Expert Workshop on
  Comparative Analysis on National Research Systems
UNESCO Forum on Higher Education Research and Knowledge
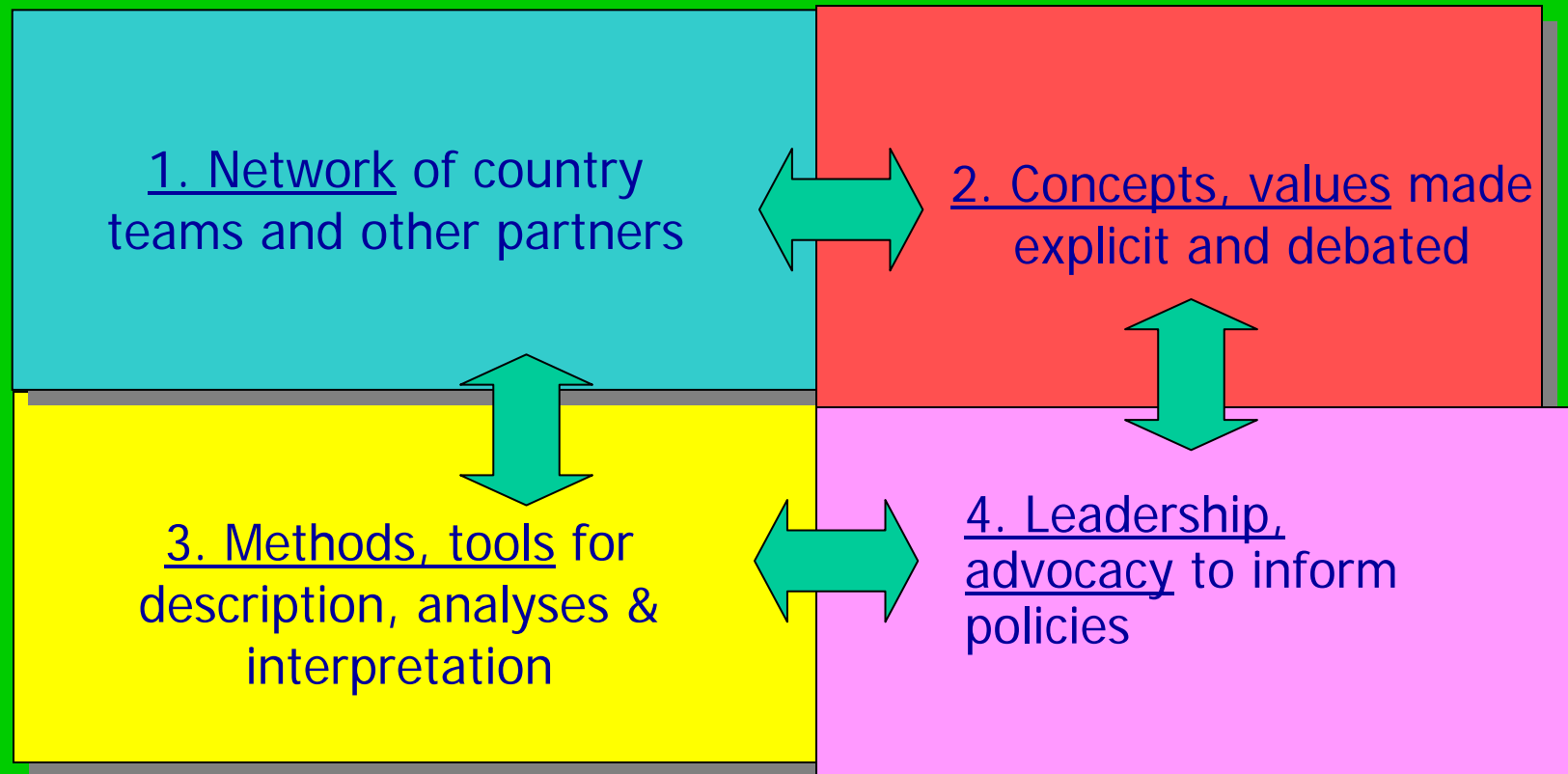**Paris, 16-18 January 2008**

Health Research Systems Analysis: toolkit for use in low and middle income countries

Dr Ritu Sadana (sadanar@who.int)

Coordinator, Equity Analysis and Research

WHO, Geneva

Health Research Systems Analysis (HRSA)

description and analysis to inform national, regional & global research policies addressing health and equity

1. Network of country teams and other partners

2. Concepts, values made explicit and debated

3. Methods, tools for description, analyses & interpretation

4. Leadership, advocacy to inform policies

1. Network of country teams and other partners

Low- and middle-income countries:

Brazil, Cameroon, China, **Costa Rica**, Ghana, **India**, **Indonesia, IR Iran**, **Kazakhstan, Laos, Malaysia**, Mexico, **Pakistan, Russian Federation, Senegal, Tanzania, Thailand**

High-income countries:

Australia, New Zealand, Switzerland, USA, Canada, UK

Cooperation and review with a range of partners

- **Participating national governments and institutions and their representatives**

  * The HRSA Network includes the following collaborators in Member States:

  Abdrakhmanova, Shynar; Bte Abdul Hamid, Maimunah; Akanov, Aikan A.; Akhtar, Tasleem; Akkhavong, Kongsap; Antonyuk, Vladimir; Ash, Greg; Assasi, N; Baradaran Eftekhary, Monir; Barradas Barata, Rita; Biles, Megan; Boupha, Boungnong; Dejman, Masoumeh; Dobles, Alvaro; Falahat, Katayoun; Goldbaum, Moisés; Jacob, Suzanne; Khan, Mubashir; Khan, Rizwanullah; Kounnavong, Sengchanh; Leke Rose; Malek-Afzali, Hossein; Mbondji E, Peter-S.; Mohammad, Kazem; Najjari, A.; Ndossi, Godwin D.; de Noronha, José Carvalho; Okalla, Raphaël Thérèse; Ongolo-Zogo, Pierre; Pettigrew, Alan; Phoolcharoen, Wiput; Pramanpol, Somjai; Quesada, Shirley; Qureshi, Huma; Ruth, Telma; Saleh, Nordin; Santacruz, Javier; Scoggins, Bruce; Sidibe Awa; Sidibe, Mintou Fall; Sornpaisarn, Bundit; Suwandono, Agus; Szklo, Fernando; Tacsan Chen, Luis; Takougang, Innocent; Trisnowibowo, Hendrianto; Turdaliyeva, Botagoz; Yuning Prapti, Indah

- **WHO research programmes, Regional Offices and participating Country Offices, Advisory Committee on Health Research**
- **Alliance for Health Policy and Systems Research**
- **Global Development Network**
- **Global Forum for Health Research**
- **Johns Hopkins Bloomberg School of Public Health, USA**
- **World Bank, Asian Development Bank**
- **McMaster University, Canada**
- **Council on Health Research for Development**
- **WHO Development Partners**
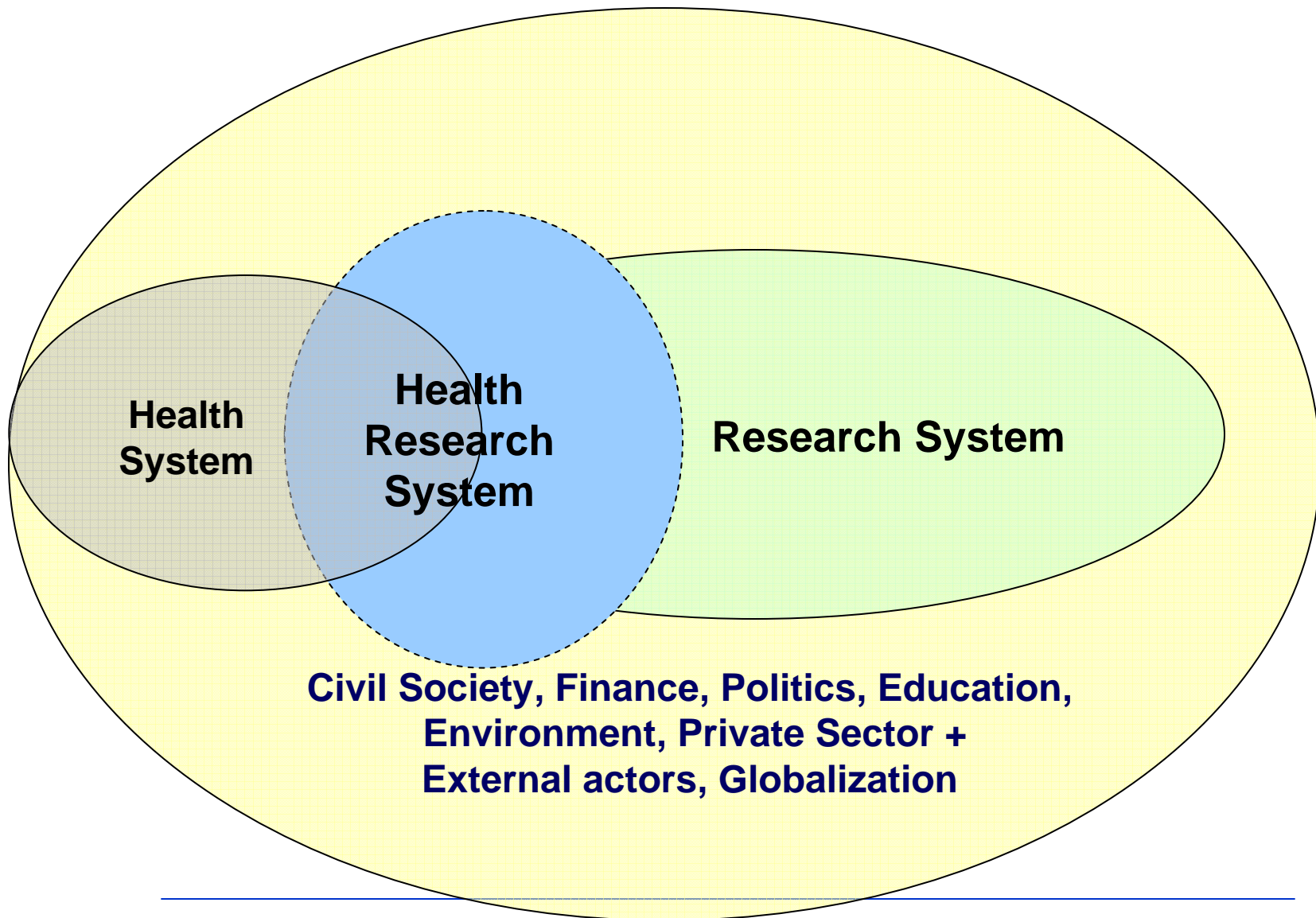- **Many others participated in peer review of tools**

2. Concept, values made explicit and debated

What makes up a system?

