Manual on How to Apply Research Evidence in Health Policy in Bangladesh

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Manual on How to Apply Research Evidence in Health Policy Making in Bangladesh

Manual for Executive Training on How to Apply Research Evidence in Health Policy Making in Bangladesh

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Acronyms

ARI	Acute Respiratory Infections
ASCII	American Standard Code for Information Interchange
BDHS	Bangladesh Demographic And Health Survey
BEmOC	Basic Emergency Obstetric Care
BRAC	Bangladesh Rural Advancement Committee
BSc	Bachelor of Science
CC	Community Clinics
CDD	Control of Diarrhoeal Diseases
CEmOC	Comprehensive Emergency Obstetric Care
CPR	Cross-Product Ratio
DBP	Diastolic Blood pressure
DGHS	Directorate General of Health Services
ECNEC	Executive Committee of the National Economic Council
EmOC	Emergency Obstetric Care
EPI	Expanded Programme on Immunization
ESP	Essential Service Packages
EVIPNet	Evidence Informed Policy Network
FHS	Future Health Systems
FWC	Family Welfare Centers
FWV	Family Welfare Visitor
GK	Gonoshysta Kendra
HA	Health Assistants
HR	Human Resource
HNPSP	Health, Nutrition, and Population Sector Programme
HPNSDP	Health, population, Nutrition sector Development Plan
HPSP	Health and Population Sector Programme
ICDDR,B	International Center for Diarrhoeal Disease Research, Bangladesh
IMCI	Integrated Management of Childhood Illness
LD	Line Directors
MCWC	Maternal and Child Welfare Centres
MDG	Millennium Development Goal
Medline	Medical Literature Analysis and Retrieval System
MeSH	Medical Subject Heading
MIS	Management Information Systems
MOH&FW	Ministry of Health and Family Welfare
MOH	Ministry of Health

NGO	Non-Government Organization
NHP	National Health Policy
OP	Operation Plan
ORS	Oral Rehydration saline
OR	Odds Ratio
PCC	Program Co-ordination Cell
PICO	Population/Patient, Intervention, Comparisons and Outcome
PIP	Project Implementation Plan
PHC	Primary Health Care
PPC	Project Planning Cell
RCT	Randomized Control Trials
RD	Rural Dispensary
RH	Reproductive health
RPCC	Research Policy Communication Cell
RR	Relative Risk
SBP	Systolic Blood pressure
SWAp	Sector-Wide Approach
TBA	Traditional Birth Attendant
THE	Total Per Capita Health Expenditure
UHC	Upazila Health Complex
UK	United Kingdom
UNICEF	United Nations International Children Economic Fund
US	United States
USD	United states Dollar
WHO	World Health Organization
WHR	World Health Report
WHOSIS	WHO Statistical Information System

Foreword

In an age where so many things are known, why we are applying so little of it? 'Evidence based policy making' has become a political *mantra* in the health sector now-a-days. However health policy making is a complex and messy process and how research influence policy remains cloudy. There are genuine obstacles on the ground to ensure evidence based policy-making in Bangladesh and elsewhere in the low and middle income countries. The Directorate General of Health Services (DGHS) has taken initiative to establish a Research Policy Communication Cell (RPCC) at Planning and Research Division of DGHS with assistance from ICDDR,B, Alliance for Health Policy and Systems Research, WHO and the Wellcome Trust to strengthen the evidence informed health policy making in Bangladesh.

Under this initiative an executive training programme has been organized for policy makers, programme managers and service providers to enhance their skills to access, acquire, assess, adapt and apply research evidence for policy making and programme development for reproductive health and other programmes in Bangladesh. Also a webpage has been developed within the website of the Director General of Health Services to communicate research evidence in an easy and palatable format to the target audience such as policy briefs and newspaper articles.

This training manual is developed primarily to help the trainers in conducting the training sessions for the policy makers, program managers, service providers and other stakeholders to enhance the capacity of the trainees so that they can close the 'know-do gap' in the health sector in Bangladesh. The manual has covered areas such as 'what research evidence is?', 'how they are generated?', 'how to access relevant research evidence that is needed in a particular setting?, how to judge their quality and rigor?, how to use research evidence in policy and practice in real life scenario and the barriers and facilitators for evidence based policy making?'

Health policy making is a complex political process. Multiple stakeholders are involved with diverse background and motives. The highest level of political commitment is also needed to ensure evidence-informed policy making. I believe that evidence-informed health policy making process will benefit if the contents are widely circulated among different stakeholders in the health sector including the politicians, journalists, professional bodies and members of the civil society organizations in Bangladesh.

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Chapter One

Introduction

Evidence-based policy making in the health sector has become a political *mantra* in the last decade although the processes and mechanisms by which research impacts on health policy making remain cloudy. Health policy making is a complex and messy process that is often difficult to predict or influence. Many factors influence policy-making including country context and politics; the ideologies, values, interests, experiences and judgment of policy-makers themselves; and the availability of resources (economics). The importance of evidence informed health policy making, understanding of their constraints, and ways to overcome these constraints, is recognized by a growing number of bodies. Ideally research evidence should contribute to policy making that strengthen the national health system and that may eventually lead to desired health outcomes, including health gains. There is a growing body of global interest about how to best enhance the use of research evidence in health policy making. WHO has taken leading role in this area and has established (a) the Alliance for Health Policy and Systems Research for promoting more context specific health systems and policy related research and (b) Evidence Informed Policy Network (EVIPNet) to build capacity in countries for linking the producers and users of knowledge and that is needed for strengthening health systems for improving health outcomes.

When resources are scarce, it is particularly important to ensure that they are used wisely: the health problems causing millions of avoidable premature deaths every year cannot simply afford wasting time. Policies and strategies must reflect the best possible current knowledge. New evidence is needed from both implementation and basic health research. But there is a huge 'know-do gap' that needs closing by applying evidence to policy and practice, that is already known from research. Experts have distinguished 'evidence based policy making' from 'evidence based practice in clinical care contexts' and opined that for public health policy

making, the evidence needs to be broader and should include observational studies, qualitative research and even experience, know-how, consensus and local knowledge in addition to quantitative randomized control trials (RCTs) or their systematic reviews. Lavis et al. (2006) have proposed four approaches either singly or in combination to link research to action: (a) 'Push efforts' led by producers or purveyors of research, (b) 'User pull efforts' that involve policy planners, program directors, service providers and other stakeholders 'reaching in' the research evidence and other information that they can extract for their policy making or program development, (c) 'Exchange efforts' that involve partnership between researchers and research users where they have a shared understanding about the research question to ask, how to answer them through systematic review or partnering a research project or programme and lastly (d) 'Integrated efforts' that combines different elements of push, pull and exchange efforts. Other studies emphasized the use of policy advocates, developing the receptor capacity of potential users, and a sustained interaction between scientists and bureaucrats as the key to unleashing the value of science for the policy process. But the effectiveness of these approaches has not been adequately tested particularly in low and middle income countries.

In Bangladesh ICDDR,B in collaboration with the Planning and Research unit of DGHS, has been implementing a research protocol to enhance the capacity of the evidence users and to strengthen the research policy communication activities to ensure evidence informed health policy making for reproductive health programs in Bangladesh with financial support from the Alliance for Health Policy and Systems Research, WHO and the Wellcome Trust. This manual is designed to facilitate the executive training of the policy makers, program managers, and practitioners in the health sector in Bangladesh.

This Manual is primarily for policy makers, program managers and practitioners working in the health, population and nutrition sector in Bangladesh and elsewhere in low and middle income countries, but it may be of interest to professionals in other development sectors as well. It is not a book of recipes. Rather, the *Training Manual* aims to open doors into new worlds of understanding, provoking debate and encouraging policy planners to think broadly and develop skills in asking and beginning to answer many new questions that today's complex health

challenges force us to address. Readers will not become experts in the topics of each of its contents, nor its success guaranteed. However, readers will come away with new ideas and practical tips to get started right now, along with thoughts about who else might need to join the team, how and where to learn more, and renewed commitment and confidence to try something challenging, new, and very important.

Health systems and health policy making in Bangladesh

Learning objectives:

At the end of the session the participants will know and understand-

- Health systems and its building blocks
- Health service delivery system of Bangladesh
- Role of public and private sector in maternal health care
- Health policy making process in Bangladesh
- Research to policy gap in the health sector in Bangladesh

Health systems and its building blocks

The World Health Organization has defined the health system as, 'all the activities whose primary purpose is to promote, restore or maintain health'. The notion that a strong health system is essential to achieving improved health outcomes is strongly supported by health scientists and the international donor community. The World Health Report 2000 identified four key functions of the health system for impacting health outcomes and these are:

1. Organizing high quality health care services
2. Developing resources (human, material and conceptual)
3. Mobilizing and channelling financial resources and
4. Governance and stewardship

Based on these key functions the WHO again in 2007 highlighted 'six building blocks' that actually make-up the health systems. These are:

1. Service delivery
2. Health workforce

3.   Information

4.   Medical products, vaccines and technologies

5.   Health financing and

6.   Leadership and governance (stewardship).

On the basis of these key functions or building blocks, WHO suggested ways to strengthen health systems to make services more accessible, efficient, effective, equitable and responsive to users' need. Thus the responsibility of the health system is not just to improve health, but to protect users from catastrophic health expenditure, and to treat them with dignity. Several initiatives have been undertaken to find ways to strengthen health systems, but there is still a lack of consensus on what health system strengthening means, and consequently on how it should be done and evaluated. More importantly, experts have realized that health systems are highly contextual as health problems and health needs of the population vary across countries and regions and therefore need to be addressed accordingly.

Health Service Delivery System in Bangladesh

In Bangladesh the health care delivery system is pluralistic in nature and can be divided into public and private sector organizations. The private sector in health can be divided into for-profit and not-for-profit organizations. Within the for-profit private sector there are formal and informal healthcare providers. The formal for-profit private sector is rapidly growing in Bangladesh.

At primary level there are public sector health centres called union health &family welfare centres (FWCs) or Rural Dispensaries (RDs) and community clinic. One RD is for every 20-30 thousand people and one community clinic for every 6 thousand people. These are staffed mostly by paramedics. Family Welfare Centres (FWCs) provide antenatal and postnatal care but not skilled delivery care services. In addition, the MoH provides preventive and health promotion services through a network of lay health workers (health assistants (HAs) and family welfare assistants (FWAs) through domiciliary home-visits. They also organize EPI outreach

sessions, satellite clinics and community clinics to provide immunization, health education, and antenatal, post natal and family planning services.

Table 1: Organization of health service delivery in Bangladesh

Indicator	Bangladesh
1. Health facilities	
Primary level	Community Clinic, Family Welfare Centres and Rural Dispensaries.
Secondary level	Has 2 tiers: 1) A. Sub-district: 31-50 beds hospital. Provides professional delivery care and 15-20% upgraded to provide CEmOC 2) B. District: District Hospitals with 100-250 beds and Maternal and Child Welfare Centres with 10-15 beds. All district hospitals and 67 out of 97 MCWC provide CEmOC services.
Tertiary level	Medical College Hospitals and Specialized Hospitals provides CEmOC services
2. CEmOC facilities per 500,000 population	.53 to 1.38
3. BEmOC facilities per 500,000 population	2.87-4.66
4. Bed population ratio	1:2755
5. Distance to hospitals	75% population live within 10 km of a hospital
6. Referral	Less problematic due to shorter distance, better road communication and availability of transport
7. Formal for-profit private sector	Strong. 1005 registered private clinics and hospitals; Number of unregistered private facilities are unknown.
8. Formal not-for-profit sector	Contributes mainly antenatal and post natal care services. A few provide CEmOC services
9. Informal private sector	Village doctors provide day-to-day curative care, prescribe antibiotics, make emergency referrals; TBAs conduct majority of home-deliveries
10. Number of TBAs	173,000 of which 52,000 are trained

The secondary level in Bangladesh has two tiers: Upazila (sub-district) and district (Table 1).

