

# Research Roadmap, Domain and Network

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## WHAT IS RESEARCH?

Research is a process of finding things out, of filling gaps in our knowledge and understanding of phenomena we encounter in the world. It provides an organized, systematized way of answering questions related to our work.

Research involves gathering, analyzing and interpreting data to answer the research question. In practice research performs four main tasks. It:

- Describes
- Searches for explanations
- Tests hypotheses
- Leads to generalizations.

## MAKING RESEARCH WORK

Research is difficult, but it is more likely to succeed if the researcher:

- Critically assess the design
- Pilot the process
- Assess the costs, resources and expertise required
- Read the literature
- Plan
- Assess potential benefits

Choose topics that are:

- Specific
- Manageable
- Achievable
- Realistic
- Time delimited.

## RESEARCH & THE DISCIPLINE

Research is needed to:

- advance the discipline, provide answers to phenomenology – what, who and why,
- find answers to clinical problems and provide the evidence based medicine – what works
- find answers to delivery problems – what barriers to overcome for health care to be delivered effectively and efficiently

Gaps to effective FM research are found in the structure, processes, and outcome of the system.

### Structure

- to explain phenomenon needs, there is a need for a tutored mind on “organised curiosity” and we need the protected time to pursue things
- to meet our practice needs, we need to consider pilot and mainstream studies. Large studies have better statistical power; Cross country studies show diversity; Multi-country collaboration – provide mutual support and also better statistical power because of larger studies possible.

### Processes

- A cascade training and learning system to build capacity. The concept of three levels of capacity building of User (101 level) – Researcher (201 level) – Programme Developer (301 level) can be applied to the tasks of learning & teaching,

doing research, and directing research.

### Effective outcomes

- Collating & disseminating research findings – presently research is a situation of pearls separated by oyster shells. There is a need for a system to collate the findings and disseminate them in a user friendly way. One of the ways is to develop collaborating family medicine centres to do the collating work. There are some centres in the West. There is a place to develop such centres in the Asia Pacific countries.
- Publish work on the Internet & hard copy. The Internet is now an effective worldwide portal that allows information to be shared, stored and printed. The family medicine collaborating centres could work on using such a common channel of information
- Develop and contribute to Practitioners' Databases where all the user needs to do is to click and find answers in the middle of a consultation. The TRIP database by UK Practitioners is a good example of how family medicine research could find its way to meet practitioners' day-to-day information needs

## CLASSIFYING RESEARCH DOMAIN IN FM

Stange et al has described a new way of classifying the knowledge base of family medicine into 4 quadrants of knowledge (See Table 1). This new way of classifying the knowledge base of family medicine provides a practical way of classifying the research domain in family medicine.

This new model of classification could be compared with that proposed by

Barbara Starfield in the early 1990s where she grouped the research areas into basic research, clinical research, and health services research. The basic research and the clinical research fit into Stange's quadrant 4, and the health services research into quadrant 3. The two quadrants given new recognition are quadrant 1 focussing on the doctor, and quadrant 2 focussing on the patient, family and significant others.

## SWOT ANALYSIS OF FM RESEARCH

Family medicine research has to recognize its strengths, weaknesses, opportunities and threats.

Globally, FM research has the following features:

- Strengths. There is recognition of the importance of research for FM development and the consequent apportioning of time and resources for development of research frameworks, tools and systems that is now beginning to happen; awareness of what needs to be done for effective family medicine research e.g., the understanding of collaborative studies to increase statistical power.
- Weaknesses. There is a lack of infrastructure, protected time, know-how in most countries
- Opportunities. There is a big potential of translating the information of FM research into clinical knowledge for the reduction of disease burden across the regions
- Threats. There is a lack of focus of what each country should be doing for FM research.

Table 1. Ways of Knowing and Seeking Medical Knowledge

	INNER REALITY	OUTER REALITY
<b>Individual</b>	<b>Quadrant 1</b>	<b>Quadrant 4</b>
Type of Knowledge	“I” knowledge	“It” knowledge
Why	Understanding the clinician is essential to family practice, since in part “the doctor is the drug.”	Understanding natural phenomena and interventions to affect them is the biological basis of medical practices.
What	Knowledge of the clinician	Disease-specific knowledge of clinical phenomena
How	Self-reflection, journaling	Observation, epidemiology, experimentation
Who	Reflective clinicians	Detached observers
Where	Practice	People or parts of people
<b>Collective</b>	<b>Quadrant 2</b>	<b>Quadrant 3</b>
Type of Knowledge	“We” knowledge	“It” knowledge
Why	The voices of patients, families, and communities are central to the goals and effectiveness of family practice.	Family practice operates within a systems context, which must be understood to enhance its effectiveness.
What	Knowledge of the patient in context	Systems knowledge
How	Participatory research	Health services research
Who	Participant observers	Health services researchers
Where	Community or practice	Health care system

Source: Stange et al, 2001

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In the Asia Pacific, FM research in has the following features:

- Strengths. There is a diversity of developed and developing countries in family medicine so the potential of rapid development through collaboration and capacity building is there.
- Weaknesses. There is a wide variation of growth & development that need to be narrowed before research productivity can take place
- Opportunities. There are opportunities for developing and developed countries to apply and translated research into paradigms for the reduction of disease burden across the region
- Threats. There is lack of focus of what each country can do for FM research that need to be overcome.