- **Social Values**
- **Context**
- **People's needs**
- **Responsibility - accountability**
- **Boundaries**
- **Goals**
- **Functions**
- **Policies, Inputs, Intermediary outputs**

Situating national health research systems

Health System

Health Research System

Research System

Civil Society, Finance, Politics, Education, Environment, Private Sector + External actors, Globalization

Health Research System Framework:
describe, analyze and align functions to goals

Functions

Goals

Stewardship
leadership, policies, regulations

Creating & Sustaining Resources
people, institutions & networks

Producing & Using Research
range, relevance/excellence,
dissemination, uptake

Financing
level, source, target,
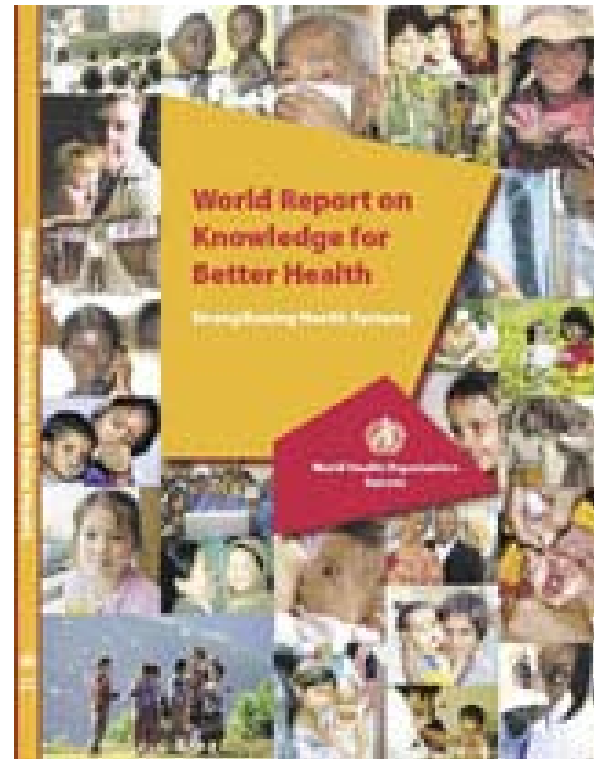sustainability, transparency

Advancement of Knowledge
global pool, share learning

Health & Health Equity
processes, outcomes, distribution

Equity Analysis and Research, WHO, 18 January 2008

Source: WHO Bulletin, 2004

Values, definitions, functions, goals, politics,
preliminary analysis, areas for strengthening – end 1990s to present

National Health Research Systems

Report of an international workshop

World Health Organization Geneva

World Report on Knowledge for Better Health

Strengthening Health Systems

**Plus other publications, working papers,
conference/seminars, workshops at national, regional,
global level; WHO and several other partners**

3. Methods, tools
for description, analyses & interpretation

- national teams (steering and research groups)
- international classifications and existing indicators reviewed (UNESCO, RICYT, EC, OECD, WHO, +)
- "collective benchmarking" approach
- review existing case studies, methods, tools
- bottom-up development, aim for high standards of validity, reliability and multi-country use
- WHO multi-country project, data collected shared by national teams
- case studies narrate national perspectives and priorities

Key actors in Malaysian health research system
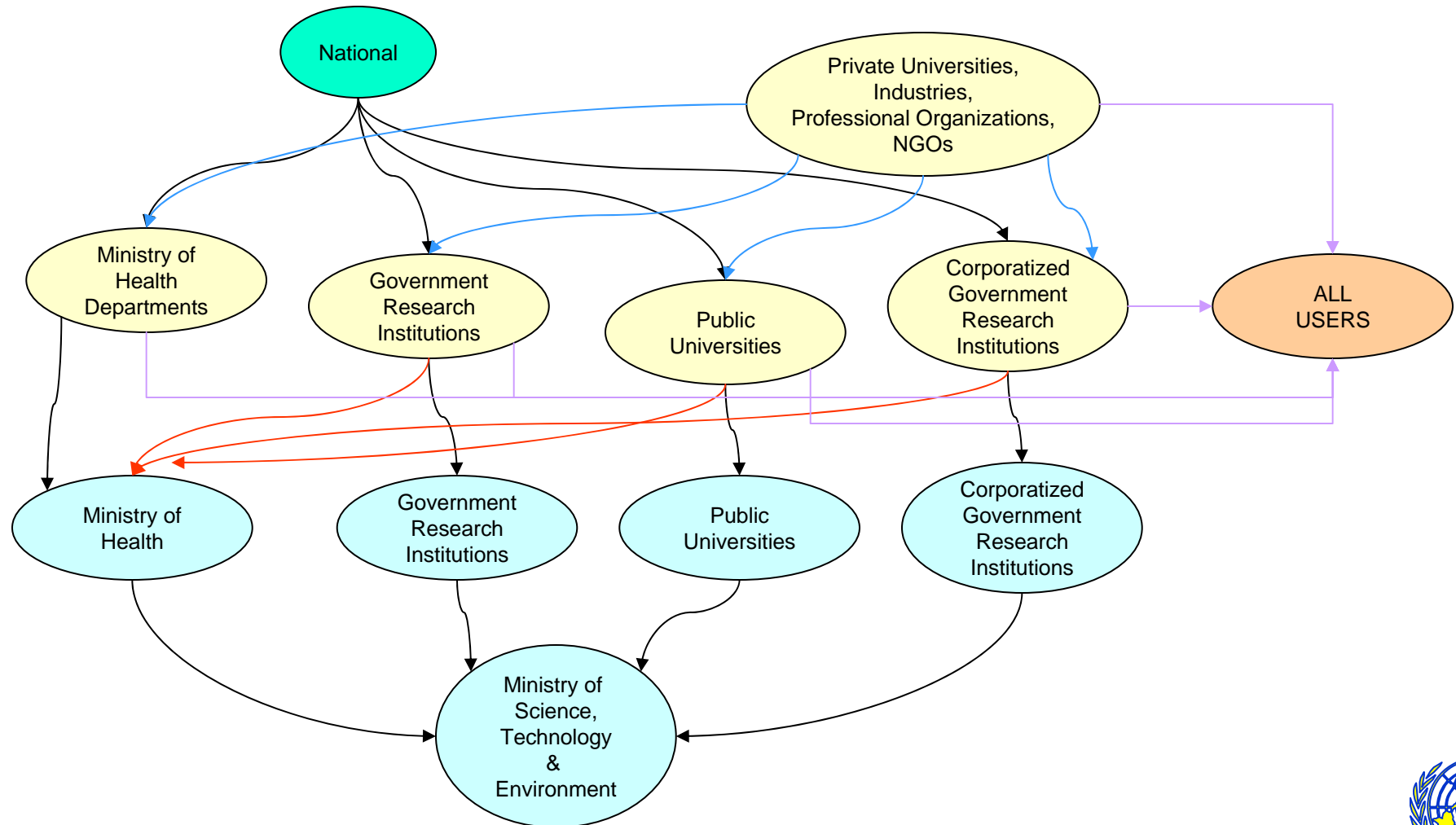
Challenge (and opportunity): wide range of stakeholders in knowledge production and utilization on health

FUNDERS	PRODUCERS	EVALUATORS/MONITORS	USERS
National	Government Research Institutions	Ministry of Health	Ministry of Health
Ministry of Health	Public Universities	Ministry of Science, Technology & Environment	Health service providers (public and private)
Other Ministries	Private Universities	Universities	Ministries
International	Ministry of Health Departments	International Agencies	Universities
Pharmaceutical Companies.	Industries	National Committee on Clinical Research	International
Industries	Corporatized Government Research Institutions	Government Research Institutions	Pharmaceutical Companies
Professional Organizations	Professional Organizations	Corporatized Government Research Institutions	Researchers
NGOs	NGOs	Foreign Research Institutions	NGOs
General Public	Foreign Research Institutions	Private Medical Institutions	Professional Organizations
	Private Medical Institutions	National Ethics Board	General public
			Media
			Industries

Source: Malaysian Health Research Systems Analysis Team

Indicators & Descriptive variables

Main Function	Core indicators	Descriptive variables
Stewardship	A-C	1-20
Financing	D-F	21-24
Creating and Sustaining Resources	G-K	25-31
Producing and Utilizing Research	L-N	32-42
Total Number	**14**	**42**

individual experiences and views; national & institutional history, structures, policies; public dialogue; networks; counts of events, items, products, people, money, etc., with disaggregation

Benchmarking & interpretation framework

- **What does this indicator tell us?**
- **Analysis of national level or performance across countries, over time**
- **Questions arising from the analysis of the indicator relevant to country, region, globally**
- **Comments on interpreting the indicator, in country, region, or globally**
- **Definition and sources**

What is most important to know and how to get this information (examples)

HRS Function	Example indicators to be described and analysed (non-exhaustive)	Range of Methods
Stewardship	A national policy on health research involving all key stakeholders? Stakeholders' views defined and integrated within a national policy on health research	Document reviews Focus group discussions Key informant interviews Case studies
Stewardship	An Essential National Health Research approach? Factors considered in health research priority setting (e.g., national burden of disease, human resources, political will, community participation, etc.)	Document reviews Key informant interviews Case studies
Stewardship	Do ethical review boards exist? Distribution: disciplines, geographic Review criteria, guidelines published Per cent of projects that pass	Document reviews Re-analysis of existing data Surveys Case studies
Stewardship	Existence of monitoring and evaluation activities clearly linked with strengthening Health Research System	Document reviews Key informant interviews Surveys

What is most important to know and how to get this information (examples)

HRS Function	Example issues to be described and analysed (non-exhaustive)	Range of Methods
Creating and Sustaining Resources	Number of active health researchers Institutions, specialization, geography, core funding, specific research training	Document reviews Re-analysis of existing data Surveys Case studies
Producing and Using Research	Number of journals published Quality / Peer review mechanisms Magnitude of primary outputs	Document reviews Key informant interviews Re-analysis of existing data Surveys Case studies
HRS Function	Example issues to be described and analysed (non-exhaustive)	Range of Methods
Producing and Using Research	Mechanisms to review primary research outputs Number of systematic reviews	Document reviews Focus group discussions Media Reviews Key informant interviews Re-analysis of existing data Case Studies
Producing and Using Research	Mechanism to patent research results Number of patents attributed to health research results	Document reviews Key informant interviews Re-analysis of existing data Case Studies

Proposing definitions for new indicators (example)

C. **Total health research proposals/projects/protocols (proposals) submitted for ethical review, expressed as:**

- Total number of health research proposals submitted for ethical review, for base year (and 5 year trend, e.g. 1997-2001)
- Total number of health research proposals involving human subjects
- **Proportion of total health research proposals requiring ethical review (e.g., human subjects, genetics, stem cell, animal, etc.) according to criteria described in prevailing national guidelines or cited international guidelines**
- Proportion approved as is
- Proportion approved with revision
- Proportion rejected

[assumption: greater proportion of total health research proposals requiring ethical review, undergoing ethical review, is desirable for HRS to achieve goals]

Existing Data Review – Excerpt from New Zealand Review

Indicator, Variable	What is to be collected and where from	Base Year, 2001	Source of data	Format
National public (national govt + regional govt. + local authority) expenditures	Central Govt expenditure from Treasury, and local government (12 regional + City Councils) statistics from Statistics NZ.	*Central Govt. Budget* 2000 (year ending 2001) – Estimates of appropriations = ($000) $49,027,900. *Local Govt. Expenditure:* $3445.5million	Treasury (Internet): www.treasury.govt.nz/budgets/archive.asp2001 Statistics NZ (Internet): www.stats.govt.nz/domino/external/web/prod_serv.nsf/htmldocs/Local+Authority+Statistics+-+Information+Releases	Electronic
National total research expenditures on all disciplines **(1+2)**		2002 + 2002/03 $1255 million	(*see* below)	Electronic
National public research expenditures on all disciplines **(1)**	Govt. and University Expenditure on Research & Development in NZ. Science Envelope	2001/02 = $717 million 2002/03 = $731 million	Budget allocations for Vote Education, Vote RS&T, and Vote Health (percentage invested in research). Available: New Zealand Health Research: Putting Excellence into Practice. Report to the Ministry of Health from the Health Research Council of New Zealand. www.hrc.govt.nz/publicns.htm#Reports	Electronic
National private research expenditures on all disciplines **(2)**	Business Expenditure on Research & Development in NZ. Ministry of Research, Science and Technology	Years available: 1996; 1998; 2000; 2002 2002= $524 million	Research and Development in New Zealand 2002. Statistics NZ (Internet): www.stats.govt.nz	Electronic
National total health care expenditure **(3 + 4)**	Data on health care costs collected from the Ministry of Health	Data exists for 1925 – 2001. 2000/01 Total expenditure = $9884 million	Ministry of Health, Health Expenditure Trends in New Zealand 1980 – 1999: www.moh.govt.nz Ministry of Health, Health Expenditure Trends in New Zealand 1990 – 2001: www.moh.govt.nz	Electronic
National public health care expenditure **(3)**	Data on health care costs collected from the Ministry of Health	Data exists for 1925 – 2001. 2000/01 Total expenditure = $7584 million	Ministry of Health, Health Expenditure Trends in New Zealand 1980 – 1999: www.moh.govt.nz Ministry of Health, Health Expenditure Trends in New Zealand 1990 – 2001: www.moh.govt.nz	Electronic

Equity Analysis and Research, WHO, 18 January 2008

Fitting tools/data collection approach with desired indicator or variable - example