Each rural sub-district has a 31-50 beds hospital known as upazila health complex (UHC). There

are 427 UHCs in the country. In each upazila health complex (UHC) there are sanctioned posts for 3-9 graduate doctors, 4-10 specialist doctors and 10-15 nurse-midwives.

At district level there are district hospitals with 100-250 beds. A good number of specialist doctors and more diagnostic and treatment facilities are available in district hospitals.

At tertiary level there are medical college hospitals and specialized hospitals. There are 22 public sector medical college hospitals out of which 3 are situated in Dhaka, the remaining 19 in regional cities. There are 25 specialized hospitals in the country.

Emergency obstetric care service

Professional delivery care services are available at all UHCs. A total of 132 UHCs have been upgraded to provide CEmOC services and the rest are supposed to provide BEmOC services. In reality, however, only 70-80 of the upgraded UHCs function as CEmOC facilities.

In the distinct hospitals specialist obstetricians and anaesthetists are available. All 59 district hospitals provide CEmOC services. There are 97 maternal and child welfare centres (MCWC) to provide CEmOC services of which 70 have been upgraded to provide CEmOC services.

All medical college hospitals are equipped to provide CEmOC services. There are 25 specialized hospitals in the country; four of them provide CEmOC services. All tertiary level specialized hospitals are situated in Dhaka, the capital of Bangladesh.

Despite these organizational strengths, in the public sector it has been found that most of the divisions do not fulfil the WHO/UNICEF criteria of a minimum of one CEmOC facility and four BEmOC facilities per 500,000 populations. Anwar (2009) calculated 1.36 and 1.07 CEmOC facilities per 500,000 in Khulna division in 2005 and 2006/7 respectively, while the concentration was only 0.74 and 0.53 per 500,000 population in Sylhet division in 2005 and 2006/7 respectively (Table 1). The same study reported 4.66 BEmOC facilities per 500,000

population in Khulna division and 2.87 per 500,000 populations in Sylhet division during 2005 to 2007. The calculation included private sector facilities.

Private sector

The for-profit private sector is booming in Bangladesh. The numbers of private hospitals and clinics have increased significantly in the last three decades. During 2005 there were 1005 registered private health facilities (clinics and hospitals) in the country and the number of unregistered clinics and hospitals is unknown. In Bangladesh there are 51,684 hospital beds in total, of which 16,000 are in the private sector.[1] The corresponding hospital bed to population ratio was 1:2744 in 2006. Now, in every district there are a number of private clinics/hospitals which provide comprehensive emergency obstetric care services. Private sector facilities are concentrated in the urban areas and there are very few in the rural communities. There is considerable overlap between public and private sectors as public sector providers are involved in private provision of care.[2]

The country is famous for not-for-profit private organizations (NGOs) but their contribution to maternity care is small at national level. NGOs are primarily involved in the provision of antenatal and postnatal care services. Some NGOs such as BRAC and Gonoshysta Kendra (GK) provide skilled delivery care services but their contribution to skilled delivery care at national level is insignificant. A few NGOs such as Gonoshysta Kendra (GK), Kumudini Hospital, Ad-Din hospital and Lamb Hospital now provide CEmOC care services for the population in their catchment areas.

Even with a sizeable formal health infrastructure in Bangladesh, the majority of the rural populations rely on informal private sector providers for their day-to-day health care services. TBAs conduct more than two thirds of all deliveries while village doctors are the first-hand caregivers for obstetric complications in rural areas.[3] Village doctors in Bangladesh treat obstetric complications such as perineal tears, fevers and infections with antibiotics where there are no qualified physicians. Recent data from different local level studies suggest that village

doctors have good referral linkages with the formal health sector, particularly with for-profit private sector providers where there are possible financial incentives for referring women.[4] They use antibiotics, even in normal deliveries, to prevent postpartum infections and one village doctor reported in the study conducted by Chowdhury *et al.* in 2009 that,

'We have prescribed antibiotics from the day we started our private practice. We know that antibiotics prevent any sort of infection. Therefore, whenever I am called in for delivery at home, I start prescribing antibiotics after delivery, whether the mother has any infection or not'.

Advantage for Bangladesh

One important observation from Bangladesh is that due to the high population density, the distance between home and hospital is less in comparison with other developing countries, particularly in the African region. One study has reported a median distance of 6.2 kilometres between respondents' home and the nearest hospital in Bangladesh. Further analysis of the survey data used in the study revealed that approximately 75% of the population in Bangladesh lives within a 10 kilometre radius of a hospital capable of dealing with obstetric emergencies.[5] In addition, the road transport infrastructure has improved significantly since the 1980s, resulting in better access to CEmOC facilities (public or private sector). Referrals are less problematic in Bangladesh due to shorter distances, better road-traffic infrastructure and availability of transport. Government ambulance services operate at sub-district and district hospitals but they are not provided free of cost. At places private ambulance services are also available.

Table 2: Health Systems building blocks: Bangladesh situation

Health systems building blocks	Findings
Service delivery	Pluralistic, for-profit private sector is booming, and informal sector is dominant. Govt. services are provided by health and family planning departments through a tiered system of health centres and primary, secondary and tertiary level hospitals.
HR	More physicians than nurse-midwives. Deployment and retention in rural remote postings is problematic. Salary structure is poor to motivate service providers. There is overlap between public and private sectors. Most physicians are involved in private practice and nurses are not.
Health Financing	Inadequate as to address MDG goals. Financing is mostly from private sources where out of pocket expenditure is more than 2/3rd of the total health expenditure
Informatics	Routine MIS is there and computerization is going on but still MIS data is rarely used than periodic survey data such as BDHS and Mortality Surveys
Drugs, vaccines, logistics	Vaccines are adequate as per need from national and international sources. Drugs are mostly inadequate in the public hospitals and patients have to buy medicine from private markets. Drug shops are well available even in rural areas but mostly beyond any regulatory framework.
Governance and stewardship	No well-established system of accountability; a low level of regulatory quality, poor practice of rule of law, lack of transparency, inefficient leadership and widespread corruption remain as persistent problems within the health sector in Bangladesh.

Human resource

The World Health Report 2005 (WHR) recommended a minimum of four doctors and 20 nurse-midwives for every 3500 births to impact MMR. To meet this minimum requirement Bangladesh needs 3780 medical doctors and 18,375 nurse-midwives but according to official sources (MOH) there were 38,537 medical doctors and 20,728 nurse-midwives in the country in 2007. Thus there are far more qualified physicians and nurse-midwives than needed to satisfy the WHR 2005 criteria (Table 3). Bangladesh is an exception in the developing world in that it has more doctors than nurse-midwives.

The World Health Report published one year later in 2006, recommended 2.28 health professionals (doctors and nurse-midwives) for every 1000 head of population for adequate coverage of maternal and newborn health care services. The Global Health Atlas[6] reported concentrations of 0.30 doctors and 0.28 nurse-midwives per 1000 head of population in Bangladesh during 2005. So, according to this indicator, human resources for maternal health at aggregate level are far below the level stipulated in World Development Report 2006 (Table 3). Two WHO indicators give two different impressions about the availability of human resources for maternal health in Bangladesh.

In Bangladesh more than 3000 students graduate every year from 22 public and 53 private medical colleges. There is a medical university that offers postgraduate degrees for many clinical specialties including obstetrics and gynaecology and anaesthesia. In addition to the medical university, specialist postgraduate degrees (diploma and masters) are offered in five public-sector medical colleges. There are now a total of 1070 specialists in obstetrics and gynaecology and 860 in anaesthesiology in the country. However, specialists are rarely available in rural areas (below districts) although there are established posts for surgery, medicine, obstetrics and gynaecology and anaesthesia in each rural sub-district hospital (UHC). Deployment and retention of specialists (obstetricians and anaesthetists) in rural EmOC facilities pose many challenges. Many targeted rural sub-district hospitals fail to function as CEmOC facilities, largely due to the unavailability of obstetricians and anaesthetists.

Table 3: Human resource situation in health in Bangladesh

Indicator	Bangladesh 2007	Source of data
Total population (in millions)(2007)	153.1	Country Statistical Office
Birth rate (per 1000)	21.6	World Population Prospectus 2008
Total births in a year	3,307,392	Calculated
Number of physicians required to address MNH as per WHO criteria (2005)	3780	Calculated
Total number of physicians present	38,537	Country Ministry of Health
Number of nurse-midwives required as per WHO criteria (2005)	18,375	Calculated
Total number of nurse-midwives present	20,728	Country Ministry of Health
Number of physicians per 1000 population in 2005	0.30	World Health Atlas
Number of nurse-midwives per 1000 population	0.28	World Health Atlas
Total number of specialist in obstetrics and gynaecology	1070	Mridha 2009;
Total number of anaesthetists	860	Mridha 2009

Strictly speaking, there is no solo midwifery service cadre in Bangladesh; all nurses are actually nurse-midwives and of their 4 year basic training, one year is devoted solely to midwifery. On average, 1500 nurse-midwives graduate annually from 75 (22 public and 53 private) nursing institutes to enter the job market. The number of posts for nurse-midwives in the public sector facilities is inadequate, particularly in rural areas. Many nurse-midwives, after passing their diplomas, wait for government jobs. Despite the poor salary, Bangladeshi nurses prefer public sector jobs to private or NGO jobs for two reasons: (1) high job-security and (2) good remuneration at retirement.

In Bangladesh, a further category of service providers is the family welfare visitor (FWVs) who has 18 months basic training. They are basically family planning workers but a few of them are involved in provision of delivery care services, usually after a further 3-6 month training course. Their contribution at national level in attending deliveries is low. There are 12 FWV Training institutes in the country to impart basic training for FWVs but this training programme finished in 1995. As mentioned earlier, a number of family welfare workers and female health assistants (about 6500 as of December 2011) have been trained for six months to provide home-based MNH care services in their working areas.

Table 4: Categories of service providers for maternal health, their training and yearly outputs in Bangladesh

Category	Basic training	In-service training	Number of institutes provide training	Yearly outputs
Specialists in Obstetrics & Gynaecology and Anaesthesia	1-4 years	None	5	100-140
Physicians	5 years	1 year	14 (public) and 39 (private)	3200
Diploma in nursing and midwifery	4 years	none	51 public and 19 private	1500
BSc in Nursing	2 years	none	3	120
Family Welfare Visitors (FWVs)	18 months		12	No training since 1995
CSBAs	6 months	None	40 public and 4 private	1000

Health financing

Health financing is inadequate to address the MDGs in Bangladesh. The total per capita health expenditure (THE) in 2006 (at current exchange rate) was 13 USD in Bangladesh. In purchasing power parity (PPP) international dollars, the total per capita health expenditure was 69 USD in Bangladesh in 2006 (Table 5).

