarrhea for children less than five years old. (11) Some other examples of implementation research include: efforts to improve quality of diagnostic services for malaria in pregnancy in Burkina Faso; using mobile phone technology for prevention of mother-to-child transmission of HIV in Kenya; and improving maternal, neonatal and child health care using a community health worker in the urban slums of Delhi in India. (12)

ORGANIZATIONS INVOLVED WITH RESEARCH UPTAKE

WHO ALLIANCE FOR HEALTH POLICY AND SYSTEMS RESEARCH

The former director general of the World Health Organization (WHO), Dr. Halfdan Mahler, recognized the importance of research to develop sustainable health delivery systems and (along with many other influential WHO personnel) called for an emphasis on health policy and systems research in 1974. The Advisory Committee for Medical Research in 1976 defined HPSR as "the systematic investigation and evaluation of specific aspects relative to the development and functioning of health services in their relationship with health related factors" and in 1996, under the leadership of Dr. Nakajima, the WHO Ad Hoc Committee on Health Research laid the foundation for the Alliance for Health Policy and Systems Research. (13) In 1999, The Alliance for Health Policy and Systems Research was established as a partnership with the WHO in an effort to promote the generation and use of health policy and systems research to strengthen health systems in low and middle income countries. (14) The objectives of the Alliance are to "stimulate the generation and synthesis of policy-relevant health systems knowledge, encompassing evidence, tools and methods; promote the dissemination and use of health policy and systems knowledge to improve the performance of health systems; facilitate the development of capacity for the generation, dissemination and use of health policy and systems research knowledge among researchers, policy-makers and other stakeholders." (14) Since then, the Alliance has worked to generate policy relevant knowledge by providing grants to researchers working to strengthen health systems, built capacity for synthesizing health systems evidence through systematic reviews,

created a network of decision makers and researches to facilitate research-driven policy making, and assisted donors and countries to effectively allocate resources for health policy and systems research. (14)

To reach their objectives, the Alliance for Health Policy and Systems Research does work in three main areas: knowledge generation, knowledge use, and capacity building. Some of the recent projects in the area of knowledge generation include the Access to Medicines (ATM) project, the Implementation Research Platform (IRP) project, and the project to develop the WHO Health Systems Research Strategy, among others. (15) The Access to Medicines was a project funded by DFID (UK Department for International Development) which was started in 2010 in an effort to create evidence-informed policies to increase access to essential medicines and to improve the use of medicines in low and middle income countries. The Implementation Research Platform was also started in 2010 in partnership the Department of Child and Adolescent Health and Development, the HIV/AIDS Department, the Special Programme of Research, Development and Research Training in Human Reproduction, and the Special Programme for Research and Training in Tropical Diseases at the WHO. This project receives support from the Norwegian Government Agency for Development Cooperation, NORAD), the Swedish International Development Cooperation Agency (Sida) and the UK Department for International Development (DFID). The purpose of this project was to identify common issues that impede access to interventions, develop and evaluate practical solutions to the identified issues, and determine methods to apply these solutions and conduct an evaluation of the implementation of these solutions in the health system. (16) In an effort to facilitate evidence-informed policy making, the Alliance was assigned to develop a Strategy on Health Policy and Systems Research after the First Global Symposium on Health Systems Research in November 2010. A twenty-nine member advisory group co-chaired by Julio Frenk (Dean,

Harvard School of Public Health, and Sujatha Rao (Former Secretary of Health, India) worked to develop this strategy with the goal of understanding the role of HPSR in an attempt to improve the performance of health systems.