Annex 2: Tools developed to estimate Indicators & variables	Individual Survey	Institutional Survey	Media Review	Focus Group Discussions	Other Sources reviewed by analytical team
I. Stewardship Function: vision, priorities, ethics, monitoring					
INDICATORS*					
Rating of the degree to which the stewardship function within the national health research system is fulfilled	Module 3000	Module 2000, 7000		X	
Total public (government funds) allocated to explicit priority health research areas, expressed as proportion of total public health research expenditures		Module 3000			Analysis of module 3000 of institutional survey in light of stated national priorities, desk review
Total health research proposals submitted for ethical review expressed as proportion of total health research proposals requiring ethical review (e.g. human subjects, genetics, stem cell, animal, etc.) according to criteria described in prevailing national guidelines or cited international guidelines		Module 2000			**National sources**

Indicators & variables	Individual Survey	Institutional Survey	Media Review	Focus Group Discussions	Other Sources reviewed by analytical team
III. Creating & Sustaining Resources					
INDICATORS*					
Active health researchers expressed as:					
Total number (FTE), base year, per 100,000 overall workforce		Module 5000			**National sources**
Total number (FTE), base year, per 100,000 health sector workforce		Module 5000			**National sources**
Rating of the environment to nurture, conduct and reward health researchers, expressed as self reported response categories converted to 0-100 scale	Q2100 - Q2109 (rating)	Module 5000 (elements of the environment)		**X**	
Average wage of (i) newly graduated PhD/doctorate entering health research system with full time position and (ii) senior researcher with PhD/doctorate with at least 20 years of post-doctorate experience or senior researcher with PhD/doctorate who is a director of a research institute/large research unit (expressed as average wage, base year in I$)	Wage and benefits asked in Q5003, Q5004	Module 5000 (wages etc) Module 6000 (facilities)			
Trend in total public funds allocated to health research, expressed as annual change from base year for subsequent years (1993-2001)		Module 3000			**National sources**
Proportion of health research institutions with access to both national and international health journals (print or electronic versions), during 1997-2001	Q4128-Q4130 (individual access)	Module 5000			

VARIABLES - Creating and sustaining resources – people, institutions, networks	Ind	Institution			
Total number of training programs on health research currently offered by the country according to: ▪ **type of program** ▪ **area covered**		Module 5000			
Total number of graduates of different training programs with research components by year ▪ **Type of training level**		Module 5000			
Existence of established national programs for academic post-doctoral research work		Module 5000			
Total number of trained health researchers entering/leaving the country, expressed as ● **Five years annually - broken down by Sex, Age groups, Area of Specialization**	Q1009 Q1010	Module 5000			
Proportion of graduates of degree training programs who were sent abroad for these advanced degree programs and who have returned to the country, annually		Module 5000			
Total number of active health researchers (FTE) - **A. broken down by** ● **Sex** ● **Age groups** ● **Highest degree awarded (BS, MA/MS, PhD/DS, MD, etc)** ● **Geographic location (regions in the country, etc.)** ● **Area of specialization** ● **Public, Private sector**		Module 5000			
How much time (as a percentage of FTE) is devoted to research activities?	Q4200, Q4 20 1				

Portfolio of tools

| Data collection approach and modules for testing	Minimum sample size for pilot
1. Survey of individuals contributing to or using health research 1000 Identification, introduction and basic background information 2000 Health research environment 3000 Health research system: priorities, functions and collaborations 4000 Health research production and utilization 5000 Additional background information and evaluation	Test: 200 - 500 Retest reliability: min. 100 **Individual experiences and views**
2. Survey of institutions contributing to health research 1000 Identification, introduction and background information 2000 Types and approaches to research 3000 Financial resources for health research 4000 Health research outputs, synthesis, dissemination and knowledge management 5000 Human resources, capacity and development for research 6000 Institutional facilities and field sites 7000 Research ethics and ethical processes	Test: 100 - 200 Retest reliability: min. 100 **Institutional governance, policy, strengths, challenges**
3. Media review protocol ▪ Prospective 2 month review of major newspapers covering different orientations or readership ▪ Health and health research articles compared to total newspaper content ▪ Type of article, size, photos/figures	Test: 3 national/major newspapers over 2 month period Inter-rater reliability: 2 weeks for each newspaper **Public dialogue**

Portfolio of tools

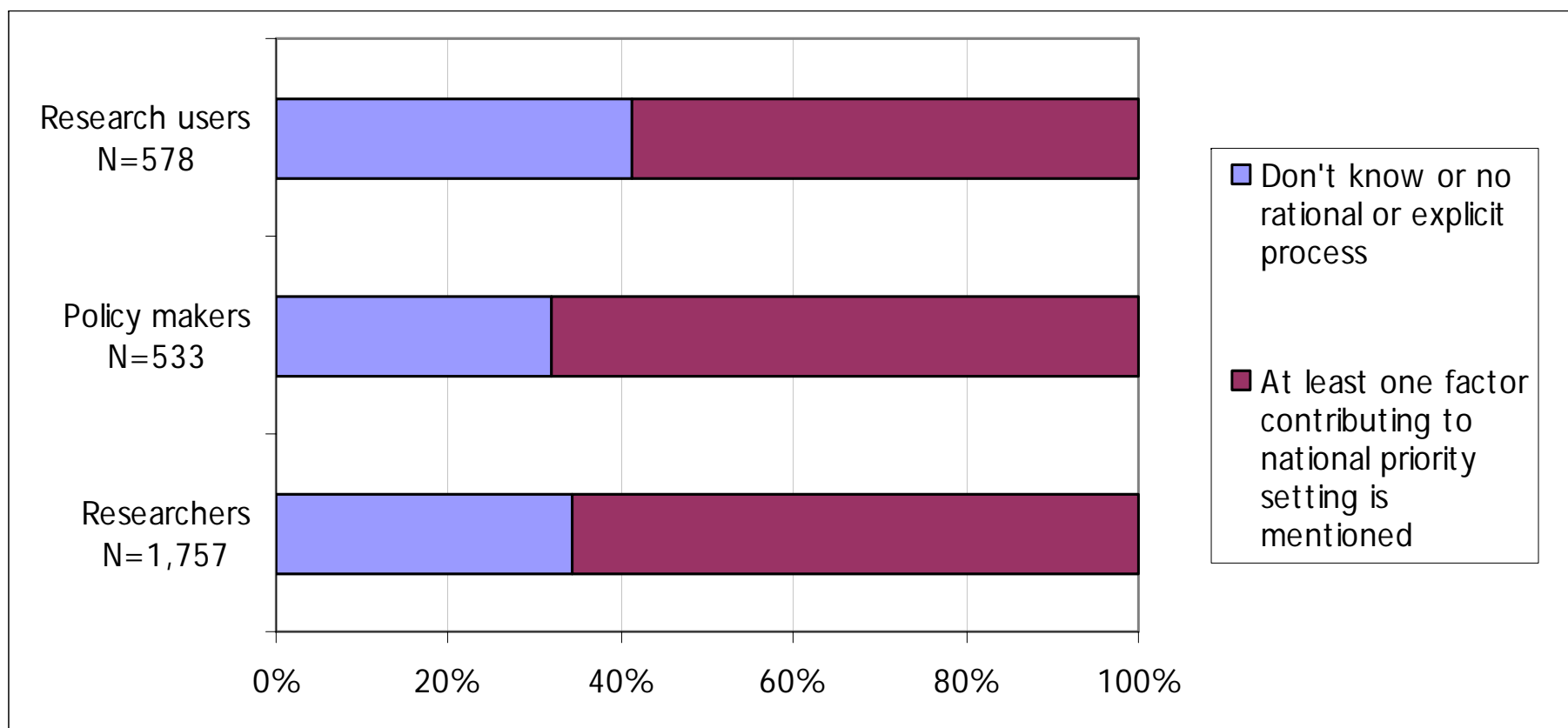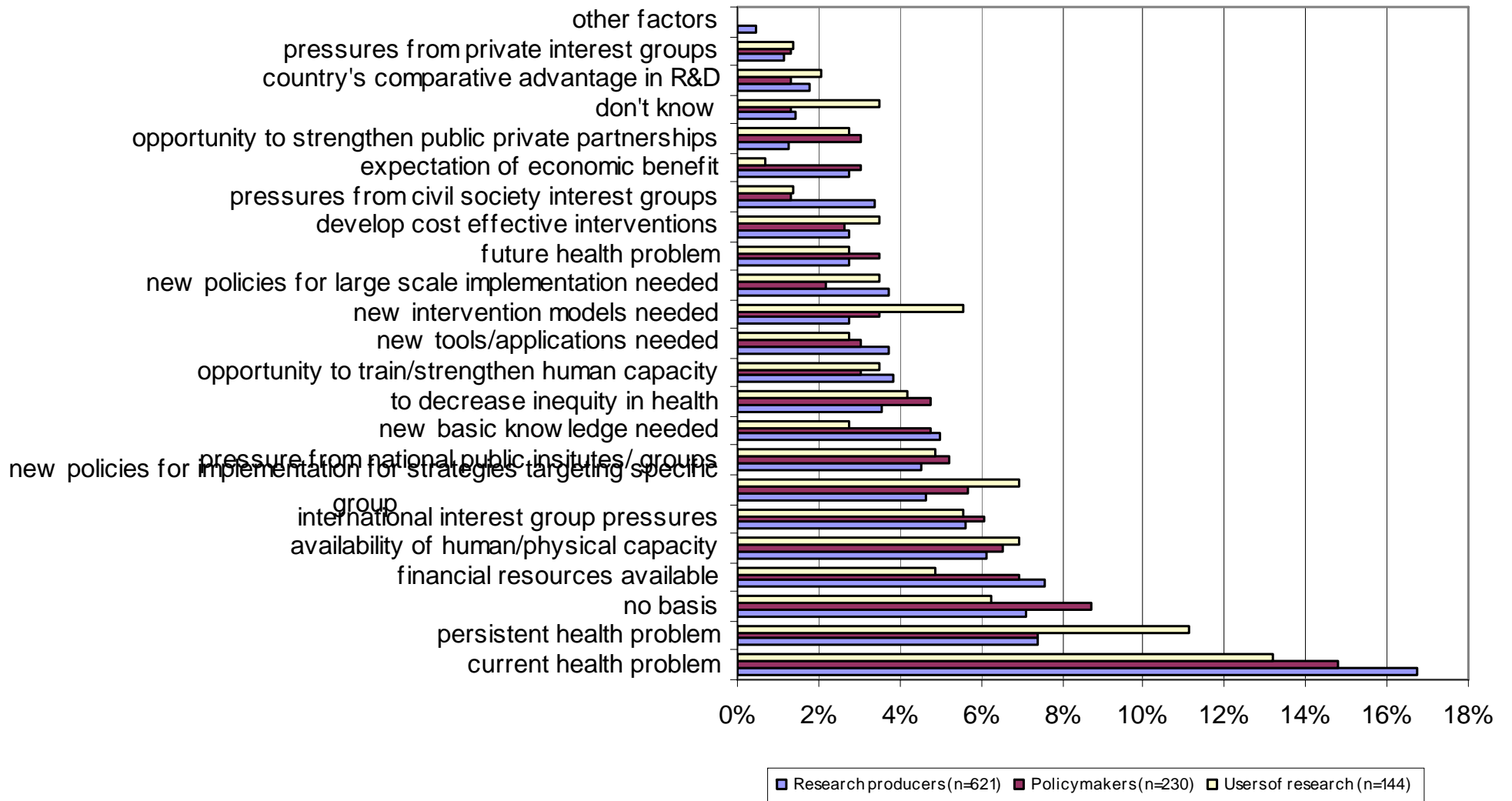| Data collection approach and modules for testing	Minimum sample size for pilot
4. Key informant and/or focus group discussions ▪ Social discourses on key health research system topics ▪ Topics related to policy/relevance of research results, production of research and public perception of health research **Social discourse**	Min. 10 homogeneous group discussions stratified by age, education, sex & type of activities and geographic location, as determined by country team