Table 5: Health financing in Bangladesh

Year	Per capita total expenditure on health (USD in current exchange rate)	Per capita total expenditure on health (PPP International $)	Total expenditure on health as % of GDP	Donors' contribution for health as % of total health expenditure	Government expenditure on health as % of total health expenditure	Private expenditure on health as % of total health expenditure
	Bangladesh	Bangladesh	Bangladesh	Bangladesh	Bangladesh	Bangladesh
1995	10	36	3.0	10.7	20.9	68.4
1996	11	41	3.2	10.1	22.7	67.2
1997	11	44	3.3	11.1	22.0	66.9
1998	11	44	3.1	12.1	19.5	68.4
1999	11	47	3.2	12.1	16.1	71.8
2000	11	49	3.1	19.4	07.1	73.5
2001	11	52	3.2	14.9	11.7	73.4
2002	11	53	3.1	13.8	12.5	73.7
2003	12	57	3.1	15.5	13.2	71.3
2004	13	60	3.1	14.9	14.1	71.0
2005	12	57	2.8	12.2	16.9	70.9
2006	13	69	3.1	14.6	22.2	63.2
Source of data: WHO Statistical Information System (WHOSIS)						

There has been no significant increase in per capita health expenditure in Bangladesh in recent years. Yearly per capita total health expenditure has increased from 10 USD in 1995 to 13 USD in 2006 at current exchange rates. In Bangladesh more than two-thirds of the total expenditure on health is privately financed, mostly through out-of-pocket payments. Of the remaining one-third (public financing), about 60% is financed by the government from tax revenue and the other 40% from international donor assistance (Table 4). One important observation is that Bangladesh devotes more resources to preventive and health promotion services. Between 1999 and 2001 about 54% of government recurrent health expenditure was on PHC level essential service packages (ESP) such as immunization, IMCI, reproductive health and communicable disease control in Bangladesh.[7]

Governance and stewardship

In Bangladesh, there is no well-established system of accountability in the health sector. A low level of regulatory quality, poor practice of the rule of law, lack of transparency, inefficient leadership and widespread corruption remain as persistent problems within the health sector.

According to Transparency International's Corruption Perceptions Index Report 2009, Bangladesh ranked 139th out of 180 countries with a corruption perception index of 2.40 (confidence range: 2.0-2.8).[8] The Corruption Perceptions Index (CPI) measures the perceived level of public-sector corruption in 180 countries around the world. Results suggest that corruption is widespread in Bangladesh and the health system is no exception. Within the government health sector, corruption takes place at all levels and in different areas such as recruitment, transfer, posting, promotion, releasing funds, procurement, and service provision.[9]

Service providers are involved in transaction of 'under-the-table' payments in public facilities and often refer caesarean section patients to private clinics and hospitals where they have financial interests. There are reports of misappropriation of medicines by lower level staff in the health care delivery system.

Undue political interference is a major hindrance in establishing the rule of law in health systems management. There are reports of the exercise of undue influence by politicians and professional organizations (trade unions) in recruitment, posting and transfer. Deployment and retention of trained staff in rural areas are problematic. Management is weak in terms of retaining trained health personnel, particularly specialists, in their rural postings. As a result, many rural posts for doctors remain unfilled and those who are posted remain explicitly absent.[10] Abuse of trade unionism by the lower level employees is widespread. They often make homesteads in the open space of hospital compound which render the hospital environment physically unhygienic and socially unacceptable. However, taking appropriate measures against these employees was rarely possible due to political interference.[11]

Traditionally promotions in public service are given on the basis of seniority not merit. There are also reports of violations of norms, due to patronage by the ruling political party. Often a number of skilled professionals are transferred from important positions when the government changes which hampers proper functioning of the health systems.

The rapidly growing private sector is mostly unregulated, although there is a Bangladesh Medical and Dental Council, and other government functionaries to oversee their activities. A number of private clinics and hospitals are run without a formal license and some have licenses without having fulfilled the requisite criteria. There are reports of unnecessary pathological tests and other forms of financial exploitation in private sector facilities. The vast informal sector is totally outside the formal regulatory framework and is overlooked by the formal health sector.[12] Many drug stores (pharmacies) operate without a drug license or a trained pharmacist.

Health Policy Making in Bangladesh

The Ministry of Health and Family Welfare (MOH&FW) is mandated to formulate the policies and plans for health sector in the country. Conventionally, the health policy and plans are formulated as part of broader five-year country development plans that always emphasized Primary Health Care (PHC) as the key approach for improving health status of the people since Alma Ata Declaration in 1978.

First Five Year Plan (1972-1978 and then extended to 1980) emphasized infrastructure development for service delivery and established 31 bed Upazila Health Complexes (UHCs) in most of the rural sub-districts.

Second and third Five Year Plans (1980-1990) emphasized strengthening human resources for health.

During third and fourth planning period (1986-1998) the government implemented a number of child health programs like Expanded Programme on Immunization (EPI), Control of Diarrhoeal Diseases (CDD), Control of Acute Respiratory Infections (ARI) and Prevention of Night Blindness. Success of EPI is well known globally and these child health projects contributed in reducing infant mortality rates (IMR) and under 5 mortality rate (U5MR) during last 20 years.

During Fifth Planning Cycle (1998-2003), the country implemented a reform agenda in the health sector titled 'Health and Population Sector Programme (HPSP) 1998-2003' that explicitly aimed to provide client centred cost-effective services, more responsive to the needs of the very poor, women and children. HPSP planned major structural changes like, unification of health and family planning services (until then covered by two separate departments of the MoH&FW and operating independently on the ground), sector-wide approach (SWAp) in planning and management, one-stop service delivery, community and stakeholders participation in policy and programme formulation, decentralization, public-private partnership, mainstreaming gender issues and autonomy in hospital management. However, some of the structural changes like unification of health and family planning faced tremendous opposition from one stakeholders

group (family planning cadre), resulting in a power struggle and mistrust between health and family planning cadres and finally unification of health and family planning was postponed when a new government came in power in 2001. Also, one stop service delivery from Community Clinics (CCs) was abandoned and domiciliary services by the FWAs were restarted.

In 2003-2010 Health, Nutrition, and Population Sector Programme (HNPSP), was launched. It introduced demand side voucher program for maternal and neonatal health. Violating the SWAp approach, several bilateral projects were started during this period. Health and family planning departments now are working independently under the ministry of health and family welfare.

The next plan has just been formulated and approved by the ECNEC and is termed as Health, population, Nutrition sector Development Plans (HPNSDP) 2011-2016.

During 2000, for the first-time a national health policy (NHP) was also formulated and that was updated in 2010. The National Health Policy 2000 has 15 goals, 10 policy principles and 32 strategies. And out of these 15 Goals, six are related to Reproductive health that indicates that RH is high on the policy agenda in Bangladesh.

Process of health policy formulation in Bangladesh

Health policies in Bangladesh are formulated as part of 5 yearly country development plans. It is the responsibility of the Planning Cell of the Ministry of Health to formulate the 5 Yearly Country Health Plans. The planning cell of the MoH&FW formulates 5 yearly country health plans and strategies under patronage of the ruling political party. For formulation of 5 yearly health sector programs, conventionally, a Program Planning Cell (PPC) is formed to outline a Health Sector Strategic Paper before formulating the 5 year country health plans conventionally known as Program Implementation Plan (PIP). The PPC is comprised of health planners, service providers, program directors, professionals and representative from NGOs, civil societies and donor community. They review the existing country health situation in terms of service delivery and program management, achievement during previous planning cycle in terms of input, process and outcome indicators, and the resource envelop available (from donors and from

GOB's own resources). Inputs also come from the routine monitoring data like demographic and health survey reports and the management information systems (MIS) of the ministry of health and family welfare. Important research evidence, relevant for health policy making are usually presented by national and international experts engaged by donors and development partners. The health sector strategic paper thus formulated is shared with multiple stakeholders groups through sub-national and national workshops for policy recommendations that include professional groups, civil society organizations, public representatives and field level service providers and program implementers. The PPC review the recommendations of the stakeholders' meeting, and formulate the 5 yearly PIP for future implementation by respective Line Directors of MoH&FW. Inputs also come from periodic surveys and MIS reports. Thus the PIP is formulated that outlines the broader health development plan with costing.

The PIP thus formulated, is submitted to the Planning Commission of the GOB for final review and appraisal. The Planning Commission finalize the 5 yearly PIP and then forward to the Executive Committee of the National Economic Council (ECNEC) for approval which is chaired by the honourable Prime Minister of the country. There are 32 line directors (LDs) for implementation of the PIP. On the basis of PIP the LDs formulates their own operational plans (OPs) within the allocated budgets and get approval from the MoH&FW. After approval of the PIP and the OPs, the PPC is abolished but a co-ordination and monitoring cell is formed termed PCC (program co-ordination cell) under supervision of the Joint Chief, Planning Cell, MoH&FW. A monitoring and evaluation framework works through annual, midterm and end-program review with technical support from national and international experts.

Research to policy gap:

Limited data suggests that like many developing countries there is a 'research to policy' gap in the country. Dissemination of research result is inadequate and evidences are not readily available in an easy and useable format for policy makers. Researchers are not motivated to make any policy impact of their undertaken research. On the contrary, the policy planners are busy professionals; they don't have time to read highly technical research publications written

usually in difficult language and they are usually short lived in the key positions. More importantly often their receptor capacity is compromised to use research evidence for policy making. Bangladesh is not an exception in this regard. A recent study by Koehlmoos et al. (2009) explored that for evidence based policy-making, there are weaknesses both in the supply and in the demand side. The study highlighted the absence of any formal structure to translate research into policy and actions. There is low ability of users to absorb research evidence. Also, there is problem with packaging and delivery of research evidence as well. The research results are not always presented to the potential users in easily understandable and useable format like policy-briefs, summaries or newspaper articles. Some key respondents stressed the need for direct interactions between researchers and policy-makers, and a few others highlighted the role of mass media and policy advocates for bridging the gap between research and policy. Many a time the policy-makers are unaware of the availability of important research evidence relevant for their policy making or program development. While some times, they face problem in evaluating the myriads of research evidence they receive to fit into the country contexts. Usually the rigor and quality of undertaken researches are not the same, they vary. The level of engagement between researchers and policy planners are weak and even the personal communication between these two communities is not always praiseworthy. So, there is chance that planners formulate policies on the basis of their personal experience, common sense, and influence of the ruling politicians and other interest groups. Thus there is always a gap between the research, policy and programs in Bangladesh.

In the context of above mentioned scenario, this project (Enhancing Capacity to Apply Research Evidence for Policy Making in Reproductive Health in Bangladesh) aims to conduct an intervention study to test the feasibility and effectiveness of a package of interventions to enhance user's skill in evidence use for policy making, to increase communication between researchers and policy makers, and to deliver important research findings in a user-friendly format to the policy makers through establishing a "Research Policy Communication cell".

Quantitative Data and Research Methods for Mid-level Policy Makers and Programme Managers

Learning objectives:

The participants will understand and conceptualize:

- Different research study designs

- Association and strength between risk factor and disease

- Validity of study design

- Variables

- Data presentation methods

- Measures of central tendency and dispersion

To conduct a research in the field of public health and epidemiology, the choice of appropriate study design is crucial.

Basically epidemiological studies are of two types-

1. Observational
2. Experimental

I. Observational study

a) Descriptive studies

Any study to investigate a disease or health related problems usually starts with descriptive study. It describes disease or health related problem by time, place and person. Descriptive study provides etiological hypothesis. It also provides data

regarding the magnitude of disease load and types of disease problems in the community in terms of morbidity and mortality rates and ratios.