In an effort towards dissemination of use of knowledge, the Alliance has worked on the Sponsoring National Processes (SNP) project, have participated and presented at numerous meetings and conferences and took the lead to organize the Second Global Symposium on Health Systems Research. (15) The Sponsoring National Processes project was launched in 2008 and proposals from five countries, Argentina, Bangladesh, Cameroon, Nigeria, and Zambia were selected to receive grants to work on projects to promote evidence-informed policy making to strengthen health systems in low and middle income countries. One of the key accomplishments of this initiative was the efforts of the team in Nigeria which worked with the government and other stakeholders in collaboration with the Alliance to conduct a mentorship program for decision makers which eventually led to the establishment of a Health Policy Advisory Committee in an effort to bridge the gap between the researchers and policymakers. (17) They also started a university level Executive Training Programme in Health Policy/Health Systems. (15) In addition to sponsoring, the Alliance staff also conducts systematic reviews as well as participates in numerous meetings and conferences towards the goal of using HPSR knowledge to improve health systems. (15) In November 2012, the first ever Strategy on Health Policy and Systems Research was launched at the Second Global Symposium on Health Systems Research which advocates for a prominent role of HPSR and to encourage collaboration between researchers and policy makers in order to facilitate evidence-informed policy making. The Alliance is also active in the area of capacity building, from promoting the use of evidence in the policy making process to

strengthening health systems research methodologies as well as publishing the HPSR Methods Readers and a report on "Systems Thinking for Health Systems Strengthening." (15)

WHO COUNTRY COOPERATION STRATEGIES

The WHO has long supported the idea of working *with* the countries and working *in* the countries in order to support the needs of individual countries to reach their individual health developmental goals. Efforts were made to identify the issues related to strengthening the WHO country offices which, counterintuitively, hindered performance at the country level. In December 1998, the *Working Group on Partnership with Countries*, with membership from country offices, regional offices and headquarters concluded that the lack of a holistic approach to the development of the health sector coupled with a lack of focused priority setting and an inadequate attention to achieved outcomes were barriers at the country level. They recommended that country-specific medium-term strategies should be developed in order to improve coordination with other partners, and to have a more integrated approach that focuses on results, budgets and evaluations. In April 1999, the framework for decentralization of the country offices and the development of the country strategies was established. (18) The Country Cooperation Strategy (CCS) is a key instrument that is agreed upon by the WHO and the individual Member States whose purpose is to outline the priorities that should be focused on within the individual countries in the medium term (four to six years). This time frame is variable depending on the cycle for the national political processes within the country. (19)

According to the 2010 WHO Country Presence Report, 145 WHO offices at the country level have a Country Cooperation Strategy. Among the country offices where CCS was available, 85% of them reported that this document was used to guide the planning and operations of their work at the country level which includes advocacy, obtaining resources, as well as for management and technical support. A review was recently conducted using the 71 Country Cooperation Strategies publicly available in English to assess whether health policy and systems research was a priority at the country level. Nearly all the countries, but not all, mention implementation research and the use of translation of health systems evidence into policy as a priority. (21) Further research is in the process to corroborate this data and to determine how the CCS can be used at the country level to facilitate evidence-informed decision making.

WHO GLOBAL HEALTH OBSERVATORY

The Global Health Observatory (GHO) is an online portal which gives access to WHO's data as well as analyses on trends and determinants, which can facilitate setting health priorities and inform decision making. (22) The purpose of GHO is to provide access to country data and statistics with a focus on comparable estimates as well as the analyses by the WHO to monitor global, regional and country situation and trends. (23) Data is gathered from the various WHO programs and hosted on behalf of those programs and is made available on their website so that it can be used by anyone in the world. According to GHO personnel, the data and statistics page of this website is one of the most visited sites of WHO. The data repository also allows users to export data into their own database and that the only restriction is that the WHO is cited when using the data. Furthermore, GHO also collects information regarding the methodology used to obtain the data and clears it for accuracy.

The GHO allows access to over 50 databases with over 800 indicators making it the most comprehensive collection of data. It also includes analyses by health themes such as mortality and burden of disease, health expenditure per capita, deaths due to particular diseases, substance abuse, etc. (22) Furthermore, they also provide statistical and analytical reports such as the World Health Statistics 2011, Global Health Risks, The Global Burden of Disease as well as reports for specific programs and diseases. (22) The key stakeholders for this data include ministries of health and national institutes as well as the WHO technical programs. (22) Although there is enhanced access to a large repository of data, there are still gaps to determine if this data is being for evidence-based policy making and the impact of the Global Health Observatory on strengthening health systems.