5. Case studies
• Integrated analyses of data from a variety of sources, compared and contrasted and reflected upon
• Identify potential policy options or recommendations: focusing on the aims:
  o To strengthen different components of health research systems, in particular national human and institutional capacities
  o to integrate changes implied by research results in the day to day activities of health providers who have a range of responsibilities and skills within the health sector
  o to increase national contributions to regional and global policy making
	Specific themes
	
	combining indicators, variables, narratives addressing national themes as inputs to stakeholder discussions, reflections

6. Document & data base review (national team) ▪ Mapping of actors (funders, producers and users) of health research ▪ Process including ethics review, strategies to apply results ▪ Document review (legislation, policies, grey literature, etc.) ▪ Data review (databases on various components)	Test: process of engaging key actors from various sectors and stakeholders within health research system in each country **Desk review, inventory prior to new data collection**

Individual Survey development
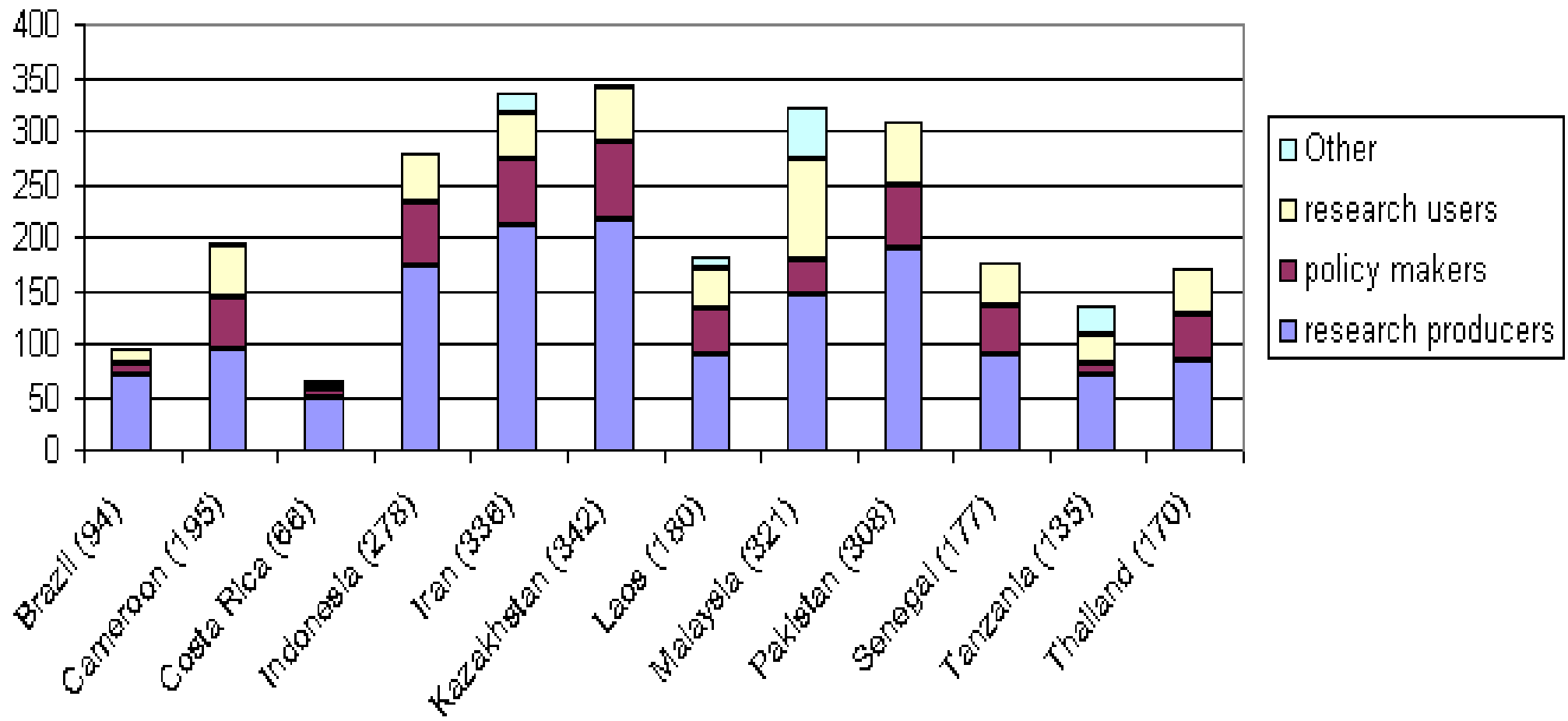
Source: WHO HRSA individual survey

About one-third report no current basis
to identify or set priorities for national health research,
similar across countries and individual roles

Source: WHO HRSA individual survey

What is the current basis for priority setting in health research?

Categories (top to bottom):
- other factors
- pressures from private interest groups
- country's comparative advantage in R&D
- don't know
- opportunity to strengthen public private partnerships
- expectation of economic benefit
- pressures from civil society interest groups
- develop cost effective interventions
- future health problem
- new policies for large scale implementation needed
- new intervention models needed
- new tools/applications needed
- opportunity to train/strengthen human capacity
- to decrease inequity in health
- new basic knowledge needed
- pressure from national public insitutes/ groups
- new policies for implementation for strategies targeting specific group
- international interest group pressures
- availability of human/physical capacity
- financial resources available
- no basis
- persistent health problem
- current health problem

X-axis: 0% 2% 4% 6% 8% 10% 12% 14% 16% 18%

Legend: ■ Research producers (n=621) ■ Policymakers (n=230) □ Users of research (n=144)
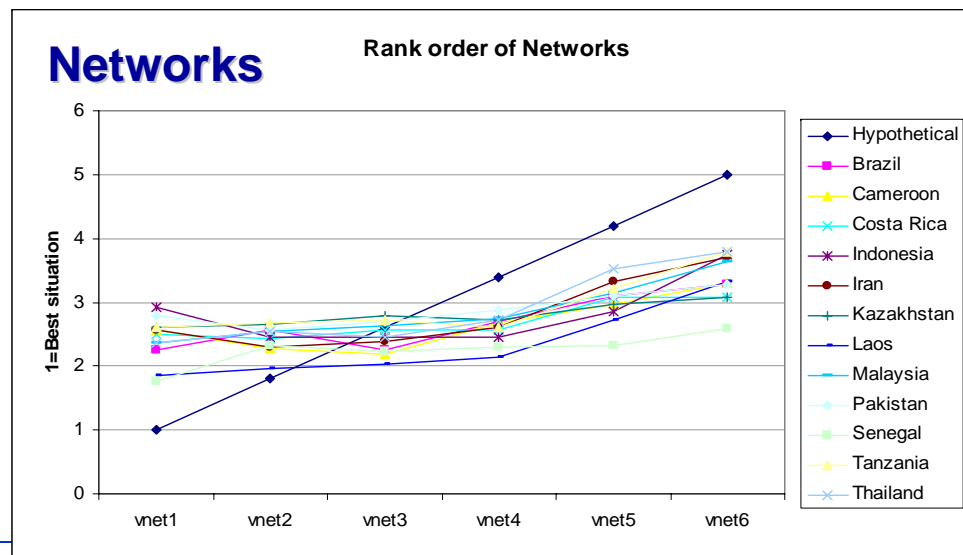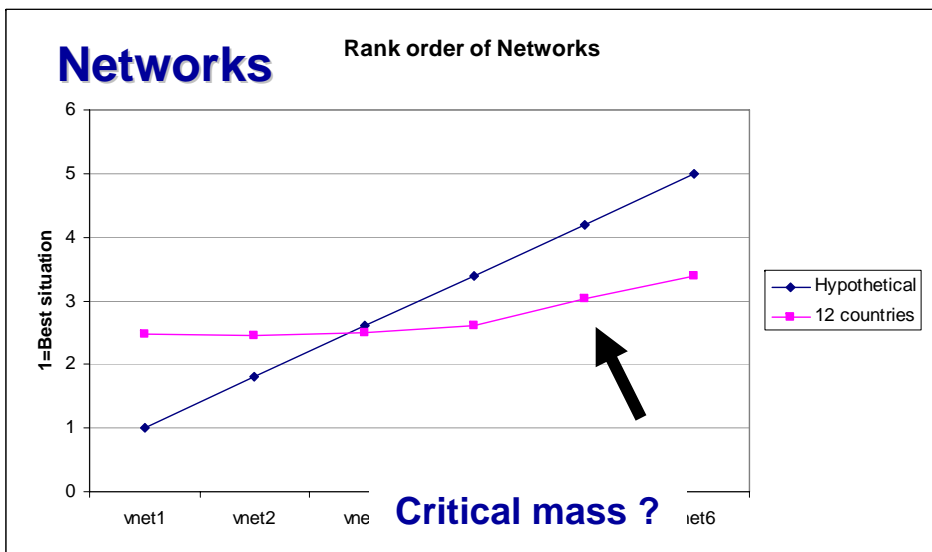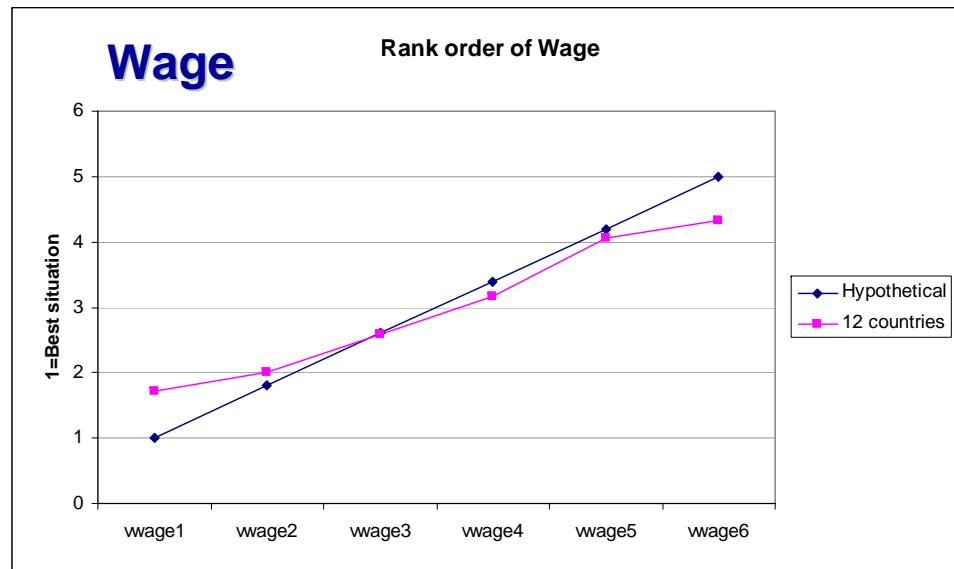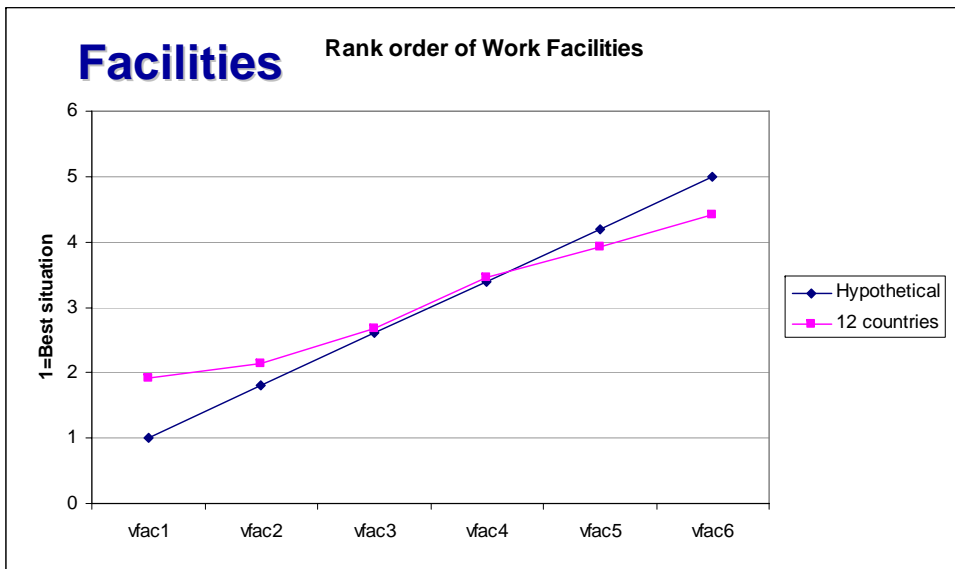
Source: WHO HRSA individual survey

Is it feasible to measure what it is intended to measure in a comparable way?