- Case report: This is the most basic type of descriptive study of individuals, consisting of a careful, detailed report by one or more clinicians of the profile of a single patient.
- Case series: The individual case report can be extended to a case series, which describe characteristics of a number of patients with a given disease. Routine surveillance programme often use accumulating case reports to suggest the emergence of new disease or epidemics.
- Cross sectional surveys: Study questions examine the events that occurred at a given point or cross-section of time.
- Correlational studies: It does not examine individual sample units rather gross information is collected geographically for a place. For example information about fat consumption of people of a country that is obtained from the amount of fat imported to that country.

b) **Analytical studies:**

Analytical studies are conducted to test or confirm the hypothesis derived from descriptive study. They are second major type of epidemiological study.

Two types-

    I. Case control study

    II. Cohort study

Case control study

Common feature of case control study are-

a. It is often called retrospective study e.g. it proceeds backward.

b. It starts with the disease (lung cancer) and proceeds to the cause (smoking).

c. It uses a control or comparison group to support or refute an inference.

Case control studies are used to estimate the risk of exposure to factors associated with disease, identify modifiable risk factors that can be prevented and plan risk intervention strategy for prevention and control of public health problems.

Cohort study

A cohort study is usually undertaken to obtain additional or stronger evidence to support or refute a causal association. A cohort is a group of individual sharing a common characteristics or experience (age, occupation, exposure to drug or vaccine). Cohort study is also called as prospective study, longitudinal study, incidence study.

The common features of cohort study are –

a. It is called prospective or forward looking study

b. It starts from the cause (smoking) to effect (lung cancer)

c. The cohorts are identified before the appearance of disease and observed over a period of time

Cohort studies are used to estimate directly the risk of exposure to various factors associated with the disease, complete natural history of disease and identify modifiable causal factors for evolving appropriate risk intervention strategy to determine the frequency of the disease among them.

Table 6: Advantages and disadvantages of case-control & Cohort study

Characteristic	Cohort	Case Control
Selection of participants	On exposure status	On disease status
Observation of	Disease incidence	Past exposure
Duration of study	Long	Short
Sample size	Big	Small
Operational feasibility	Possible	Easy
Non-respondents	Many	Few
Cost	Very expensive	Less expensive
Danger of selection bias at start of study	No (prospective)	Yes
Loss to follow-up	Frequent	No
Observation bias	Yes	Yes (recall bias)
Need for control of Confounding	Yes	Yes
Hypothesis testing	Yes	Yes
Summary statistics	Rates, Rate Ratio	No rates! Odds Ratio

II.   **Experimental Studies:**

Experimental or intervention studies are similar in approach to cohort study except that the investigator has direct control over the condition in which the study is conducted. Experimental studies involve some action, intervention or manipulation such as deliberate application or withdrawal of the suspected cause or changing one variable in the causative chain in the experimental group while making no change in the control group. Then observe and compare the outcome of the experiment in both groups.

It can be conducted on man and animal.

The experimental study being inclusive in approach should be the most desirable one but its wide spread use is prevented due to cost, ethics and feasibility issues.

Type of experimental study-

1.   Randomized control trial (RCT)

2.   Non-randomized control trial

3.   Quasi-experimental design

Experimental studies are used to provide scientific evidence or proof of etiological (risk) factors which may permit the modification or control of those disease, evaluate various treatment modalities and interventional procedure and evaluate the feasibility, efficacy and relevance of various preventive program of public health importance.

Association and strength between risk factor and disease causation in research:

Measures of association reflect the strength of the relationship between a risk factor under study and disease. They are very important to judge if this link is "causal" or not. Only experimental study can establish the causal relationship but other studies can measure strength and magnitude of association between exposure and outcome.

Odds ratio:

The Odds ratio is estimated in case-control studies. In the case-control design the risk ratio cannot be estimated directly, and has to be approximated through the cross-product ratio (CPR) or odds ratio (OR).

$$\frac{\text{Odds of exposure in the cases}}{\text{Odds of exposure in the controls}}$$

Relative risk:

Relative Risk (RR) estimates the magnitude of an association between an exposure and disease and indicates the likelihood or probability of developing the disease in the exposed group relative to unexposed group.

A **value of 1** indicates that the incidence rates of disease in the exposed and unexposed groups are identical and that there is thus no association between exposure and disease.

A **value greater than 1** indicates an increased risk among those exposed to a factor or a positive association.

A **value less than 1** means that there is an inverse association or a decreased risk among those exposed; in the above example, women who used postmenopausal hormones had 0.5 times, or only half, the risk of developing coronary heart disease compared to non-users.

> **Ratio measures are often used as a measure of strength of association.**
>
> **However, an association does not necessarily indicate causality.**
>
> **It is not a good measure of public health impact.**
>
> **Can be estimated in cohort (risk ratio or rate ratio) and case-control studies (odds ratio)**

Validity of health related designs

Validity is the degree to which a result (of a measurement or study) is likely to be true and free of bias (systemic errors). External validity or generalisability is the extent to which the study findings can be generalized beyond the sample of the study. External validity is the primary requirement for observational studies. Internal validity is the extent to which the observed effects are true for the people in a study. Internal validity is the primary requirement for intervention studies.

Bias

Any systemic error in an epidemiological study that results in an incorrect estimate of the association between exposure and risk of disease

There are two types:

Selection bias: Any error that arises in the process of identifying the study populations.

Observational bias: Any systemic error in the measurement of information on exposure or outcome, e.g. recall bias, interviewer bias, misclassification.

Confounders

A confounder is a factor that distorts or masks the true effect of exposure in an epidemiologic study. Example: in a study to find association between throat cancer (D) and high alcohol use (E), a confounder could be smoking, since smoking itself is a risk factor for throat cancer and previous studies have shown that people who drinks often smokes as well.

Variable:

A variable is a characteristics that are measured either numerically (e.g. age) or in categories (e.g. absence or presence of disease). The value vary subject to subject or in the same subject at different times

Types of variables
  A. Discrete Variables
  B. Continuous Variables

A. Discrete Variable

1. Nominal- Nominal variables allow for only qualitative classification
Example- Gender (Male, Female)

2. Ordinal`- A discrete ordinal variable is a nominal variable, but its categories are ordered in a meaningful sequence. Example-
1 = Very low or nil
2 = Low
3 = Medium
4 = High
5 = Very High

3. Dummy- A quantitative variable can be transformed into a categorical variable, called a dummy variable by recoding the values.
 Example- Blood pressure: Normotensive: SBP: <=120 mm Hg and DBP:<=80 mm Hg

B. Continuous Variables

1. Interval

Interval variables are variables for which their central characteristic is that they can be measured along a continuum and they have a numerical value.

0 : is not 0 Temperature

So the difference between 20C and 30C is the same as 30C to 40C.

2. Ratio

Ratio variables are interval variables but with the added condition that 0 (zero) of the measurement indicates that there is none of that variable.

So, temperature measured in degrees Celsius or Fahrenheit is not a ratio variable because 0C does not mean there is no temperature. However, temperature measured in Kelvin is a ratio variable as 0 Kelvin (often called absolute zero) indicates that there is no temperature whatsoever. Other examples of ratio variables include height, mass, distance etc. The name "ratio" reflects the fact that you can use the ratio of measurements. Example-
 Distance of ten meters is twice the distance of 5 meters.

Presentation of data:

The first step in analysis is to summarize the data in a comprehensible way.

Presentation of categorical data

Tabulation-

1. Simple table

2. Frequency table shows the number of observations in each category.

Presenting categorical data

1. Numerically - Frequency table

2. Graphically - Pie chart and bar graphs

Presenting continuous data

1. Numerically: mean, standard deviation, lowest and highest values, median, quartiles

2. Graphically: Histograms or relative frequency histograms, cumulative relative frequency
   Histograms

Table 7: Ways of presenting data

To Show	Use	Data Needed
Frequency of occurrence: Simple percentages or comparisons of magnitude	Bar chart Pie chart	Tallies by category (data can be attribute data or variable data divided into categories)
Trends over time	Line graph	Measurements taken in chronological order (attribute or variable data can be used)
Distribution: Variation not related to time (distributions)	Histogram	Forty or more measurements (not necessarily in chronological order, variable data)
Association: Looking for a correlation between two continuous variables	Scatter diagram	Forty or more paired measurements (measures of both things of interest, variable data)

Measures of central tendency:

Mean, Median and Mode

Mean: It is the arithmetic average of the scores in the data set.

Median: The median is the value that comes half-way when the data are ranked in order.

Mode: The mode is the value or category most frequently occurring in a data set.

Example: Imagine a set of ten observations: 3, 5, 5, 6, 4, 3, 2, 1, 5, 6 =(40)

Put in order: 1, 2, 3, 3, 4, 5, 5, 5, 6, 6

Mean? (4)

Median? (4.5)

Mode? (5)

Measures of variation:

Range, Variance and Standard deviation

Range: It is the number of measurement units that include the lowest and highest values in the data set.

Standard deviation: It is an alternative approach to quantifying variability, which is based on the idea of averaging the distance each value is from the mean.

Which measure to use?

As a general guideline, in distributions with some degree of skewness (i.e., distribution that are prone to some tendency toward extreme values), the median is the better descriptive measure than the mean. For purposes of statistical analysis and performing interferences, the mean is more likely to be used. However, when there is considerable skewness, an investigator would do well to consider statistical techniques based on medians or more specialized methods of analysis.

Glossary

Association: An association is a relationship between 2 variables so that one varies as a function of the other.

Analytical study: In analytical studies one tries to establish the association between factor X (= the presumed cause) and the outcome (= disease, effect) while attempting to control for all the other factors that may confound the association.

Bias: Systematic error or deviation in results or inferences. In studies of the effects of health care bias can arise from systematic differences in the groups that are compared (selection bias), the care that is provided, or exposure to other factors apart from the intervention of interest (Performance bias), withdrawals or exclusions of people entered into the study (attrition bias) or how outcomes are assessed (detection bias). Bias does not necessarily carry an imputation of prejudice, such as the investigators' desire for particular results. This differs from conventional use of the word in which bias refers to a partisan point of view. Many varieties of biases have been described. See also methodological quality, validity.

Confounder: A confounder is a factor that distorts or masks the true effect of exposure in an epidemiologic study. If there are additional risk factors that are associated with both the exposure (E) we are studying, as well as the disease (D), the relationship we observe in the study between E and D may be misleading because of mixing of effects of E with those additional ones. A confounding factor leads to over- or underestimation of the true effect of E.

Causality: is the relationship between an event (the cause) and a second event (the effect), where the second event is understood as a consequence of the first

Observational study: In an observational study, the exposure or intervention factor is not controlled by the researcher; he/she observes but does not intervene.

Quasi experimental trial: A trial using a quasi-random method of allocating participants to different forms of care. There is a greater risk of selection bias in quasi-random trials where allocation is not adequately concealed compared with randomised controlled trials with adequate concealment of allocation.

Randomized Control Trial: A randomized controlled trial (RCT) is a type of experimental or intervention study - most commonly used in testing the safety (or more specifically, information about adverse drug reactions and adverse effects of other treatments) and efficacy or effectiveness of healthcare services (such as medicine or nursing) or health technologies (such as pharmaceuticals, medical devices or surgery). The key distinguishing feature of the usual RCT is that study subjects, after assessment of eligibility and recruitment, are randomly allocated to receive one or other of the alternative treatments under study.

Relative Risk: The ratio of risk in the intervention group to the risk in the control group. The risk (proportion, probability or rate) is the ratio of people with an event in a group to the total in the group. A relative risk of one indicates no difference between comparison groups. A relative risk of one indicates no difference between comparison groups. For undesirable outcomes a RR that is less than one indicates that the intervention was effective in reducing the risk of that outcome.