WHO EVIDENCE-INFORMED POLICY NETWORK (EVIPNET)

The World Health Organization's Evidence Informed Policy Network (EVIPNet) began after a monumental meeting of the World Health Assembly in Mexico City in 2004, which called for the greater involvement of national governments to spearhead evidence-based research to inform health policy and delivery systems. (24) As a result, the WHO established EVIPNet in an effort to unite the key regional players at a country (or region) specific level to accomplish the following goals: 1) to identify key public health issues that need to be addressed at a national or regional level, 2) to translate and disseminate health policy systems research more widely, and 3) to publish reports that can influence high-ranking policymakers to apply HPSR to shape policy. (25) The key players mainly consist of researchers, policymakers, and individuals from private sectors who band together and request the EVIPNet Secretariat if they can form a country (or region)

specific network. The network then works together to produce a thorough systematic review of the literature, all the while, engaging in resource and information exchange across multiple sectors. The group's effort then culminates with published reports or policy briefs that are then handed to governmental officials to help them pass legislation and enforce policies. (25)

The efforts of region-specific EVIPNets have had far-reaching implications around the world. Take EVIPNet Africa's efforts to tackle malaria, for example. After years of dialogue between policymakers, researchers and civil partners, EVIPNet Africa has for the first time recommended policy briefs to the governments of Burkina Faso, Cameroon, Central African Republic, Ethiopia, Mozambique and Uganda to propose ways to increase access to malaria treatment for the suffering poor in those nations. (26) Because these briefs are formulated from a multidisciplinary team who are heavily engaged in health systems research, the recommendations promulgated in these briefs are likely to be the most comprehensive to date, and can potentially greatly benefit policymakers in that region (if, of course, these recommendations are successfully implemented). Similarly, EVIPNet groups in the Americas and in Asia are currently working diligently to produce reports that address local public health issues that can influence the governmental authorities of their respective regions. (27, 28)

UK DEPARTMENT OF INTERNATIONAL DEVELOPMENT (DFID)

Founded in 1997, the UK Department for International Development (DFID) has risen to become one of the foremost organizations in the field, and is now actively involved in the development and execution of HPSR. The establishment of DFID in 1997 was the culmination of a three-decade long effort to formalize British delivery of aid to the poorest nations around the world. (29)

Although the organization is now internationally known for its relief work, DFID is also heavily involved with health systems research and utilizing that research to implement evidence-based best practices in resource poor nations. (30) In fact, DFID has allocated 30% of its research budget towards the development and uptake of HPSR by starting 17 distinct programs throughout sub-Saharan Africa and South Asia, with the hopes that these programs will lead towards greater information sharing and strengthen the "communication portfolio" of the world. (31) DFID hopes that this information transparency will directly translate into better policymaking decisions for low income nations. (31) A key example of such a program is DFID's ongoing work in sub-Saharan Africa, in which the organization is trying to engage in capacity building at the university level, so that academicians and policymakers in the region learn to hone in on contextualized findings and disseminate that information to the outside world in order to facilitate health policymaking for other countries in that region. (32) DFID also works intimately with many ministries of health around the world in analyzing areas that need improvement with their respective health systems, and provides policy advice to help rectify situations. (30)

Besides providing help with research uptake, dissemination, and policymaking, the organization also works with governmental officials who are involved in health policymaking by providing resources to help fund local health programs. (30) For example, over the past three years, DFID has worked intimately with the ministry of health in Afghanistan, and has funded a project that successfully established community clinics in every district of the nation in order to increase patient access to care in rural areas. (33) Similarly, DFID worked with officials from Ghana to identify a need that people living in rural regions were not receiving adequate allopathic medical care and instead were being cared for by tribal shamans who oftentimes did not understand modern scientific ways to treat disease. DFID therefore funded a program consisting of mobile health units

staffed with health care personnel who provide care to Ghana's indigenous and tribal populations. (34) Yet another example is how DFID has pledged £91 million to Pakistan to coordinate and implement that nation's Maternal, Newborn, and Child Health Program which aims to train scores of midwives to help care for women, thereby decreasing the number of women and babies who die during the process of childbirth due to a lack of access to skilled care. (35) DIFD also ensures information transparency so that low income nations are equipped with evidenced-based health policy information as they try to make tough governmental decisions. (30)