Example: Enabling Environment to conduct research

- Range and breadth of health researcher networks
- Transparency of the funding process
- Quality of the work space and facilities
- Encouragement of collaboration
- Opportunities to present, discuss, and publish results
- Relevance of health research activities to health problems and health systems
- Salary and benefits of health researchers
- Nurturing of careers
- Training and ongoing training
- Access and sharing of information

Can methods take into account different norms and expectations across and within countries?

Facilities — Rank order of Work Facilities

Wage — Rank order of Wage

Networks — Rank order of Networks

Critical mass ?

Networks — Rank order of Networks

Source: WHO HRSA individual survey

Challenge: limited collaboration among stakeholders

Academic or research institutes, university hospitals	**60%**
National ministry of health	**51%**
Hospitals (non-university)	**36%**
Professional organizations (e.g. medical, nursing, etc.)	**34%**
Medical or health research councils	**33%**
Sub-national, state or district level health-decision makers	**31%**
Primary or secondary care facilities	**31%**
Non-governmental organizations	**29%**
Other national ministries	**28%**
National offices of international organizations (WB, WHO…)	**28%**

Source: WHO HRSA Individual Survey, 13 countries, n= 2868 individuals

Challenge: limited collaboration among stakeholders

Pharmaceutical or medical equipment/supply companies	26%
Patient or consumer groups	25%
Biomedical based health care providers (individuals)	25%
Mass media (newspapers, radio, television, etc.)	24%
National technical or regulatory agencies	20%
National offices of bilaterals, foreign foundations	18%
Traditional, indigenous or alternative health care providers (individuals)	17%
Religious leaders or institutions	12%
Special interest groups, ethnicity, geographic origin, gender, etc.	12%
National legislative bodies	11%
Military or para-military organizations (i.e. non-civilian)	7%

Source: WHO HRSA Individual Survey, 13 countries, n= 2868 individuals

Range of Research Outputs

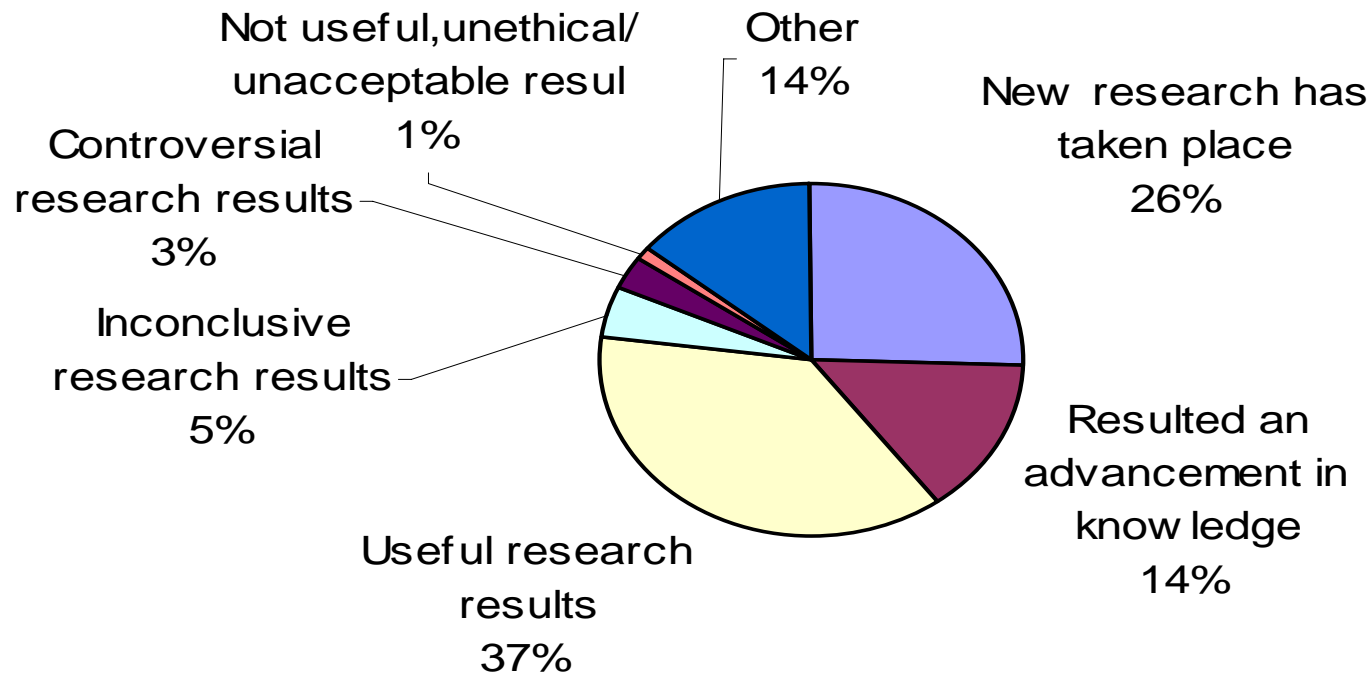(individual survey, pooled data, all countries)

- Scientific journals – national/regional (20%), "international" (10%)

- Conference/workshops presentations (26%)

- Policy reports and media/press briefs (20%)

- Books, chapters, working papers (24%)

- + Patents, about 10% interviewed at least one

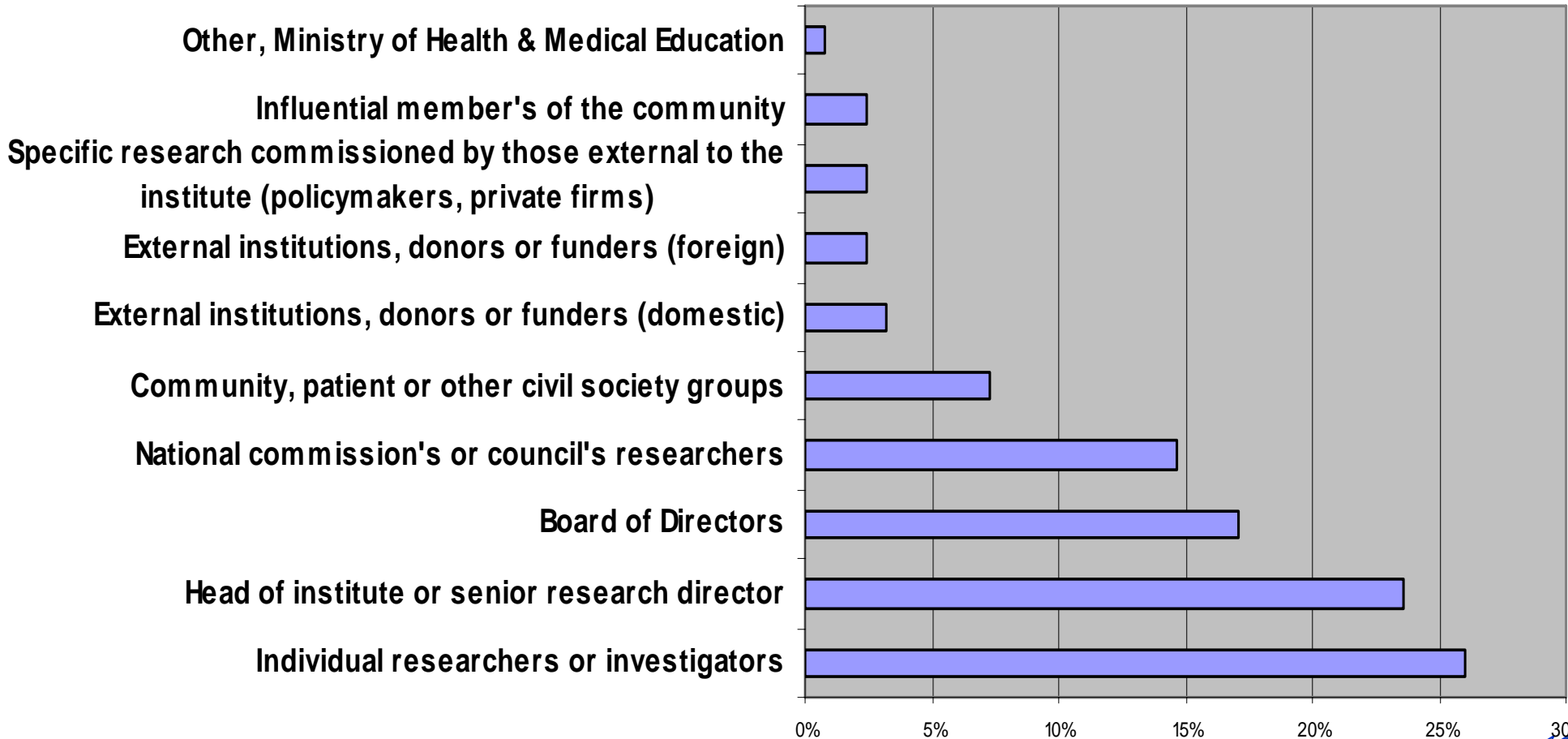**Source: WHO HRSA Individual Survey, 13 countries, n= 2868 individuals**

Opportunity: increasing competencies of media to communicate health research

Key messages from articles addressing health research, newspaper review in 13 countries (1,978 articles)

- Not useful,unethical/ unacceptable resul 1%
- Controversial research results 3%
- Inconclusive research results 5%
- Other 14%
- New research has taken place 26%
- Resulted an advancement in knowledge 14%
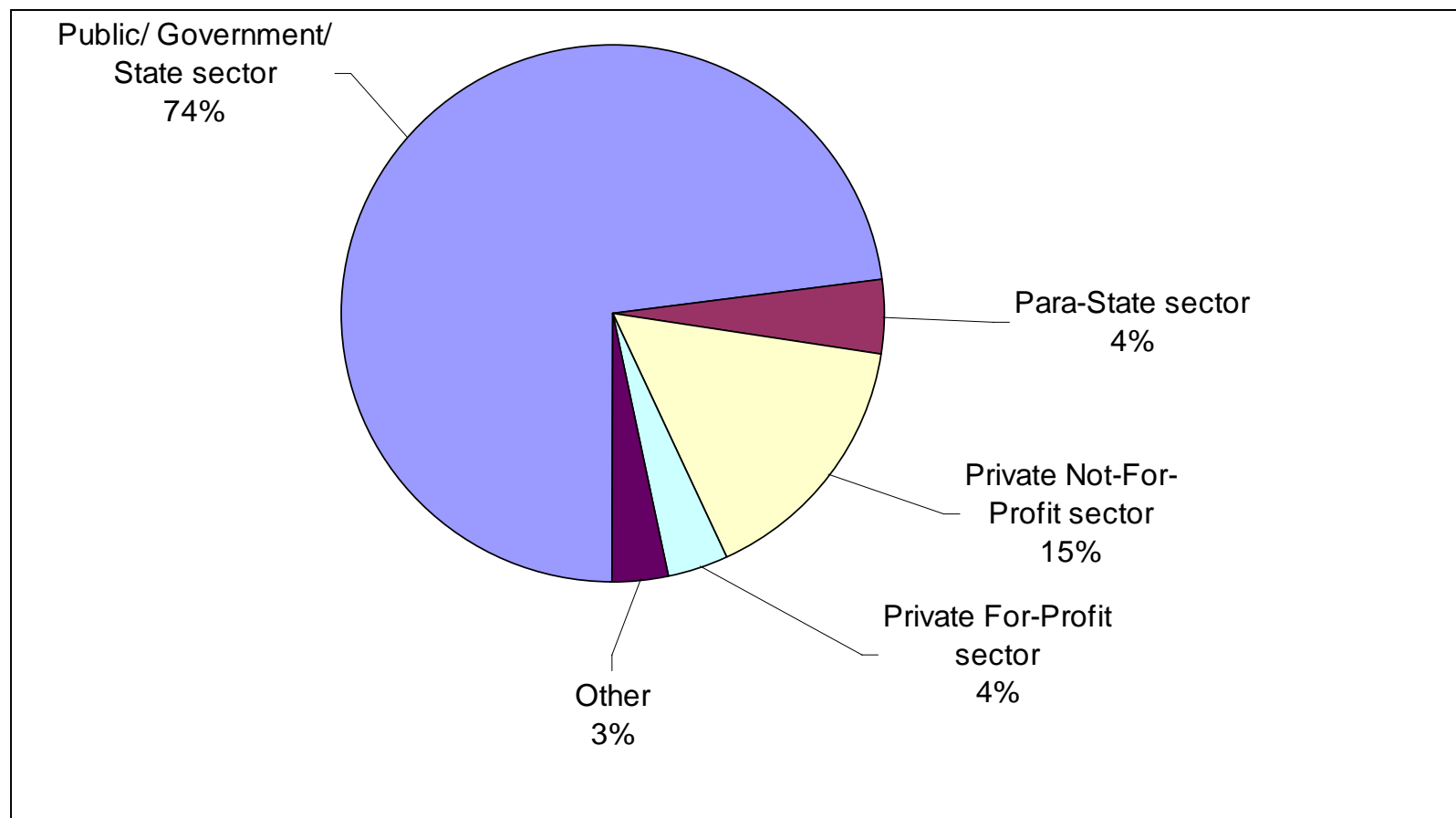- Useful research results 37%