## **BUILDING CAPACITY IN THE SYSTEM & PEOPLE – 7 STRATEGIES**

The 7 strategies are:

- Set up a country nodal system to span the various stakeholders
- Establish a country research forum to discuss activities, build ideas, motivate research
- Set up a country research resources archive to store research tools & outputs
- Implement a cascade training system of learning & teaching, doing, & developing research
- Set up a local research network for collaborative research
- Organise presentations for research endeavours — local, national, region, & world
- Initiate collaborations – across countries & regions

### **Strategy – 1**

#### **Set up a country nodal system to span the various stakeholders**

- Universities can contribute the tools, research power, language and culture, and lead in the best practice of research
- College of family medicine provides the research hub where the various stakeholders can be linked together for collaborative work and national capacity building; it provides the channel to link to Wonca and small international groups for research collaboration
- GP groups provide the real world, clinical questions, and are collaborators for showing and sharing best practices.

### **Strategy – 2**

#### **Establish a country research forum to discuss activities, build ideas, and motivate research**

- Promote discussion of research activities,

- Provide the platform to build up research ideas,
- Motivate research – awards, conferences, workshops e.g., the activities of NAPCRG

### **Strategy – 3**

#### **Set up a country research resources archive to store research tools & outputs**

- Tools. These are questionnaires, scales, methodologies useful to family medicine research in a location that can be easily accessed
- Outputs. These are papers, proceedings, workshop programmes

We can work towards setting up an electronic library of research tools and outputs across countries more effectively by working towards a common archival system. The member countries of Wonca for example can contribute towards a Wonca network housed on the Global Family Doctor website.

### **Strategy – 4**

#### **Implement a cascade training system of learning & teaching, doing, and developing research**

- The cascade concept of learning & teaching, doing research through working with trainers who are one/two levels up in the knowledge/skills ladder provides an effective way to build capacity for research. Thus at the user level (101 level), novices and users of research are taught by those who are able to show the way namely, practitioners and researchers at the researcher level (201 level)/research programme developer level (301 level); and those at the researcher level (201 level) hone their knowledge and skills through their interaction with fellow researchers (201 level) and research programme directors and developers (301 level).

- For user level (101 level) – *target all GPs & the course objectives will be to able to:*
  - Understand research as a pathway to evidence based care;
  - Ask relevant clinical questions;
  - Search answers to clinical questions in databases;
  - Read literature critically – *look for methodology flaws, interpretation errors*

- Researcher level (201 level) – *target 1% GPs for a start and the objectives will be to able to*
  - Ask answerable research questions;
  - Choose appropriate methodology

options

- Sampling, Questionnaire, Interviewing issues
- Data collection & checking
- Data analysis & interpretation
- Write up & presentation
- Participative & Collaborative projects

- Research developer level (301 level) – *self selected group with experience & research interests & the course objectives*

- Research analysis & interpretation techniques
- Research programme organisation & funding
- Promotion of research culture, ethics & standards
- Participative & Collaborative projects

### **Strategy – 5**

#### **Set up a local research network for collaborative research**

- Organise participatory research
- Promotion of ideas
- Pay attention to structure, processes, outcomes
- Building capacity
- Funding – seed money
- Link up with other networks across the world – collaborative projects on common research ideas and projects

### **Strategy – 6**

#### **Organise presentations for research endeavours — local, national, region, and world**

- Local, national, region, world family research units can learn from one another and build capacity this way
- Research is effective only when the results are disseminated & the new knowledge & understanding result in outcomes of care-Conferences, workshops, meetings, writings, & databases keep the meaning of research alive.

### **Strategy – 7**

#### **Initiate collaborations – across countries and regions**

- Cross countries & regions can link themselves up for capacity building activities as well as to build the network for research collaboration and dissemination
- The areas of collaboration can be in new topics in Primary care research e.g., genomics; Meta-analysis of existing information; and contributions to physicians' database contributions from primary care research centres.