UK PARLIAMENTARY OFFICE OF SCIENCE AND TECHNOLOGY

The UK Parliamentary Office of Science and Technology (POST) has played an integral role in the development and promulgation of HPSR. Founded in 1989, POST served to address the growing concerns of a number of politicians in both houses of the British Parliament, in that members of parliament from all parties began to realize that the passage of public policy can have profound scientific and environmental ramifications. (36) Furthermore, as the western world continued to advance technologically over the course of the 20th century, many scientific issues began to emerge in the public discourse, and members of parliament were called on by the British public to respond to such issues. (36) Since most MPs do not have a scientific background, many parliamentarians pushed for the formation of a designated office that networks with the worldwide scientific community in order to provide detailed unbiased reports that are easily understandable with which parliamentarians can use to form opinions and make decisions. (37) More than 20 years later, POST now publishes short reports on relevant environmental and scientific issues that are made easily accessible to the public.

Besides its commitment to information sharing and information transparency, POST also plays an important role internationally, by actively providing resources to conduct research and needs assessments to the parliaments of low income nations. (38) In addition, POST has entered partnerships with these parliaments, and shares evidence-based scientific data that can help such parliaments shape their own policies. Funded by the Gatsby Charitable Foundation, POST has partnered with the Ugandan parliament to engage in a focused effort to help understand the health needs of the Ugandan people, and develop novel ways to control the spread of infectious disease in that population. (38) Furthermore, POST actively helps train the MPs of the Ugandan parliament to be keenly aware of scientific and environmental issues and how to respond to these issues when they arise. (38) Lastly, in order to emulate the success seen over the past twenty years in the UK, POST aims to build a bridge between the scientific community and the Ugandan parliament in order to facilitate dialogue between these two groups. POST actively contributes to that dialogue as well, by publishing reports on its own that highlight the issues that are pertinent to low income countries—such as challenges faced with regards to clean water access, and the difficulties encountered in reaching the World Health Organization's Millennium Development Goals. (39) The lessons learned from Uganda initiative will be utilized by POST to help other African nations as well as the broader global community at large.

EUROPEAN OBSERVATORY ON HEALTH SYSTEMS AND POLICIES

The European Observatory on Health Systems and Policies falls under the purview of the World Health Organization and is committed to facilitating dialogue between many key partners across Europe in order to successfully conduct and implement HPSR. The overarching goal of the observatory is to connect those engaged in health policy research with those who are actively

involved in making policy, and thereby provide a forum for these two groups to network. (40) The observatory is known to extensively partner with and support projects led by the many think-tank policy research centers spread throughout Europe. (40) The group then shares the findings of these research think tanks with the broader community, (namely, the European governments) to help facilitate change and shape policy. (40) In particular, one of the observatory's fundamental goals is to share the successes and/or failures experienced by individual governments, so that all the nations of Europe can benefit from learning from one another. By espousing this strong sense of accountability, the observatory aims to establish equity with regards to health care across all the nations of Europe. (41)

To that end, the observatory is engaged in publishing a variety of reports that aids with information exchange among all of the key players. The observatory periodically publishes a country-specific "Health System in Transition" series, which critically analyzes the structure and function of each European nation's health system. (42) In addition, the observatory publishes a quarterly magazine entitled "Eurohealth" which brings together the viewpoints of policymakers and researchers. (43) The observatory is highly involved with organizing conferences such as the "Summer School" held each year in Venice which brings researchers and policymakers to a roundtable discussion to address the most important issues in health systems research. (44) Lastly, the observatory is keenly involved with research itself. By collaborating with partners throughout Europe, the observatory has tried to study many important issues, including (but not limited to) the health issues faced by migrant communities in Europe, the effects of the financial meltdown and worldwide recession on health systems, and the performance measures of European health systems. (45)