Sample: A sub set of population, whose properties have been, or are to be, generalized to the larger population or set.

Sampling: A process of picking of sample from a population.

Validity: Validity is the degree to which a result (of a measurement or study) is likely to be true and free of bias (systematic errors). Validity has several other meanings, usually accompanied by a qualifying word or phrase; for example, in the context of measurement, expressions such as "construct validity", "content validity" and "criterion validity" are used. The expression "internal validity" is sometimes used to distinguish validity (the extent to which the observe effects are true for the people in a study) from external validity or generalisability (the extent to which the effects observed in a study truly reflect what can be expected in a target population beyond the people included in the study).

Suggested Reading Materials:

1. Maria Blettner, CarstenHeuer, Oliver Razum .Critical reading of epidemiological papers a guide. European Journal of Public Health VOL 11 2001 NO. 1.

2. The Lancet: Epidemiology series

3. Grimes D, Schultz K. An overview of clinical research: the lay of the land. Lancet 2002;359:57-61.

4. Grimes D, Schultz K. Descriptive studies: what they can and cannot do. Lancet 2002;359:145-49.

5. Grimes D, Schultz K. Bias and causal associations in observational research. Lancet 2002;359:248-52.

6. Grimes D, Schultz K. Cohort studies: marching towards outcomes. Lancet 2002;359:341-45.

7. Schultz K, Grimes D. Case-control studies: research in reverse. Lancet 2002;359:431-34.

8. Schultz K, Grimes D. Generation of allocation sequences in randomised trials: chance, not choice. Lancet 2002;359:515-19.

9. Schultz K, Grimes D. Allocation concealment in randomised trials: defending against deciphering. Lancet 2002;359:614-18.

10. Schultz K, Grimes D. Blinding in randomised trials: hiding who got what. Lancet 2002;359:696-700.

11. Schultz K, Grimes D. Sample size slippages in randomised trials: exclusions and the lost and wayward. Lancet 2002;359:781-85.

12. Grimes D, Schultz K. Uses and abuses of screening tests. Lancet 2002;359:881-84.

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14. MahbubElahiChowdhury, RoslinBotlero, Marge Koblinsky, Sajal Kumar Saha, Greet Dieltiens, CarineRonsmans. Determinants of reduction in maternal mortality in Matlab,

15. Bangladesh: a 30-year cohort study. Lancet 2007; 370: 1320–28

Qualitative research in health

Learning objective

At the end of session the Participants will be able to understand-

- Qualitative research
- Sampling in qualitative research
- Qualitative research methods

What is qualitative research?

Qualitative research is a type of scientific research. In general terms, scientific research consists of an investigation that:

- Seeks answers to a question

- Systematically uses a predefined set of procedures to answer the question

- Collects evidence

- Produces findings that were not determined in advance

- Produces findings that are applicable beyond the immediate boundaries of the study

Qualitative research shares these characteristics. Additionally, it seeks to understand a given research problem or topic from the perspectives of the local population it involves. Qualitative research is especially effective in obtaining culturally specific information about the values, opinions, behaviours and social contexts of particular populations.

Sampling in Qualitative Research

Even if it were possible, it is not necessary to collect data from everyone in a community in order to get valid findings. In qualitative research, only a sample (that is, a subset) of a population is selected for any given study. The study's research objectives and the characteristics of the study population (such as size and diversity) determine which and how many people to select. In this section, we briefly describe three of the most common sampling methods used in qualitative research:

- Purposive sampling
- Quota sampling
- Snowball sampling

As data collectors, you will not be responsible for selecting the sampling method. The explanations below are meant to help you understand the reasons for using each method.

What is purposive sampling?

Purposive sampling, one of the most common sampling strategies, groups participants according to pre selected criteria relevant to a particular research question (for example, HIV-positive women in Capital City). Sample sizes, which may or may not be fixed prior to data collection, depend on the resources and time available, as well as the study's objectives. Purposive sample sizes are often determined on the basis of theoretical saturation (the point in data collection when new data no longer bring additional insights to the research questions). Purposive sampling is therefore most successful when data review and analysis are done in conjunction with data collection.

What is quota sampling?

Quota sampling, sometimes considered a type of purposive sampling, is also common. In quota sampling, we decide while designing the study how many people with which characteristics to include as participants. Characteristics might include age, place of residence, gender, class, profession, marital status, use of a particular contraceptive method, HIV status, etc. The criteria we choose allow us to focus on people we think would be most likely to experience, know about,

or have insights into the research topic. Then we go into the community and – using recruitment strategies appropriate to the location, culture, and study population – find people who fit these criteria, until we meet the prescribed quotas.

What is snowball sampling?

A third type of sampling, snowballing – also known as chain referral sampling – is considered a type of purposive sampling. In this method, participants or informants with whom contact has already been made use their social networks to refer the researcher to other people who could potentially participate in or contribute to the study. Snowball sampling is often used to find and recruit "hidden populations," that is, groups not easily accessible to researchers through other sampling strategies.

What are some qualitative research methods?

The three most common qualitative methods, explained in detail in this module, are in-depth interviews, focus group discussion and participant observation. Each method is particularly suited for obtaining a specific type of data

- In-depth interviews are optimal for collecting data on individuals' personal histories, perspectives and experiences particularly when sensitive topics are being explored.
- Focus group discussion is effective in eliciting data on the cultural norms of a group and in generating broad overviews of issues of concern to the cultural groups or subgroups represented.
- Observation is appropriate for collecting data on naturally occurring behaviours in their usual contexts.

What is an in-depth interview?

The in-depth interview is a technique designed to elicit a vivid picture of the participant's perspective on the research topic. During in-depth interviews, the person being interviewed is considered the expert and the interviewer is considered the student. The researcher's

interviewing techniques are motivated by the desire to learn everything the participant can share about the research topic. Researchers engage with participants by posing questions in a neutral manner, listening attentively to participants' responses and asking follow-up questions and probes based on those responses. They do not lead participants according to any preconceived notions, nor do they encourage participants to provide particular answers by expressing approval or disapproval of what they say.

In-depth interviews are usually conducted face-to face and involve one interviewer and one participant. In these situations, however, care must be taken not to intimidate the participant. Phone conversations and interviews with more than one participant also qualify as in-depth interviews.

What can we learn from in-depth interviews?

In-depth interviews are useful for learning about:

- Perspectives of individuals
- Personal feelings, Opinions and experiences
- Appropriate for addressing sensitive topics

Focus Group Discussion

Focus group discussion is a qualitative data collection method effective in helping researchers learn the social norms of a community or subgroup, as well as the range of perspectives that exist within that community or subgroup.

What is a focus group?

A focus group is a qualitative data collection method in which one or two researchers and several participants meet as a group to discuss a given research topic. These sessions are usually tape recorded, and sometimes videotaped. One researcher (the moderator) leads the discussion by asking participants to respond to open-ended questions – that is, questions that require an in-

depth response rather than a single phrase or simple "yes" or "no" answer. A second researcher (the note-taker) takes detailed notes on the discussion. A principal advantage of focus groups is that they yield a large amount of information over a relatively short period of time. They are also effective for accessing a broad range of views on a specific topic, as opposed to achieving group consensus. Focus groups are not the best method for acquiring information on highly personal or socially sensitive topics; one-on-one interviews are better-suited for such topics.

Observation:

What people say they believe and say that they do are often contradicted by their behaviour. A large body of scientific literature documenting this disparity exists and we can all likely summon examples from our own lives. Given the frequency of this very human inconsistency, observation can be a powerful check against what people report about themselves during interviews and focus groups.

Data obtained through observation serve as a check against participants' subjective reporting of what they believe and do. Participant observation is also useful for gaining an understanding of the physical, social, cultural, and economic contexts in which study participants live; the relationships among and between people, contexts, ideas, norms, and events; and people's behaviours and activities – what they do, how frequently, and with whom.

Approaches of Observation:

- *Obtrusive/Overt*

– The researchers identify themselves

– Explain the purpose of their observations

– People see the researchers

– Nothing is hidden

– Can ask to stop

The problem with this approach is subjects may modify their behaviour when they know they are being watched.

- *Unobtrusive/Covert*

– The researchers do not identify themselves

– They observe from a distance.

– Participants not informed

– Unbiased information

– Ethical argument

- *Participant Observation*

– The researcher become a participant

– Participant observation often requires months or years

– The researcher needs to be accepted in the culture

– The researcher collect in-depth data on research topic

– Help to develop good rapport with the study participant

Reading materials:

Natasha Mack, Cynthia Woodsong, Kathleen M Macqueen, Greg Guest, Emily Namey, 2005. Qualitative

Research Methods: A DATA COLLECTOR'S FIELD GUIDE. Family Health International

Chapter 5

Evidence based health policy making

Learning objective:

The participants will be able to understand –

- Importance of evidence based health policy
- Factors that influence health policy making
- Barriers and facilitators to evidence based policy making
- Measures to strengthen evidence based policy making

Evidence: "Evidence concerns facts (actual or asserted) intended for use in support of a conclusion."

- A fact is something known by experience or observation.
- Evidence is used to support a conclusion; it is not the same as the conclusion.

Why an Evidence based health policy is needed?

- Enhances efficacy and effectiveness

- Reduces cost

- Strengthen health systems

- Facilitates improving health outcomes

Evidence-based policy making in the health sector has become a political *mantra* in the last decade[13] although the processes and mechanisms by which research impacts on health policy making remain cloudy. Literature suggests that policy making is a complex and messy process that is often difficult to predict or influence.[14]

Factors that influence health policy making

> 1. Contextual factor
> Political commitment, economy/resource, disease burden and pattern, pressure groups, lobbyists, values, tradition, and national culture
> 2. Individual factors
> Experience, expertise and judgments of the policy makers
> 3. Global factors
> Global agendas, donor pressure
> 4. Evidence from health systems and health policy research

Many factors in addition to research evidence, influence policy-making that include country context and politics; the ideologies, values, interests, experiences and judgment of policy-makers themselves; and the availability of resources (economics).[15,16] Literature suggests that evidence-based policy making is difficult to achieve with many genuine obstacles prevailing; such as under-investment, lack of human capacity, lack of public demand, inadequate utilization, and poor dissemination of results.[17,18,19] Although there are certain facilitating factors like

1. Favourable and receptive policy environment

2. Availability of timely, relevant and valid research evidence

3. Effective research-policy communication

4. Effective partnership between users and producers (purveyors) of research evidence and when research findings have strong advocates.[20,21]

5. In built institutional arrangements and incentives for relevant stakeholders.

Bowen and Zwi refer to 'pathways to evidence informed policy and practice' describing a myriad of channels through which evidence influences policy while Keeley and Scoones proposes a frame-work for understanding policy processes concerning the environment; the interaction of competing interest groups; actors and networks; and policy narratives and

discourse.[22] The importance of health policy making being research informed, and of understanding the constraints and ways to overcome these constraints, is recognized by a growing number of bodies.[23,24] The health researchers and research funders around the world are increasingly concerned in 'getting their research into policy and practice'.

Furthermore, there is a need for accountability of research expenditure in resource poor settings.[25] Ideally research evidence should contribute to policy making that may eventually lead to desired health outcomes, including health gains.