Clinicians who are familiar with helping patients with behaviour change will realise that establishing relevance and importance for the patient may likely result in patient-initiated changes, in contradistinction to blanket regulation and ineffectual enforcement. The SARS episode demonstrated that GPs are not different from patients in that aspect – relevance, importance, support and feedback were the key ingredients of their success.

**And finally and if not most important, it must not be misconstrued that the solo or private practitioner of the present or those of us who have gone through the ‘neglect’ should smugly become the passive ‘victim’. Perhaps it is about time that we differentiate ourselves from the unproductive relationship issues of the past and forge a more**

**meaningful one as a responsive ‘parent’ to the future generations of general practitioners.**

#### Looking (Out) Ahead

Is this article a plea to understand private GPs better? Yes, but only in two conditions. First, it is true in so far as to ensure that partnerships can be built that will activate the formidable “third force”, which will undoubtedly benefit primary care in Singapore. Second, it is a plea for the private GPs to understand **themselves** more and establish themselves in the scheme of quality health care delivery in Singapore, if only for the sake of the ultimate end-users – the patients and their families.

The metaphorical iceberg therefore applies to all, and it is up to the reader to find out what it represents to him or her,

bearing in mind that even if just the tips are appreciable now, they are significant. To some, it may represent ‘engaging private GPs’; to others, it may represent ‘engaging the health authorities’; and yet to others, it is about ‘emotional baggage of the past’. Whatever it is, no matter what superior ideas we have to transform primary health care with; or what sophisticated technology we have to translate into practice; or simply as proud captains of our own destinies in medical practice, we should start to pay heed to it. Otherwise, like the ill-fated Titanic, the iceberg will yet again move right along...”as though NOTHING had happened”.

*The views of expressed in this article are solely those of the author and do not necessarily represent the opinion of College of Family Physicians Singapore.*

### PRACTICE BASED RESEARCH NETWORKS

GP practice based research networks can shift from the role of primarily collecting data for research undertaken through the primary care setting. GPs can be more involved in the development, conduction and interpretation of research, in addition to their collection role (Gunn, 2002).

Practice based research networks around the world have contributed useful pointers on making these work. The following have been demonstrated to be important (Gunn, 2002):

- Research networks should have explicit aims about what is to be achieved – encourage evidence based practice, small scale practice-based research or large scale interventional or longitudinal studies;
- Research networks bring interested people together – opportunities for collaboration
- Networks should have academic links – in order to have easy access to suitably qualified researchers
- Networks should complement other capacity building initiatives – collaborative and complementary activities amongst networks, academic institutions, and research bodies.
- Research networks should be realistic about what they can achieve – Setting up a network that tries to achieve progress in many areas is unlikely to succeed.

- It is worthwhile considering the optimal size of a research network – The Dutch experience shows that small groups of practices with skilled GP researchers can achieve considerable outputs, such as publications and higher degrees.
- Evaluation and monitoring are essential – the network’s objectives, strategies and activities.

#### SUPERVISING RESEARCH STUDENTS

Deborah Saltman has worked out a model matching research student & supervisor leadership styles. The learner is found to go through four development stages (D) in the process of mastering a new task.

These are: D1 – enthusiastic beginner; D2 – disenchanting learner; D3 – capable but cautious performer; and D4 – self reliant achiever. The match supervisory style (S) should be correspondingly: S1 – directing; S2 – coaching; S3 – supporting; and S4 – delegating (Saltman, 2004).

#### WHERE DO WE GO FROM HERE?

##### Asia Pacific Mission & Objectives

For each country - the 3 initial tasks are suggested

- Get ideas across-AP research network development workshop in March 2004
- Set up the AP country nodes – through AP country representatives by end 2004
- Provide answers to clinical questions for family physicians – a physicians’ clinical Q & A database in GFD by 2007

#### For each family physician

- View yourselves in the FM research endeavour – user, researcher, research developer
- Users think about stating your clinical research needs & use the system to help your practice
- Researchers think about the FM Research Domain Classification for questions to answer
- Research developers think about the roadmap to build capacity in FM research

#### TRACKING RESEARCH STRUCTURE, PROCESSES AND OUTCOMES

Key performance indicators to track research structure, processes and outcomes are:

- Development of capacity at national level - Number of doctors participating in FM research; Publications; Implementation of results in practice
- Research centre performance - Best Practice, training, research output, Leadership role, Enabling role, Disseminating role

#### Reference and further reading

Stange KC, Miller WL, McWhinney I. Developing the knowledge base of Family Practice. *Family Medicine* 2001;33(4):286-97. Gunn JM. Should Australia develop primary care research networks? *MJA* 2002; 177(2):63-66. Saltman D. Supervising research students in primary care using a leadership model. *Aust Family Physician* May 2001;33(5):1-3.