AFRICAN INSTITUTE FOR DEVELOPMENT POLICY

The African Institute for Development Policy (AFIDEP) is a non-profit organization launched by the Kenyan government that aims to specifically examine how to make health policy system research accessible and understandable to policymakers. (46) The organization attempts to consolidate the research and disseminate findings to policymakers throughout Africa in a timely fashion. AFIDEP is strongly invested in assisting development programs throughout the region, and the organization believes that improving the structure and process of health systems of African nations will alleviate the suffering of the poor in that region. (46)

To that end, AFIDEP is active in five key domains – knowledge translation, family planning, population & sustainable development, maternal & child health, and capacity building. In terms of knowledge translation, AFIDEP is heavily involved in conducting systemic reviews of the literature, publishing policy research developments, devising models for change, and holding governmental officials accountable with regards to implementing evidenced-based policy. (47) With regards to family planning, AFIDEP helps conduct rapid needs assessments of governmental policy systems that address sexually transmitted disease among the population. In addition, the NGO assesses policymakers' perceptions of family planning programs, and tracks the utilization of contraceptive use in nations. In addition, AFIDEP advocates for universal access to reproductive health care in many sub-Saharan African countries. (48) In terms of population and sustainable development, AFIDEP tries to assess capacity of nations to handle the ramifications of climate change by collaborating with local experts who are heavily involved in this field, and by increasing awareness of this important issue with policymakers. (49) With regards to maternal and child health, AFIDEP aims to identify the causes of health disparities that are rampant among low

income children, and publishes a series of child health indicators that are then given to governmental officials. (50) Lastly in terms of capacity building, AFIDEP networks with field policy researchers and helps provide valuable resources to these groups so that they can continue their work. (51)

WELLCOME TRUST

The Wellcome Trust was established in 1936 and it is a global charitable foundation whose aim is to improve human and animal health by "supporting the brightest minds in biomedical research and the medical humanities". (52) To that end, the foundation is committed to providing funding for research to "inform effective delivery of interventions through health services". (52) The Trust funds a wide variety of health systems research in low and middle income countries. In collaboration with the Alliance for Health Policy and Systems Research, the Wellcome Trust launched a joint call for proposals in 2008. The goals of this call in particular were to develop innovative interventions to build capacity for the policy makers and for the civil society to use evidence generated from health policy and systems research while conducting policy dialogue and decision making. (53) The five projects that were selected from these proposals include: CIAM (Public Health Research & Development Centre) in Gambia, Centre for Operational Research and Training (CORT) in India, International Centre for Diarrhoeal Disease Research in Bangladesh (ICDDR,B), Support for Advocacy and Training to Health Initiatives as part of the Centre for Enquiry Into Health and Allied Themes (SHATHI- CEHAT) in India, and the Nigerian Academy of Science. The total amount of funds awarded to these five projects was $1,054,695. (53) These projects include efforts to enhance capacity to apply research evidence in policy making in the area of reproductive health in Bangladesh, as well as to develop capacity for using evidence to

strengthen health planning at the district level in the state of Maharashtra in India, and to support the use of evidence to improve health care delivery and strengthen the health system in Nigeria. (54)

The Wellcome Trust also sponsors fellowships to researchers from low and middle income countries in the field of health policy and systems research. Some of the fellows they have sponsored include a Research Training Fellow in Public Health & Tropical Medicine who studied inequities in health care in Kenya and explored the feasibility of health insurance mechanisms to address these inequities, a Senior Research Fellow in Clinical Science whose work involved developing evidence-based guidelines for severely ill children and newborns in Kenya; and a Senior Research Fellow in Clinical Science who studied challenges and barriers to psychological treatments in low and middle income countries in an attempt to develop a mechanism to provide these treatments by a community health worker. (53) The Wellcome Trust is also collaborating with Canada's International Development Research Centre (IDRC) and UK's Department for International Development through the Health Research Capacity Strengthening Initiative to strengthen health research in Kenya and Malawi and to build capacity for evidence-informed policy making. (53) Furthermore, the Wellcome Trust has also been involved with providing a workshop on health systems research in low and middle income countries.