Source: WHO HRSA Media Review Study

Institutional survey, IR Iran

Which groups are most influential in priority setting?
(n=41)

Category	
Other, Ministry of Health & Medical Education	
Influential member's of the community	
Specific research commissioned by those external to the institute (policymakers, private firms)	
External institutions, donors or funders (foreign)	
External institutions, donors or funders (domestic)	
Community, patient or other civil society groups	
National commission's or council's researchers	
Board of Directors	
Head of institute or senior research director	
Individual researchers or investigators	

0%   5%   10%   15%   20%   25%   30%

Source: WHO HRSA institutional survey

Institutional survey, IR Iran

Who is the target audience of your research?
(n=41, multiple choices were allowed)

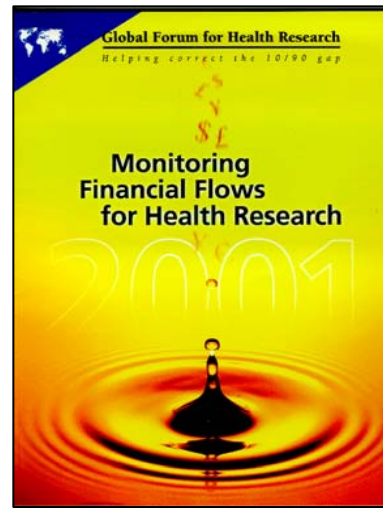Source: WHO HRSA institutional survey
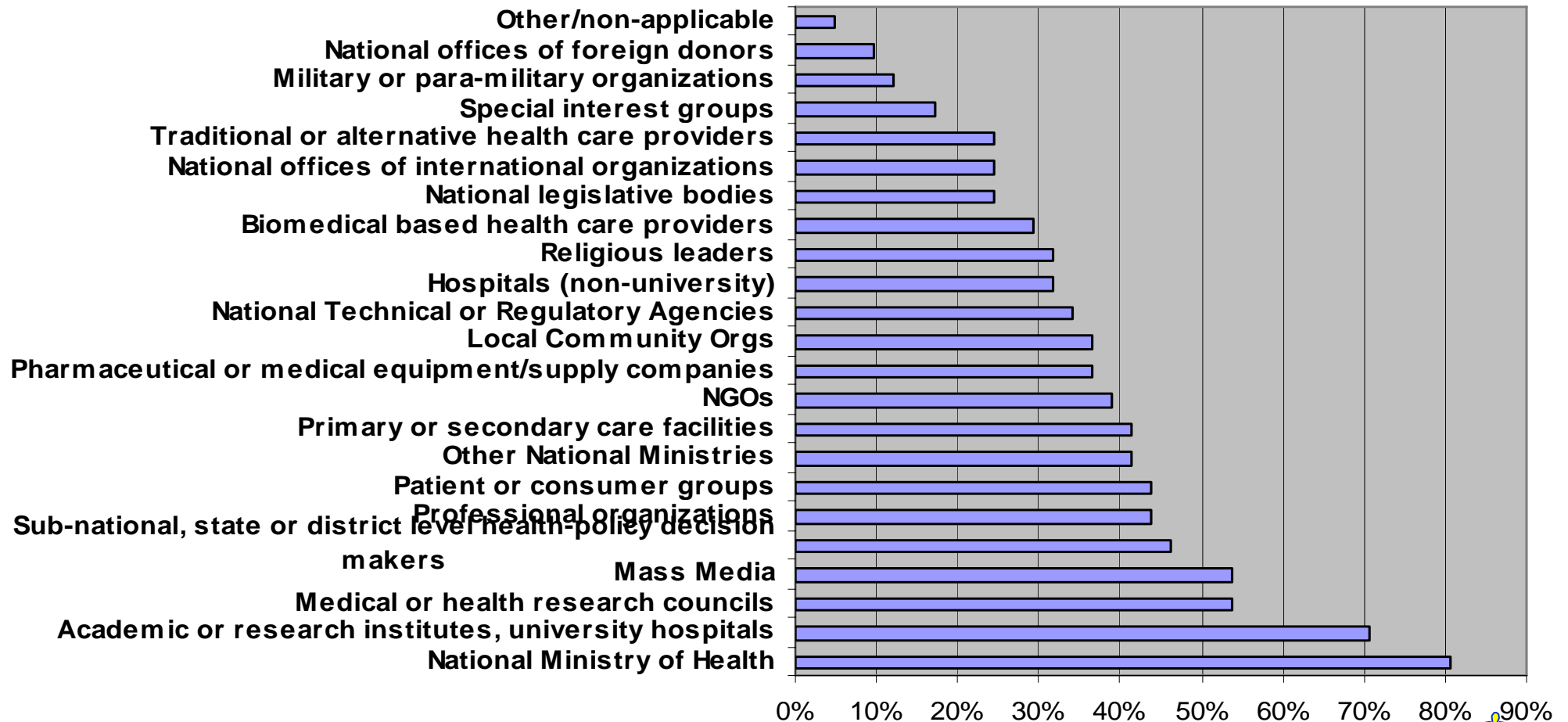
Institutional survey, IR Iran

How often has your institution done any of the following to engage your target audience?
(n=41)

Tailored content of mailings to target audience

Developed reports with examples of how users did use research

Developed key messages that specified specific actions

Developed messages brief summaries of reports with specified possible actions

Legend:
- Daily
- Weekly
- Every month
- 3 to 4 times/year
- Never

X-axis: 0% 10% 20% 30% 40% 50% 60% 70% 80% 90%

Source: WHO HRSA institutional survey

Sector of institutions surveyed in Africa, (about 800 institutions in almost 40 countries – in progress – WHO African Regional Office)

Public/ Government/ State sector
74%

Para-State sector
4%

Private Not-For-Profit sector
15%

Private For-Profit sector
4%

Other
3%

Source: WHO AFRO Survey, 2008

Developing tools to institutionalize monitoring and analysis – example financial flows & topics

A System of Health Accounts — OECD

Measuring Expenditure on Health-related R&D — OECD

Global Forum for Health Research — Helping correct the 10/90 gap — Monitoring Financial Flows for Health Research 2001

Guide to producing National health accounts
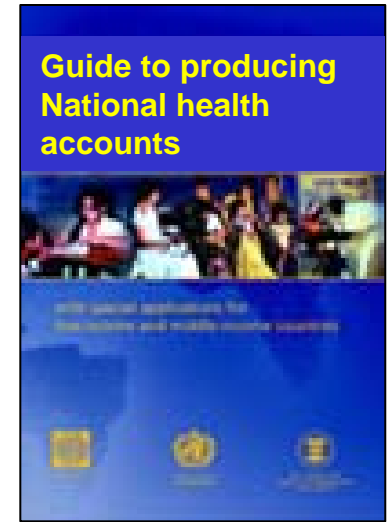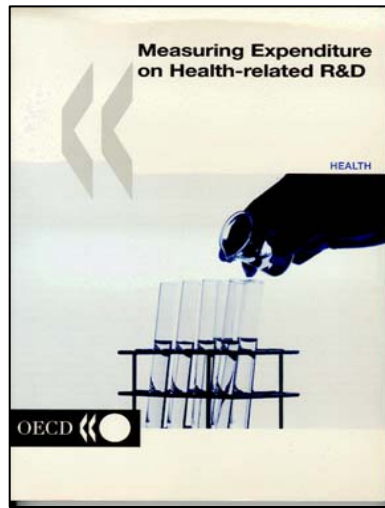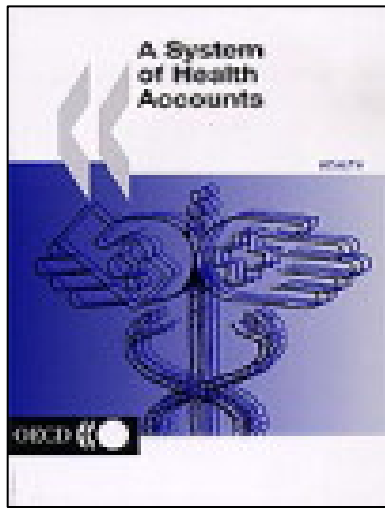
Countries (of 193) reporting health research estimate in NHA (L,ML, MH, H)

Legend:
- Low
- Medium-Low
- Medium-High
- High

Bar values: L = 12, LM = 20, MH = 23, H = 21
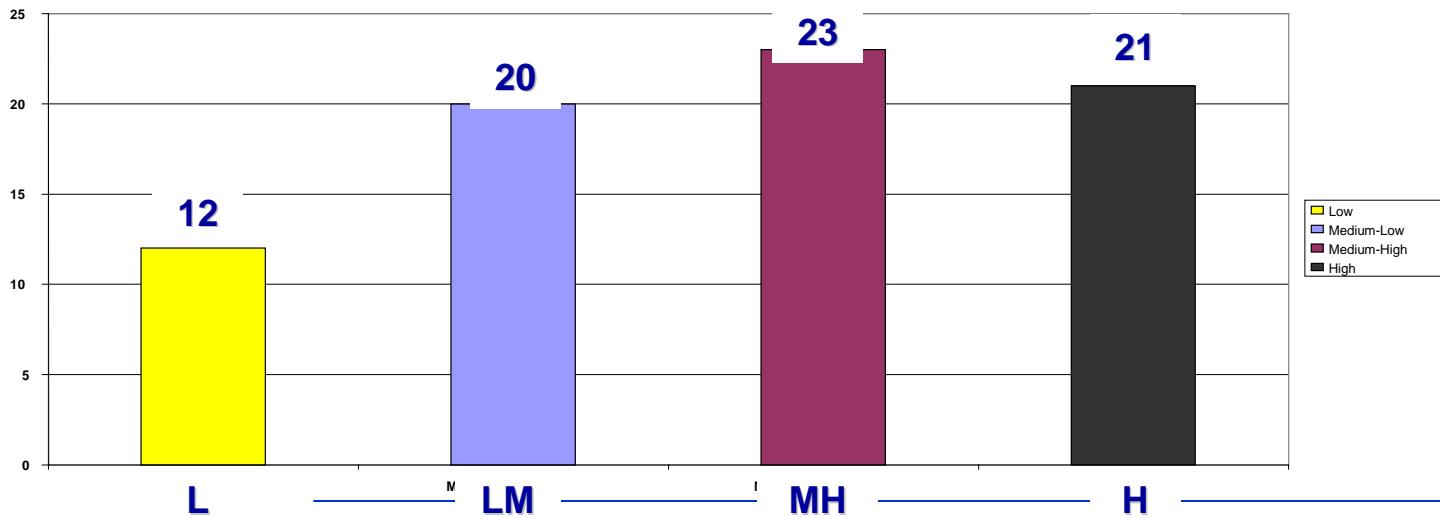
Forthcoming 2008: National Health Accounts sub-account guide on health research

Narratives – mini case studies' themes - examples

Costa Rica
- How to better engage policy makers to demand research on specific health systems' topics
- How to coordinate research priorities to be more in line with public health priorities and its essential functions

Kazakhstan
- Interactions between policy makers, researchers, and users of research
- Coordinating research relevant to health priorities

Senegal
- Transparency of the management of research funds
- Coordination of priorities and activities

Thailand
- How to strengthen research institutes
- How to develop thematic research management processes

Recent Evolution of NHRS in Lao PDR

Build buildings **- Council of Medical Sciences est. 1990**	**1992-1996**	
Build on existing capacity, develop stewardship **- National Institute of Public Health est. 1999** **-Training on research methods to health professionals embedded within facilities** **-Training of trainers, add research to curriculum of universities**	**1997-2001**	
Add and develop new competencies **-Ethics review committee est. 2002** **-Management of research, utilization of research** **-Increase range of research outputs & audiences** **-Pursue regional integration (Cambodia, Vietnam)**	**2002-2006**	
Add more functions and improve health systems **-Exert more leadership to coordinate NGO activities across provinces reflecting national priorities** **-Extend regional integration (Thailand, Japan)** **-MDG agenda on maternal and child mortality: evaluate wide range of interventions and see what works**	**2007-2010**	
Equity Analysis and Research, WHO, 18 January 2008		

4. Leadership & Advocacy

Ministers propose that good
   leadership requires . . .