Most studies in the research-policy interface were conducted in industrialized countries and these studies revealed various examples of research impact with a general picture of underutilization of research evidence for policy-making in health.[26,27] However there is a growing body of global interest about how to best enhance the use of research evidence in health policy making. WHO has taken leading role in this area and has established (a) the Alliance for Health Policy and Systems Research for promoting more context specific health systems research that is often more needed for national level health policy making in the low and middle income countries and (b) EVIPNet (Evidence Informed Policy Network) to build capacity in countries for linking the producers and users of knowledge. [28,29]

Pang T has distinguished 'evidence based policy making' from 'evidence based practice in clinical care contexts' and opined that for public health policy making, the evidence needs to be broader and should include observational studies, qualitative research and even experience, know-how, consensus and local knowledge in addition to quantitative randomized control trials (RCTs) or their systematic reviews.[30,31] For ensuring use of evidence for policy-making, there is a need for adequate analyses of the research policy interface and innovations beyond that particularly in the low and middle income countries. Successful analysis of the research policy interface requires understanding of contextual factors as well as key influences on the interface. One recent initiative in this area is the 'Future Health Systems (FHS): Innovations for Equity'.[32] FHS is a consortium conducting research in 6 countries in Asia and Africa (Bangladesh, India, China, Cambodia, Nigeria and Uganda) that is working together to inform and influence the health system of the future through research and partnership to improve the health of the poor. Its

overall goal is to understand the relationship between research (evidence) and the development of policies, especially their impact on the poor. Preliminary work under this initiative has identified three research policy interface entry points: 1. Recognizing policy as a complex process; 2. Engaging key stakeholders: decision makers, providers, scientists, and communities; and 3. Enhancing accountability.[33] Very recently Lavis et al. (2010) explored poor level of key-stakeholders involvement in 10 low and middle income countries in bridging the research-policy gap and suggested that there are potential areas for improvement in light of the bridging strategies targeting the potential users of research evidence.[34]
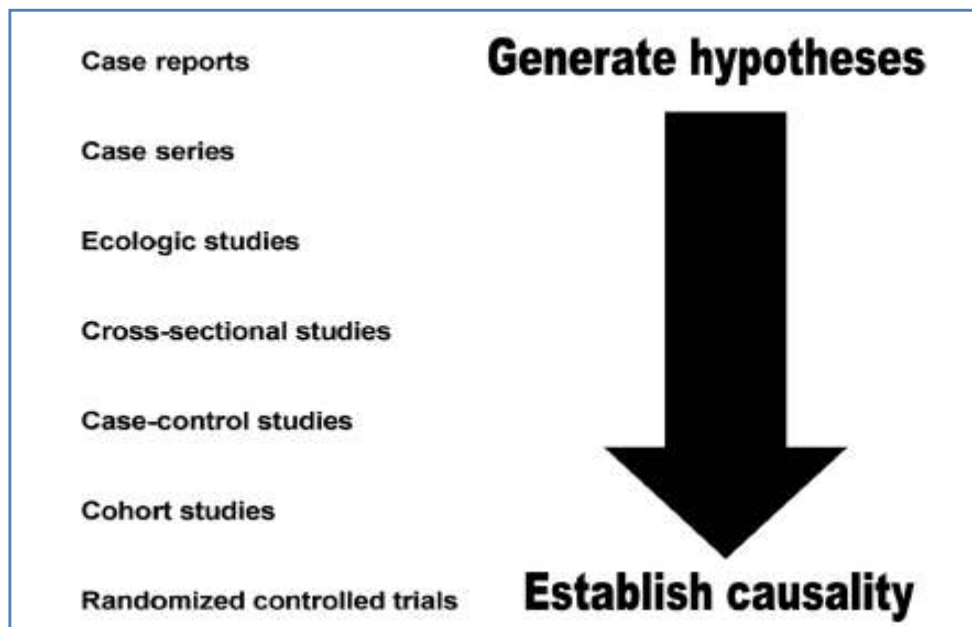
Hierarchy of evidence

Figure 1 Evidence generated from Randomized controlled trials are the strongest and the weakest are from case reports.

Barriers of evidence informed health policy making

> *Supply side*
>
> - Research priority setting; donors influence
> - Inadequate communication
> - Fewer collaborative research
> - Fewer health systems / operations research
> - Researchers are unaware of policy process
> - Motivation of the researcher; no incentives
>
> *Demand side*
>
> - No formal structure for research to policy communication
> - Busy schedule, no time to go through literature
> - Short stay in key positions
> - Understanding quality/rigor/strength of research
> - Lack of political commitment

Models to illustrate the relationship between evidence and policy

There are several models that illustrate how research evidence influence policy in health and other sectors in developed and developing countries.

> **Knowledge-driven model** - New knowledge create pressure for its use – e.g., vaccination
> **Problem solving model** -   Direct application of knowledge to a decision – e.g., SWAp in health services management
> **Interactive model** -   Research evidence act as one "input" alongside many other factors such as experience, political insight, social pressure etc.
> **Political model** -   Evidence used to justify a predetermined position
> **Tactical model** -   Evidence used to delay or avoid the responsibility for unpopular decision
>
> *(Carol Weiss 1979)*

Lavis et al. (2006) have proposed four approaches either singly or in combination to link research to action: (a) 'Push efforts' led by producers or purveyors of research, (b) 'User pull efforts' that involve policy planners, program directors, service providers and other stakeholders 'reaching in' the research evidence and other information that they can extract for their policy making or program development, (c) 'Exchange efforts' that involve partnership between researchers and research users where they have a shared understanding about the research question to ask, how to answer them through systematic review or partnering a research project or programme and lastly (d) 'Integrated efforts' that combines different elements of push, pull and exchange efforts.[35] Other studies emphasized the use of policy advocates, developing the receptor capacity of potential users, and a sustained interaction between scientists and bureaucrats as the key to unleashing the value of science for the policy process.[36] Macintyre S (2012) emphasized that, 'policy makers certainly need to be more sophisticated in understanding and commissioning different types of research acting on it. However researchers also need to be much more sophisticated and less naïve in understanding how research does and does not influence policy, and how to go about helping policy makers to interpret the jigsaw of evidence, and its relevance and usability.'[37]

Examples on how research evidence helped in policy and practice in the health sector:

    A. Family planning service delivery strategy in Bangladesh

    B. ORS in Bangladesh

    C. Banning smoking in restaurants, bars and residences in the UNITED KINGDOM
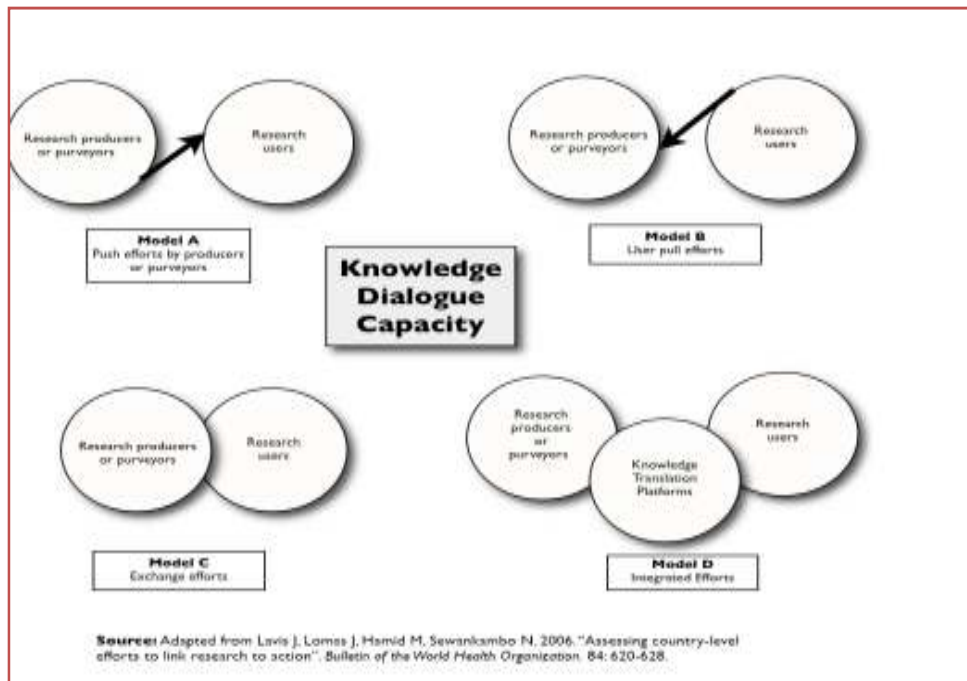
Source: Adapted from Lavis J, Lomas J, Hamid M, Sewankambo N. 2006. "Assessing country-level efforts to link research to action". *Bulletin of the World Health Organization.* 84: 620-628.

Figure 2: Knowledge translation model

Chapter 6

How to Search literature in health research?

Learning objectives:

At the end of the session the participants will develop the skill of

- Searching literature for evidence

- Find out and combine important key words

- Apply truncation and wildcards

- Saving the list of references

Searching for evidence

This short guideline will give a quick outline on searching online sources and databases mainly Medline/PubMed.

Where we can find evidence? Searching online electronic databases or hand searching or through personal communications.

Before Start, please remember you are searching for mainly published articles, also unpublished articles, manuscripts, journal communication, reports, and reviews, may be editorial and letters depending on your objectives and outcomes.

1. Ask a good question

Start with asking a good question. Be clear about your topic or area of research. Write down exactly what you are interested in. Fuzzy questions will give fuzzy answers, unimportant questions produce unimportant answers, irrelevant questions give irrelevant answers and unanswerable questions have no answer.

It is important to break your topic down into concepts (usually nouns rather than verbs or

adjectives). Searching requires thought and preparation in the choice of keywords that the author has used in the title or abstract. Do not type in the title of the assignment or use long descriptive phrases when searching as this will only find articles with that *exact* phrase in the title or abstract.

Example: "The effect of *social franchising* on *access to, quality of and utilization* of health services in *low- and middle-income countries*"

Key concepts for this assignment would be:

• *Social franchising*

• *Access to, quality of and utilization*

• *Low- and middle-income countries*

Use of PICO (**P**opulation/**P**atient, **I**ntervention, **C**omparisons and **O**utcome)

2. Find out Possible and Important keywords

Produce a list of keywords. Consider all possible words or phrases that might be used todescribe your subject. These could include-

- Synonyms (words that mean the same thing)
- Homonyms (Words with same spelling with different meanings)
- Alternative terminology and spelling (US & UK).
- Related terms (broader or narrower)
- Variations in word endings (e.g. singular, plural, adjectives).
- From the above example the following list of **keywords** can be identified:
  - *Social franchising*, outsourced services, non-profit services, marketing of services etc.
  - *Access to, quality of and utilization, availability, equity, ability, etc.*
  - *Low- and middle-income countries,* developing or underdeveloped or less developed countries etc.

3. Combining keywords

To retrieve relevant information you need to be able to link concepts / keywords together. Most databases use the Boolean operators **OR, AND** and **NOT** to do this.