INTERNATIONAL NETWORK FOR AVAILABILITY OF SCIENTIFIC PUBLICATIONS (INASP)

The International Network for Availability of Scientific Publications (INASP) was founded in 1992 by the International Council for Science in an effort to improve access, production and use of information and knowledge to address challenges in development through improved policy and

practice. (55) INASP works with 23 partner countries and has 80 countries in their network and their primary goal is to promote the generation of knowledge and to provide access to scholarly information and knowledge to these countries. They are currently in their second five year phase of the Programme for the Enhancement of Research Information (PERii) whose objective is to increase the uptake of research evidence in policy making. (56) The PERii programs provides training to decision makers and researchers in the area of communication and using evidence by providing advanced internet research skills, recognizing bias and as well communicating research knowledge in more simplified terms. They also promote evidence-informed policy making by creating a network of researchers, policy makers and other stakeholders to create a partnership to advocate for building a capacity to generate knowledge and to create a demand to use such evidence in the decision making process. Some of their training materials include: Information Literary for Policy Makers and Influencers which train decision makers how to find and use research, Science on the Internet Tutorial which provides information for staff and policy advisors, as well as Writing for Policy Makers which assists staff and policy advisors in writing evidence-informed policy briefs. (56)

Furthermore, they negotiate to provide low cost subscription to journals and books to improve access to information. INASP also supports local research through the AuthorAID project which provides assistance to researchers in developing countries through mentorship and guidance as well as dissemination of research through the Journals Online (JOL) projects in Africa, Asia and Latin America. (57) The current journals managed by INASP include the Latin America Journals Online (LAMJOL), Nepal Journals Online (NepJOL), Mongolia Journals Online (MongoliaJOL), and Sri Lanka Journals Online (SLJOL). The online journals that are managed within the country include Africa Journals Online (AJOL), Bangladesh Journals Online (BanglaJOL), Philippines Journals

Online (PhilJOL), and Vietnam Journals Online (VJOL). They have also sponsored an online pilot research writing course through the National University of Rwanda which is made available online. (57)

BARRIERS AND CHALLENGES OF RESEARCH UPTAKE

The barriers that exist to the successful uptake and use of HPSR to inform policy fall within five broad categories: epistemology barriers, applicability barriers, diversity barriers, comparativity barriers, priority-setting barriers. Each category presents its own unique challenges to the successful implementation of HPSR. (58)

The first barrier, the epistemology barrier, alludes to the notion that each researcher formulates his or her own understanding or interpretation of the findings from research he or she gathers, and thereby formulates his or her own understanding of the reality of the world around him/her. This has a profound impact on what piece of information each researcher deems to be salient, and how that piece of information is presented to the scientific community, and (by extension) to the policymakers making decisions. For example, one camp of researchers might strongly believe that the best data to be obtained comes only from randomized control trials, while another camp of researchers might state that nuanced — nonetheless vitally important — research can be garnered from case studies. Even more difficult is when the same set of scientific data is interpreted in vastly different ways by two separate sets of researchers. The lack of uniformity in how the information is compiled and presented to the scientific world can have a profound effect when adequately translating HPSR in an unbiased way to policymakers. (58)

Take, for instance, the case of the SUZY project in Bangladesh, where researchers from the international community tried to encourage zinc intake for children suffering from diarrhea. Based on systemic reviews conducted by WHO and UNICEF that showed that zinc supplementation can significantly reduce mortality rates, researchers tried to convince the Bangladeshi government to allow for the widespread distribution of zinc tablets throughout the nation. However, many lobbyists who were against zinc uptake frequently cited scientific reports that stated that zinc consumed in high dosages could be detrimental to one's health. After hearing these lobbyists, politicians were reluctant to implement a large-scale distribution of zinc tablets, based on these scientific reports highlighting the dangers of high dosages of zinc. The fact that two different set of researchers came to entirely different understandings and interpretations of the scientific data led to gridlock in the Bangladeshi government. Thus, the epistemology barrier proved to be significant barrier in the early implementation stages of the SUZY project. (11)