- Having a vision for health research
- Understanding the organization of national health research
- Knowing the major health challenges
- Setting and coordinating health research priorities
- Working with other partners
- Developing and enforcing ethical standards for health research
- Increasing accountability in the use of public funds
- Knowing how research is distributed and accessed
- Monitoring and evaluating health research

Ministerial Summit on Health Research, 2004, Mexico City

Challenge: decreasing low income countries' share of worldwide, easily accessible research on health topics
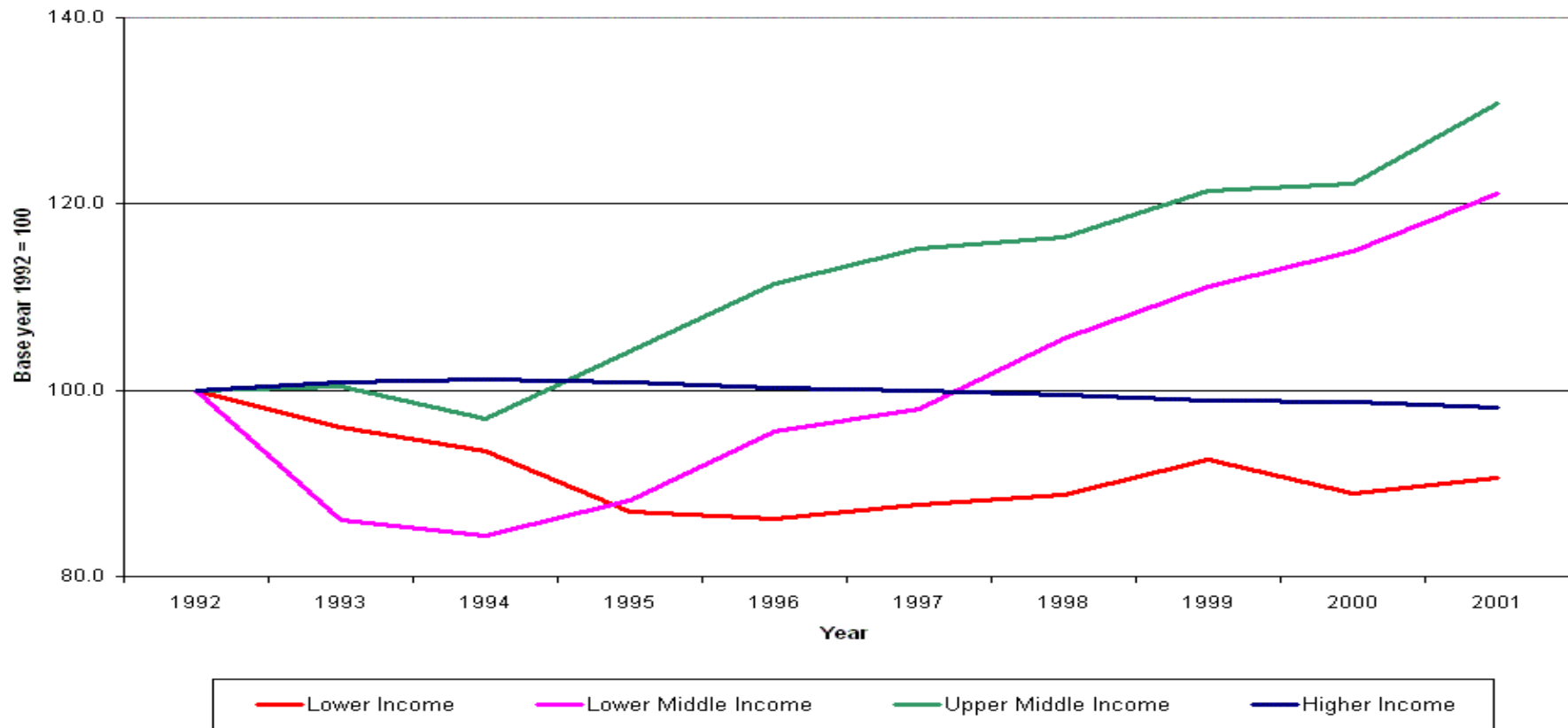
Challenge: heterogeneous growth across geographic regions in share of worldwide, easily accessible research on health topics

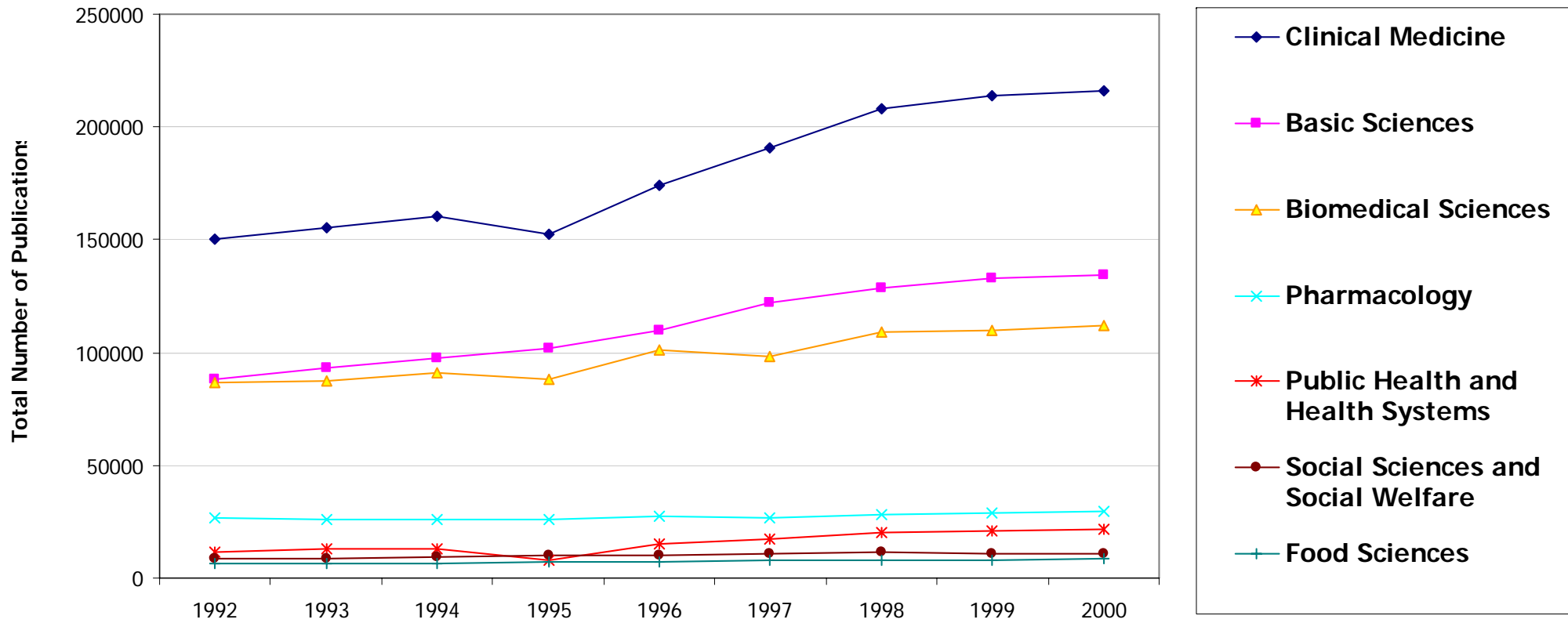*Scientific Production in the WHO regions (1992 =100)*
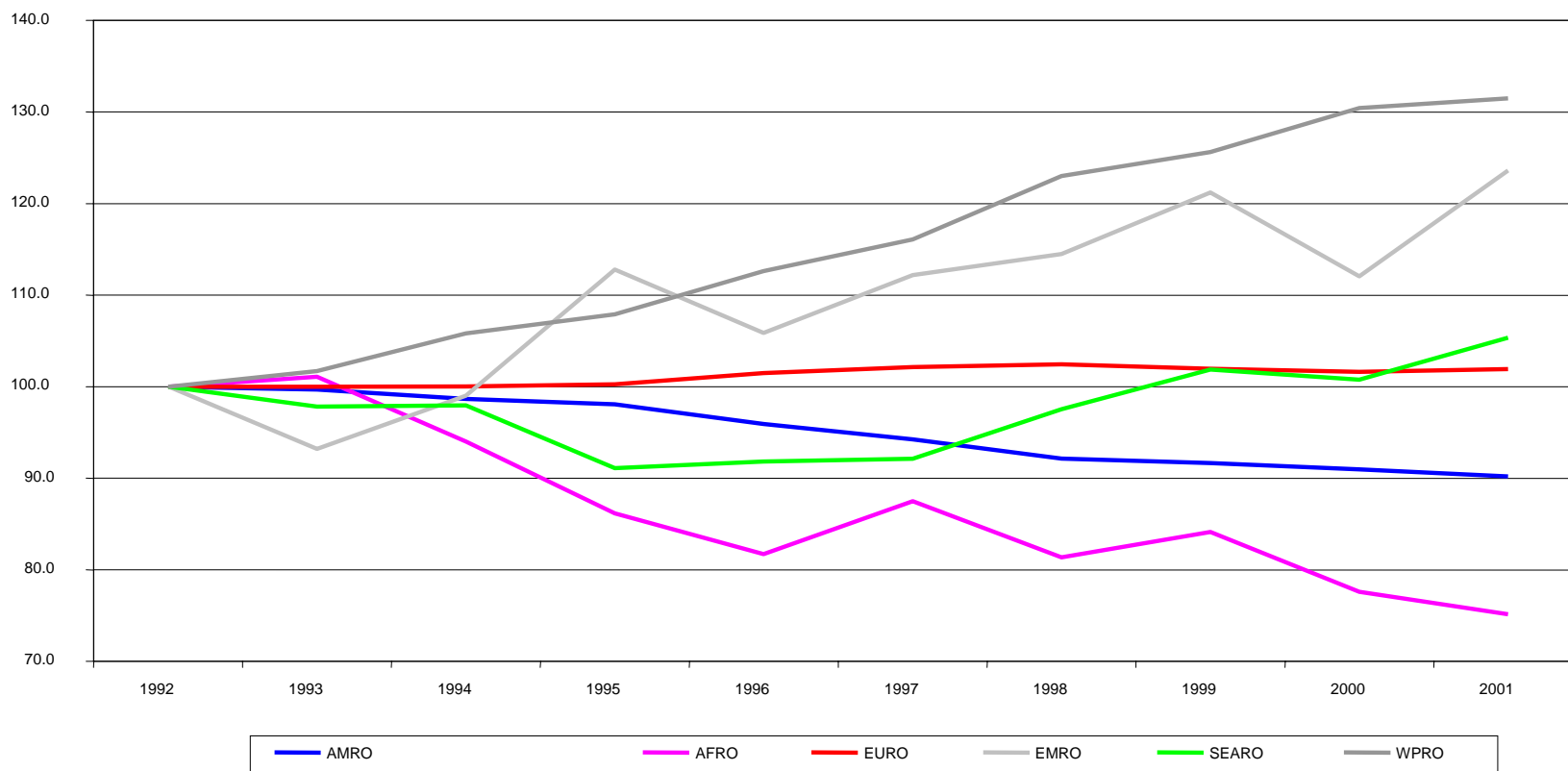
Equity Analysis and Research, WHO, 18 January 2008