OR - Used for words which have a similar meaning i.e. synonyms, alternative terminology or spellings. This broadens your search and increases the number of results. e.g. wounds OR Ulcers
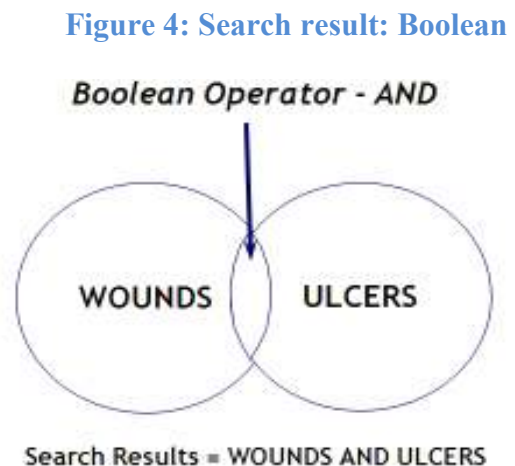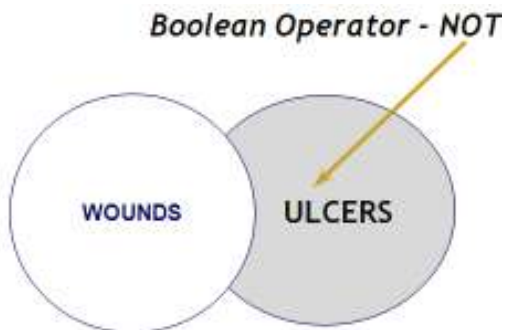
Figure 3: Boolean Operator

Figure 4: Search result: Boolean

AND - Used to link different concepts. This narrows your search and reduces the number of references.

e.g. wounds AND ulcers
Operator

Search results = ULCERS NOT WOUNDS

Figure 5: Search result: Boolean Operator

NOT – Used to exclude terms from your search. However, this should be used with caution as you may exclude potentially relevant articles. e.g. **ulcers** NOT **wounds**

Some databases use their own versions of Boolean Logic (e.g. **&**instead of **AND)** or may specify that these operators (AND, OR) are entered in upper case. It is always worth checking

the help page to see which symbols are used.

4. Truncation and Wildcards

Truncation allows you to broaden your search by retrieving all words with the same stem but variant endings. Type in the stem plus the truncation symbol (**$**, **?** or ***** depending on which database you are using).

e.g. random***** will retrieve random, randomly, randomization etc.

Wildcards can be used to replace one or more characters within a word thus allowing you to search for variant spellings.

e.g. **organi?ation**will retrieve both organi**s**ation or organi**z**ation

5. Display results and mark references to be saved

Browse through the title, abstract and thesaurus (or keyword or MESH headings) field of each reference. You can 'mark' certain references for subsequent printing or saving/downloading as a file. As you browse the list of references, look for other relevant terms which were missed in the initial search, so that they can be used to refine the search further still.

6. Saving the list of references and / or search strategy

References can usually be saved in ASCII format and can therefore be imported into word processing packages for editing or incorporated into documents. They may also be imported into personal bibliographic software packages, including *Endnote*. (As per the Introduction to *Endnote X* you can also perform searches of select databases right in *Endnote*. For PubMed / Medline, this is certainly the easier option.

A search strategy can usually be saved for subsequent running against database updates, or as documentation as to how the search was performed.

Search strategy checklist

1. Ask a good question

2. Find out possible and important keywords

3. Combine the keywords

4. Truncations and key words

5. Display results and mark references to be saved
6. Saving the list of references and / or search strategy

Reading materials

Eyers, J. E. (1998). Searching bibliographic databases effectively. *Health Policy and Planning;* *13*(3): 339-342.

http://www.uwe.ac.uk/library/resources/general/databases/pdf/databasesearch.pdf

And

Qxman AD et al. STP 1. What is evidence informed policy making? Health Research Policy and Systems. 2009, 7(Suppl 1):SI doi:10.1186/1478-4505-7-SI-SI

Chapter 7

Critical Review of Quantitative Research – Guidelines

Many policy makers, program managers and clinicians have no formal training in research methods but need to understand and evaluate research findings as they are the potential users of research findings. This guideline was adapted from many sources that outline how-to read and critically evaluate the quality of epidemiologic studies and their results critically. As policy program managers, it is essential to judge the quality and rigor of research evidence in order to make evidence-informed decisions for improving policies and practices. Our aim is to distinguish between weak and strong investigations and papers. As such, the items listed below should be taken into consideration while reading a piece of literature(i.e. a peer-reviewed journal article),in order to evaluate its relevance and applicability to your work, and the quality and strength of the research evidence presented. The following is to be used to guide you through a research paper with the intention that consideration of these items should be used on a regular basis when you consult the published literature for informed decision making. To assist you in this process, we have developed a worksheet to help you critically review published literature. Cause-effect relationships are often determined using this research style.

 A quantitative study should:-

Begin with an idea (usually stated as a hypothesis);
- Generate data through measurement;

- Allow conclusion to be drawn by deduction;

- If done well, are reliable-that is, the same measurements yields the same results time after time or between different researchers;

- If done well, are valid (close to the truth, representative of what is sought)-that sit hey shouldaddressthekeyquestion/topicappropriatelyandexaminethecoreofwhatis going on rather than just skimming the surface.

General items to consider when reading quantitative literature:

Title and abstract:

The article title and abstract help the reader to decide whether the article merits closer attention. The title gives the potential reader a concise, accurate first impression of the article's content. The abstract has the same basic structure as the article and renders the essential points of the publication in greatly shortened form. Reading the abstract is no substitute for critically reading the whole article, but shows whether the authors have succeeded in summarizing aims, methods, results, and conclusions.

INTRODUCTIONANDBACKGROUND

- The purpose of the study should be clearly stated either as a state mentor a question. The purpose is normally located in both the abstract and the introduction (very often the introduction's last sentence) of the paper.
- The literature review presented in the paper should provide a brief synthesis of previous research and background information that lead to the performance of the study. The review should be relevant to the area being studied and is up to date. The literature review should present the justification or need for the study. This justification could be in the form of identifying any gaps in previous research ("to date, no one has looked at…") or a specific need for the current study to be done ("without this study, there would be detrimental effects in X,Y, and Z").
- Any hypotheses (i.e. expectations) of the study's outcomes are stated in the paper. Sometimes hypotheses are not clearly stated but can be inferred by what is stated in the purpose.

METHODOLOGY

1. The research approach (or study design) must be elaborated in the writing. Researchers may explicitly tell you what design was used or it will even be in the title of the article itself, particularly in the case of Randomized Clinical Trials (RCTs). Very often, the researchers will not tell you the research design outright, but will give sufficient description of the methods to identify the research approach used.

2. Most studies are of observational nature and based on comparisons between exposed and non-exposed or diseased and non-diseased subjects. Correct choice of design is crucial in order to achieve the valid results.

Purpose of the investigation	Study type
Investigation of a rare disease such as cancer	Case-control study
Investigation of rare exposure such as industrial chemicals	Cohort study in population where exposure is present
Investigation of multiple exposures	Case-control study
Investigation of multiple outcome	Cohort study
Estimating incidence rates	Cohort study only
Investigating covariates varying over time	Preferably cohort study
Investigating cause and effect relationship	Intervention studies

3. The intervention or treatments are clearly explained in the paper. That is, you know exactly what the subjects in the study have undergone (i.e. timelines, doses, measurements, etc.). If comparisons between groups are made, they are also clearly defined (i.e. placebo versus drug). The reader should critically review whether –
   - Selection of intervention and control subjects are properly randomized
   - Blinding
   - Groups are similar at the start
   - Aside from the experimental intervention, were the groups treated equally
   - Sub-group analysis and 'intent to treat' analysis

4. The measurements or outcomes that were examined by the study are identified. The authors also comment on the reliability (repeatability) and validity (effectiveness) of the

measurements used. If there are limitations to the outcome measurements, they are acknowledged by the authors.

5. The study is approved by an appropriate Research Ethics Committee (or Board). At the very least, the researchers report that informed consent was obtained prior to the start of the study. This information is normally stated at the beginning of the methods section in the article.

SAMPLE

a) Each quantitative study requires a careful decision about the required sample size. Power calculations should be based on requirements either for significance testing or for precision.

b) The number of participants/subjects (the "N") is clearly stated in the methods section. The sample size should be justified by the researchers and may be reported as statistical calculations. Note that large numbers are needed when the prevalence of the exposure is rare and/or the relative risk is small.

c) The characteristics of the participants (subjects) in   the study are explained. A characteristic chart may be included within the study description, particularly if two groups are be compared. The characteristics of two comparison groups should be similar at the start of the study, so that it is clear that any changes in outcome variables are associated with the study (or intervention) itself.

d) There is evidence of random sampling and/or random selection in the study. That is, the subjects are   chosen from the general population in a random fashion (randomization) and also allocated into different groups in a random fashion (random selection).This helps to decrease the bias of the study. Random selection is often not possible in health research and therefore convenience samples (i.e. one group receives the intervention and the other group does not) are used.

e) The length of time the subjects were a part of the study is indicated.Ifanysubjects dropped out (for any reason) from the study, this is also stated and explained.

RESULTS&ANALYSES

1. All of the measurements that are cited in the Methods section are reported in the Results section. That is, even if there was no difference in a specific outcome, it is still mentioned as a result

2. Are the measures well-known and used?   Are the results valid and reliable?

3. Statistical information is provided for all results. This would include the mean, standard deviation (or standard error), significance level (normally presented as a "p" value or a confidence interval, "CI"), probabilities, etc. for quantitative studies and thematic analyses, triangulation, etc. For qualitative studies.

4. The clinical importance and or policy implications of the findings is reported and/or is apparent in the study. Furthermore, the findings of this study are of particular importance to your own work or project.

Hierarchy of Evidence

1. Systematic review and meta-analysis of RCTs
2. Randomised controlled trials with definitive results
3. Randomised controlled trials with non-definitive results
4. Cohort studies
5. Case control studies
6. Cross-sectional studies
7. Case reports / case-series

CONCLUSIONS&DISCUSSION

- ✓ The conclusions made by the authors are directly related to the findings from the study. That is, the authors do not jump to any grand conclusion without sufficient evidence.
- ✓ The study helps you with your own work, the project and/or question that you are investigating. For example, if the study examines the effect of a daily walking program on elderly health and well-being, one might apply this information to a question examining whether exercise enhances mental health outcomes. Although the published study is not exactly the same as the research question, it is so close that it could be used to inform any decisions you make for your own work.
- ✓ Does the author suggest areas for further research or discussion?
- ✓ Is the article referred to by anyone else? (Check the *Social Sciences Citation Index* for this information.) How is the article used by other authors: background, support, rebuttal, etc.?
- ✓ The funding source for the study is identified. This is normally cited after the conclusion section, in a smaller "Acknowledgements" section in smaller type font. It may also be cited within the text of the paper or at the bottom of the front page.

CITATION

The citation includes the title of the study, all of the authors (last name, first name or initials),as well as the information about the journal in which the study was published– it's full name, volume, issue and year of publication. This information ensures that others can easily retrieve and reference the article at a later time if needed.

Checklist to evaluate the quality of scientific publications[39]

Design

Is the aim of the study clearly described? _ _ _
Are the study population(s) and the inclusion and exclusion criteria described in detail? _ _ _

Were the patients allocated randomly to the different arms of the study? _ _ _
If yes:
Is the method of randomization described? _ _ _
a) Is the number of cases discussed? _ _ _
b) Were sufficient cases enrolled (e.g. Power _50%)? _ _ _
Are the methods of measurement (e.g. laboratory examination, questionnaire, diagnostic test) suitable for determination of the target variable (with regard to scale, time of investigation, standardization)? _ _ _
Is there information regarding data loss (response rates, loss to follow-up, missing values)? _ _ _

Study inception and implementation
Are treatment and control groups matched with regard to major relevant characteristics? (Age, sex, smoking habits etc.)?_____
Are the drop-outs analyzed for differences between the treatment and control groups? _ _ _
How many cases were observed over the whole study period? _ _ _
Are side effects and adverse events during the study period described? _ _ _
Analysis and evaluation
Have the correct statistical parameters and methods been selected, and are they clearly described?
Are the statistical analyses clearly described? _ _ _
Are the important parameters (prognostic factors) included in the analysis or at least discussed?
Is the presentation of the statistical parameters appropriate, comprehensive, and clear? _ _
Are the effect sizes and confidence intervals stated for the principal findings? _ _ _
Is it apparent why the given study design/statistical methods were chosen? _ _ _
Are all conclusions supported by the study's findings? _ _ _
By using a checklist such as this, the statistical and methodological soundness of a study can be assessed and improvements considered.