The next barrier, the applicability barrier, addresses the issue that data gathered from one location or context might not be generalizable to another area of the world. Nations, by their intrinsic social order and structure, inherently differ from one another and therefore translating lessons learned from HPSR obtained from one locality to another might not be feasible or even applicable given the new social setting. Each nation of the world formulates its own understanding on which the salient points must be addressed with regards to health care distribution and health equity. Often set by historical, cultural, or social precedent, health systems are rigidly set and are difficult to change, and also differ widely from one another. These differences play a profound role when the international community attempts to put forth evidence-based recommendations to other nations. Researchers and policymakers are often left struggling to understand which part of

the research obtained from another part of the world might be relevant to the new social context, and as a result, experiments might have to be redone in the new locality (which requires time and money). The applicability barrier is therefore an important barrier to consider when trying to understand HPSR research uptake and implementation across national boundaries. (58)

A prime example of the applicability barrier is the sluggish implementation of the PEPFAR initiative in sub-Saharan Africa. Founded in 2003, PEPFAR was President Bush's initiative to increase access to antiretroviral therapy among HIV positive patients in resource-poor nations (particularly in sub-Saharan Africa). In the early years of the initiative, many local community workers did not identify with the overall mission of PEPFAR, and were not entirely convinced of the pressing urgency of the initiative. Coupled with the ineffective allotment of antiretroviral medications to distribution centers, local community health workers were left disillusioned with the mission of PEPFAR and were poorly motivated to work for the initiative. This disconnect between foreign public health officials and local community health workers shows that there was a differing sense of priorities between these two groups of people, and that each group harbored different perspectives on what was considered to be "salient" in that particular society. Goals and visions might not be uniformly shared among all influential stakeholders in a region, and such an applicability barrier might prove to be hindrance to the successful implementation of HPSR in a particular context. (59)

The third barrier, the diversity barrier, highlights the fact that the field of HPSR is a far cry from a well organized entity with all researchers adhering to the same set of definitions and standards. HPSR in and of itself is a new and nebulous field, consisting of an organic amalgamation of researchers all harboring a vague goal in mind to "improve health" through "policy translation"

and "information transparency." The myriad of proposed definitions, diagrams, frameworks, and terms used in the literature evoke different meanings to a different set of researchers, and due to a lack of established standards, it is often difficult to rally behind standardized goals when trying to develop policy and implement change utilizing HPSR. (58)

 It is important to note that even if the HPSR community were to consolidate and clearly elucidate a set of standardized definitions and goals, the HPSR community would still not be able to implement change due to its lack of enforcement power. It is important to bear in mind that the HPSR community can only put forth a set of recommendations to countries that could potentially benefit from their findings. Some would argue therefore that the non-coercive nature of knowledge translation and program uptake could ultimately prove to be a barrier to successful HPSR implementation as well.

The fourth major barrier, the comparativity barrier, declares that there are a relatively few number of health systems in the world if we are to consider that each nation has its own health system (there are approximately 200 health systems in the world, if we are to say that there are approximately 200 nations). This means that researchers do not have a large sample size when they are attempting a comparative analysis of health systems, and it is therefore difficult to identify with certainty what works and what does not within a health system. (58)

The fifth barrier, the priority-setting barrier, encompasses all of the other aforementioned barriers, and points to the fact that given the widely differing health systems and researcher knowledge it is difficult for researchers to come together and formulate a set of priorities for the outside scientific and political community. Each one, equipped with their own opinions and

experiences, will propose a new priority set for policymakers to focus on, and therefore, it is difficult to cleanly translate HPSR for the policymakers. (58)

CONCLUSION

Health Policy and Systems Research is a developing field which is multidisciplinary and it does not rely on any one specific method or study design, but instead requires a comprehensive strategy and analytical approaches to develop the relevant research questions that would eventually lead to evidence-informed policy making. The WHO in partnership with the Alliance for Health Policy and Systems Research has taken the lead to bridge the gap between research and policy by organizing global symposiums on Health Systems Research in Montreaux and Beijing as well as launching the Strategy on Health Policy and Systems Research. Various other entities within the WHO such as the Evidence Informed Policy Network (EVIPNet) and the Country Cooperation Strategies highlight the commitment to health policy and systems research for strengthening health systems in low and middle income countries. Furthermore, there are also numerous international aid agencies that are working together to advance the field and to promote evidence-informed decision making to improve health systems to reach the Millennium Developmental Goals.

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