Challenge: limited research on public health and health systems

Legend:
- Clinical Medicine
- Basic Sciences
- Biomedical Sciences
- Pharmacology
- Public Health and Health Systems
- Social Sciences and Social Welfare
- Food Sciences

Y-axis: Total Number of Publications (0 to 250000)
X-axis: 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000

Challenge: limited origin, focus & types of studies included within meta-analyses of research findings on child health
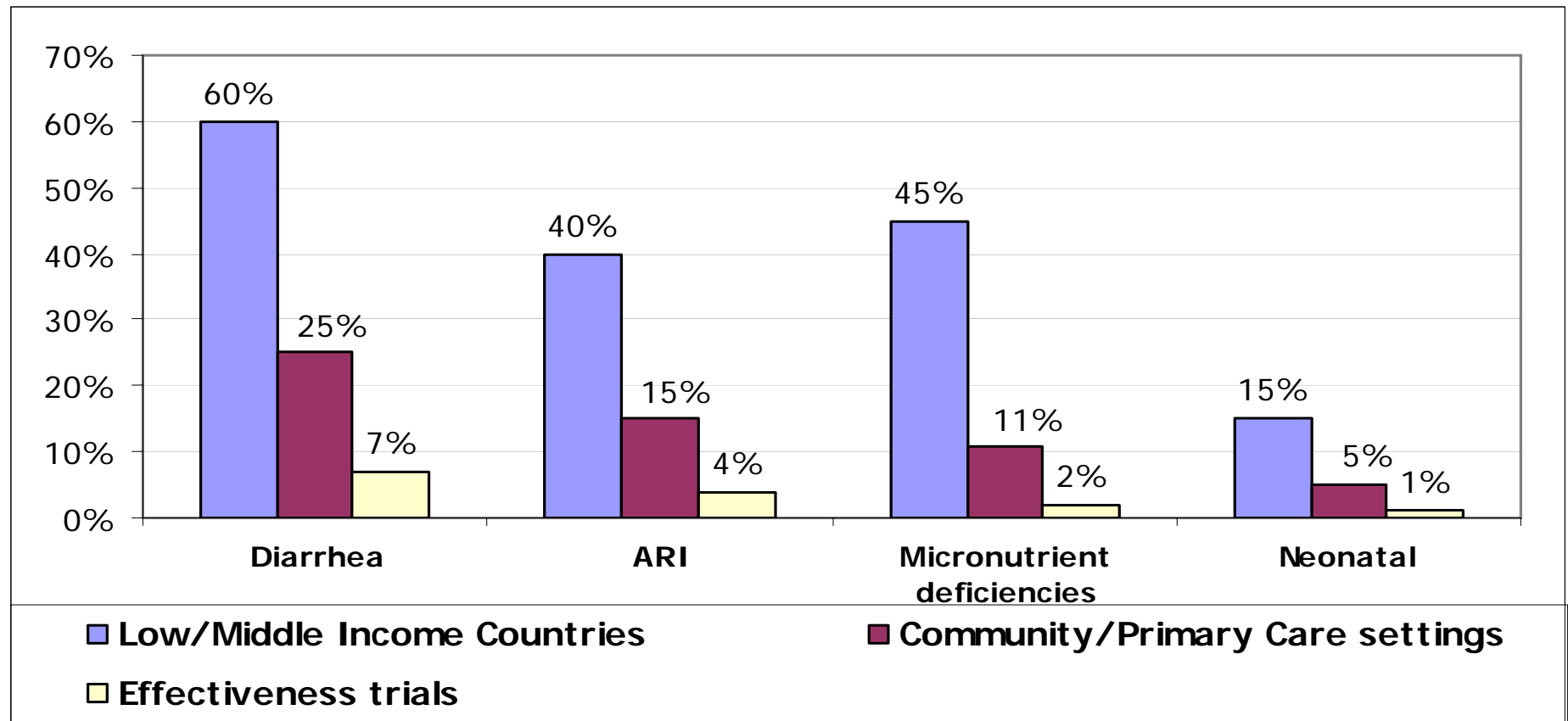
Source: Bhutta et al., 2004 (review of Cochrane Reviews on child health)

Challenge: limited collaboration across big, important countries (Brazil, India, South Africa)* on health research
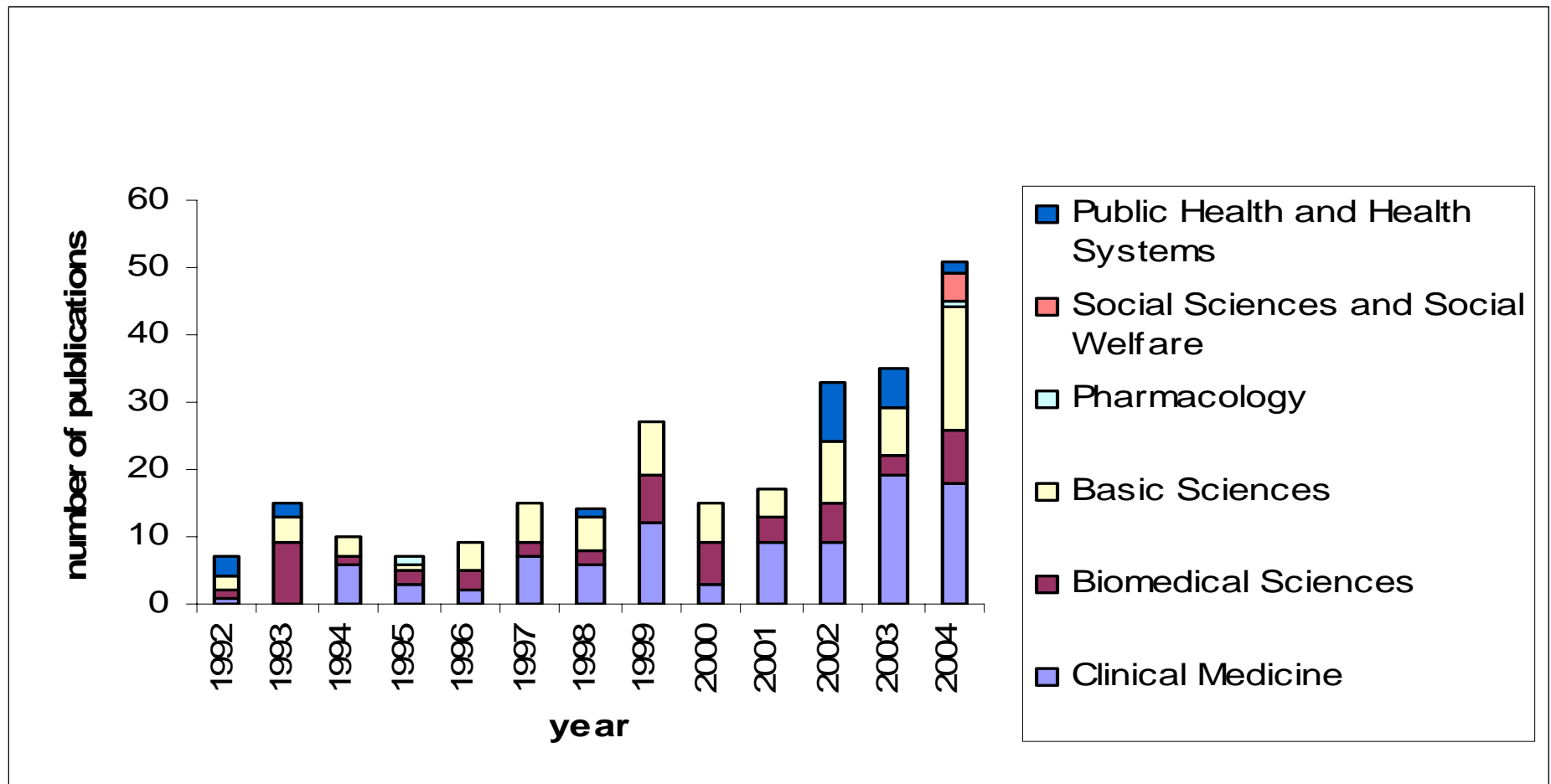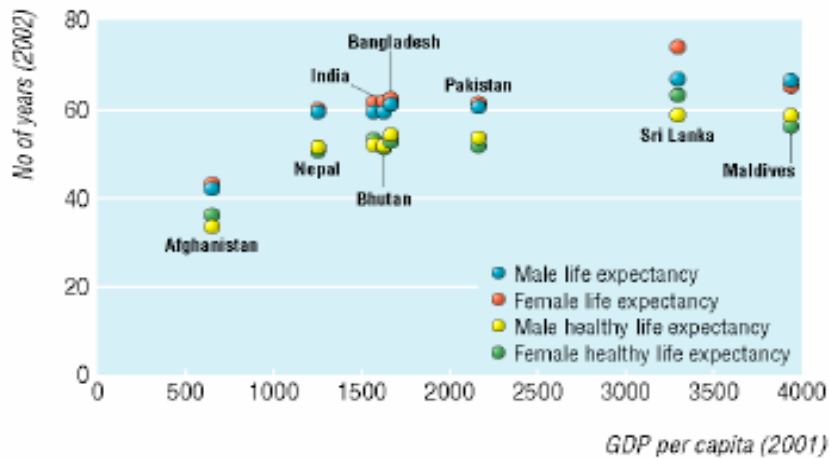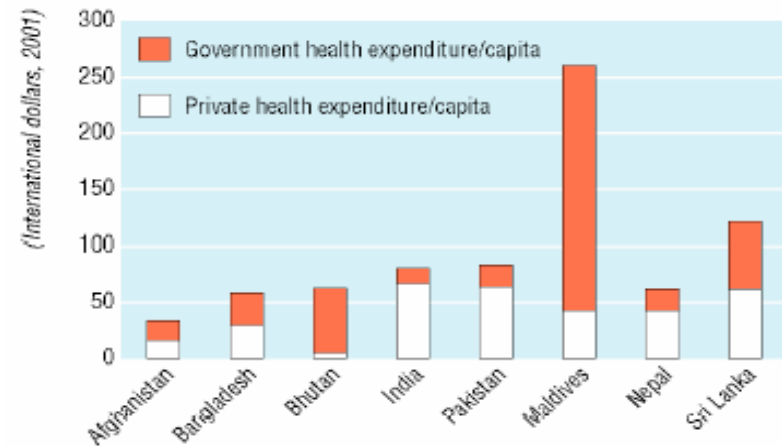
Regional analyses – connect research, health systems & intersectoral actions – example South Asia

Life expectancy and healthy life expectancy vs. GDP per capita
(Source: WHO, 2003)

Total health expenditures per capita
International Dollars, 2001 (Source: WHO, 2003)

National Medical or Health Research Coordination Body

Country	Entity	Year Established
Bangladesh	Bangladesh Medical Research Council	1972
Bhutan	Health Research and Epidemiology Unit, Ministry of Health and Education	1995
India	Indian Council for Medical Research	1911
Pakistan	Pakistan Medical Research Council	1962
Maldives	Health Information and Research Unit, Ministry of Health	1998
Nepal	Nepal Health Research Council	1991
Sri Lanka	National Health Research Council	1996

Source: British Medical Journal, 2004

Emerging generic messages for different audiences

- **Civil society, patient-, community-based organizations**

  Demand transparency, innovation and relevance

- **International and regional development partners**

  Support institutions and program areas for the long-term, commit to relevance, ethical partnerships, and innovation

- **Policy and decision makers**

  Ensure coordination of priorities & increasing evidence-informed decisions, collaboration within and across countries, connection to application and innovation

- **Institution boards and directors**

  Set example by working towards mission, and ensuring transparency, safety, scientific & ethical practices, and merit based career development of all staff and collaborators

- **Researchers**

  Engage, mentor and collaborate within your institution, with other disciplines, and with those in other countries; be honest, maintain independence from funders and keep up to date

Thank you!