Not all of the points in this checklist can be used to evaluate all study types; for example, randomization is particularly applicable to clinical studies.

Chapter 8.

Writing a Policy Brief

Learning objectives:

At the end of the session the participants will be able to -

- Understand what a policy brief is?

- Know elements of policy brief

- Conceptualize the common features of a policy brief

- Outline a policy brief

Policy brief: A document designed for an audience that has some control over how research evidence might ultimately be converted into policy.

Every audience has its own story and language needs, its own reading and absorption abilities. The details the media want are different from those a decision-maker may need, which are different still from those another researcher may require. The trick is in knowing exactly who our audience might be. If we can assess the audience, then we know the content and tone we should carry throughout the brief. We know how scientific or how general we need to be.

A high-level director in a government ministry may well have different capabilities and requirements than a district health manger. An effective policy brief understands exactly who the desired decision-makers are, and what they really need to understand our research and its implications.

Types of two pagers: The target audience defines different types of two pagers

Press release: Stories in simple language highlighting the significance of the research and corresponding need of actions. Like a newspaper article, they can involve direct, quoted interviews with researchers.

Briefing notes: A more in-depth and scientific examination of the issue, typically for an audience that already understands the science. Like an extended abstract.

Policy briefs: Outlines in simple terms the problem, the potential remedies and a discussion of how to bridge the two.

The aim of any policy brief is to provide a clear and concise overview of the problem, then a discussion of the science which could remedy that problem, and then suggestions for implementing either a preferred policy option or a range of them, with cost implications for each.

Problems ⟶ *Possibilities* ⟷ *Policies*

Common Structural Elements of a policy brief

While there will be variation in policy briefs depending on the audience and issue being addressed, the most common elements of the brief are as follows:

1. Title of the Brief
2. Scale of the problem
3. Policy issues
4. Policy or programmatic recommendations/options
5. Implementation considerations
6. Sources consulted or recommended

1. *Title of the Brief*:

The title aims to catch the attention of the reader and compel him/her to read on and so needs to be descriptive, punchy and relevant

2. *Scale of the problem or issue:*

The purpose of this element of the brief is to convince the target audience that a current and urgent problem exists which requires them to take action. The context and importance of the problem is both the introductory and first building block of the brief. As such, it usually includes the following:

- A clear statement of the problem or issue in focus.

- A short overview of the root causes of the problem

- A clear statement of the policy implications of the problem which clearly establishes the current importance and policy relevance of the issue.

It is worth noting that the length of the problem description may vary considerably from brief to brief depending on the stage of the policy process in focus, e.g. there may be a need to have a much more extensive problem description for policy at the evaluation stage than for one at the option choosing stage.

3. *Policy issues*:

The aim of this element is to detail shortcomings of the current approach or options being implemented and therefore, illustrate both the need for change and focus of where change needs to occur. In doing so, the critique of policy options usually includes the following:

- A short overview of the policy option(s) in focus

- An argument illustrating why and how the current or proposed approach is failing.

It is important for the sake of credibility to recognize all opinions in the debate of the issue.

4. *Policy or programmatic recommendation/ options***:**

The aim of the policy and programmatic recommendations element is to provide a detailed and convincing proposal based on research evidence, of how the failings of the current approach need to change. As such this is achieved by including;

- A breakdown of the specific practical steps or measures that need to be implemented
- Sometimes also includes a closing paragraph re-emphasizing the importance of action.

5. *Sources consulted or recommended:*

Many writers of the policy brief decide not to include any sourcing of their evidence as their focus is not on an academic audience. However, if someone decides to include a short list of references then place it at the end. Many writers prefer to lead their readers to further reading and so, include a recommended readings section.

It is common for a brief to be:

1. Focused: all aspects of the Policy Brief (from the message to the layout) need to strategically focus on achieving the intended goal of convincing the target audience. For example, the argument provided must build on what they do know about the problem, provide insight about what they don't know about the problem and be presented in language that reflects their values, i.e. using ideas, evidence and language that will convince them.

2. Professional, not academic: The common audience for a policy brief is not interested in the research/analysis procedures conducted to produce the evidence, but are very interested to know the writer's perspective on the problem and potential solutions based on the new evidence.

However, it may be reasonable, in one sentence, to inform the audience where the data came from and what type of study was conducted.

3. Evidence-based: The knowledge translation brief is a communication tool produced by researchers and policy analysts and therefore all potential audiences not only expect a rational argument but will only be convinced by argumentation supported by evidence that the problem exists and clear description of the consequences of adopting particular alternatives.

4. Limited: to provide an adequately comprehensive but targeted argument within a limited space, the focus of the brief needs to be limited to a particular problem or area of a problem.

5. Succinct: The types of audiences targeted commonly do not have the time or inclination to read an in-depth 20 page argument on a policy problem. Therefore, it is common that policy briefs do not exceed 2-4 pages in length (i.e. usually not more than 1,500 words). In some cases it is preferable to have even shorter briefs that do not exceed 1 or 2 pages. This is a judgment that needs to be made based on the intended audience for the brief.

6. Understandable: This not only refers to using clear and simple language (i.e. not the jargon and concepts of an academic discipline) but also to providing a well explained and easy to follow argument targeting a wide but knowledgeable audience.

7. Accessible: the writer of the knowledge translation brief should facilitate the ease of use of the document by the target audience and therefore, should subdivide the text using clear descriptive titles to guide the reader.

8. Promotional: the brief should catch the eye of the potential audience in order to create a favorable impression (e.g. professional, innovative etc.). For example, many of the features of

the promotional leaflet (use of color, use of logos, photographs, slogans, illustrative quotes etc.) would be helpful.

9. Practical and feasible: the knowledge translation brief is an action-oriented tool targeting policy practitioners. As such the brief must provide arguments based on what is actually happening in practice with a particular policy and propose recommendations which seem realistic to the target audience.

PART II: In Practice

The following instructions provide a succession of steps on how to write a compelling policy brief, which follows the general overview of its features.

Steps for a Compelling Policy brief

Here is a list of useful steps which should be considered during the task of writing a policy brief.

1. Issue: examine the issue you will be dealing with. Answer the following questions:

- Is the issue general or specific?
- How general/specific is the issue?

2. Audience: take your primary audience into serious consideration. The brief should be tailored to the needs of your audience. It makes a fundamental difference for how you must frame your analysis and your recommendation. Answer the following questions:

- Is your audience an individual (i.e. Prime Minister) or an organization (i.e. the Government as a whole)?
- How much context is needed in the brief?

3. Actors: identify the relevant actors for the issue you are dealing with. This is an essential step, since you will have to analyze their interests in order to make sensible and viable policy recommendations. Identifying the relevant actors is also essential for an effective assessment of the context and of the interests that are related to the issue.

4. Interests: once you have identified the relevant actors, it is necessary to analyze their interests. This step is important both for the context part of your brief and for the critique of policy options/policy and programmatic recommendations. Without a clear identification of the actors involved in the issue and their interests, your brief will be vague and therefore not very useful.

To prepare this part answer the following questions:
- What are the actors' interests?
- Which of the relevant actors have similar interests to your audience?
- Which ones have different interests?
- How are these interests different?

5. Recommendations: your policy recommendations should reflect the above analysis. Remember that, according to the issue and the audience, your recommendation(s) might not suggest the best policy, but instead the most viable one. This should not limit your recommendation to just compromise policies. If you want to recommend radical change, you can; remember though that such radical action has to be implemented in some ways.

6. How-To: the last step is to suggest your audience the way to 'sell' the policy to its public (the public could be other members of the organizations, policy makers, advocates, general people etc.). This last step helps your audience build support/consensus to implement the policy you recommended.

Questions to consider:

The following questions can be used to guide the preparation and use of Knowledge Translation briefs to support evidence-informed policymaking:

1. Does the policy brief address a high-priority issue and describe the relevant context of the issue being addressed?

2. Does the policy brief describe the problem, costs and consequences of options to address the problem, and the key implementation considerations?

3. Does the policy brief employ systematic and transparent methods to identify, select, and assess synthesized research evidence?

4. Does the policy brief take quality, local applicability, and equity considerations into account when discussing the research evidence?

5. Does the policy brief employ a graded-entry format?

6. Was the policy brief reviewed for both scientific quality and system relevance?

Reading materials:

1. LGI training materials by Eoin Young and Lisa Quinn
2. David Dickson. *Guidelines for SciDev.Net Opinion articles.* Available on the World Wide Web. URL:http://www.scidev.net/ms/entebbe/index.cfm?pageid=134 [29 Feb. 2004].
3. Hong Kong University. Guidelines for Writing a Knowledge Translation brief. Available on the World Wide Web. URL: http://www.hku.hk/psychodp/P2/PSYC0036B/Tut1note.doc [29 Feb. 2004].
4. Richards. The policy options brief. Available on the World Wide Web. URL: http://www.gse.buffalo.edu/Fas/Jacobson/629/webnotes/policy_brief.htm [29 Feb. 2004].
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Pretest-posttest questionnaire for Executive Training on Evidence Based Policy Making

Please circle the appropriate answer/s:

1. Which of the followings are primary level health care facilities in Bangladesh:
    a. District Hospitals
    b. Medical College Hospitals
    c. Community Clinics (CC)
    d. Maternal and Child Welfare Centre (MCWC)
    e. All of the above
2. Who play key role in health policy making in Bangladesh (best 2 options)?
    a. Doctors
    b. NGOs
    c. Donors
    d. Politicians
    e. Bureaucrats
3. According to WHO, what are the health system building blocks?

4. Name 3 organizations who conduct health research in Bangladesh?

5. Who contribute more in health financing in Bangladesh?
    a. Government from tax revenues
    b. Donors
    c. Citizens from their out of pocket
    d. NGOs
    e. Employers

6. Bangladesh Demographic and Health Survey is a:-
   a. Randomized control trial
   b. Quasi experimental study
   c. Observation study (cross sectional survey
   d. Case control study
7. Which study produces the highest grade of evidence?
   a. Cohort study
   b. Case control study
   c. Randomized control trials (RCTs)
   d. Meta analysis and systemic reviews of RCTs
8. Which P value is significant?
   a. 0.05
   b. 0.06
   c. 0.07
   d. 0.04
9. The risk ratio(RR) is less than 1, what it means
   a. The event of interest is protective
   b. The event of interest is harmful
   c. The event of interest is 1 time less risk
   d. None of the above
10. Give two examples from Bangladesh and elsewhere in developing world where research evidence influenced policy making?

11. What are the sources of research evidence?

12. What are the 3 components of evidence based medicine (EBM)?

13. Which search engine is most commonly used to find published medical literature?
   a. Goggle
   b. Google scholar
   c. Mozilla
   d. Yahoo
   e. Pub-med / Medline

14. Which of the following statements is not true? A published medical literature should have:
    a. Clear objective / hypothesis
    b. Adequate background information and literature review
    c. Approval from country ethics committee
    d. No citations (references) in the text
    e. Mentioned study limitations
15. Name 3 important barriers for evidence use in health policy making

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