Research Implementation Plan South Africa

How should care be horizontally integrated and coordinated among the multidisciplinary primary health care team in South Africa?

Background and significance

The World Health Report 2008 on primary health care (PHC) stresses service delivery reform with a shift toward integrated people-centred primary care (focusing on population-based health needs and enduring personal relationships).[1] A review of African primary care shows the fallacy of disease-oriented approaches,[2 3] despite Africans wanting an integrated team-based approach.[4 5]

Task shifting and task-sharing is an effective strategy for addressing human resources for health in HIV/AIDS, non-communicable disease and mental illness, especially with in-depth training and on-going support.[6-8] The World Health Organization (WHO) asserts that primary care is dangerously oversimplified in resource-constrained circumstances, and stresses that primary care requires teams of professionals with specific and sophisticated biomedical and social skills.[1]

Integrated care is being prioritised in South Africa with PHC re-engineering (including PHC Outreach Teams since 2011) and Integrated Chronic Disease Management (ICDM) since 2014, within the context of National Health Insurance (NHI) proposals.[9] This includes re-organising the health system in a move away from current mainly curative services, towards promotive-preventive community outreach services to a defined population with the inclusion of community health care workers.[10 11] There has been little focus on the optimal staff and skill mix in a team around the patient and a defined population.[2]

Integration is a layered process (functional, clinical, informational, professional, administrative, financial, etc.) and should be an organisational strategy with the patients' perspective as the organizing principle of the PHC team.[12] There has been little attention in Africa to the role of family physicians in the primary health care team.[13] Family physicians are aware of the human resource challenges in Africa and have been advocating for both the inclusion of doctors in PHC and strong teamwork. Besides providing care to patients, they support other health practitioners with training and mentoring, they improve quality of health care in facilities and they champion community-oriented primary care. Stakeholders in South Africa showed appreciation for the strong role family physicians could play. They felt that primary health care teams needed to include family physicians, in time, with a new supervisory model with nurses / clinical officers practicing with the principles of family medicine under supervision and support of doctors and/or family physicians. Family physicians were urged by stakeholders to develop staffing norms by breaking down tasks and structuring relationships for optimal skills mix.[14]

Family medicine has been slowly accepted in South Africa[15] and incorporated into some Health Districts. However, their role has been limited to servicing district hospitals and managing doctors in a few community health centres, 'pushing the queues'.[16] Family physicians have been advocating for stronger community-oriented primary care as a way to build stronger clinical accountability and cost control in PHC, with prevention as a key focus. A systematic review showed that the only model that incorporated all elements of community-orientated primary care (COPC) was the original work by the Karks in the 1930s.[17] Countries that derive inspiration from the Karks, like Cuba and Brazil, have large populations of doctors.[18] A comprehensive model based strongly on the Karks work in Pholela and termed "Community Practice" has been developed in a small part of the Chiawelo Community Health Centre (CHC) in Soweto's public primary healthcare service. It is strongly based on four elements of what we define as a

"Community Practice": 1) community health workers as team members in the community; 2) team-based doctor-led practice that manages the individual, family and community with strong problem-oriented record-keeping; 3) regular strong stakeholder engagement (including multi-disciplinary, intersectoral and community action); and 4) a strong focus on targeted health promotion (with innovative communication). The team is modelled with the doctor as team leader, potentially enabling private general practitioner-led community practices to contract with the NHI for panels of 6 000 people. Family medicine departments are keen on up-skilling GPs using the Diploma in Family Medicine and expanding the pool of family doctors for such NHI contracting, in the absence of sufficient numbers of family physicians. The family doctors is expected to fulfil key roles: competent clinician, critical thinker, capability builder, collaborator, change agent and community advocate. [19] Much of this supportive of teamwork.

Composition and processes of optimal teams

There are different ways to define the multidisciplinary health team. It can be narrowly clinical including doctors, nurses, physician assistants / clinical associates together with support staff like clerks and community health workers. It can be wide to include other members of primary health care including dentists, optometrists etc. The World Health Organization advocates the use of the Workload Indicators for Staffing Need (WISN) to explore staffing norms. The WISN method usually involves a national validation workshop, field verification, data collection, and feedback to policy-makers. It has been helpful in revising staffing norms; improving staff equity across facilities; ensuring appropriate skills mix and estimating workforce requirements for new cadres. Key assumptions in the WISN scenario are: the precise setting (CHC, clinic, health post or complex), the population covered (10 000 – 100 000), utilisation (2-5 visits per person per annum), list of team members possible (as a uniform staff category) and times of work (normal working hours vs. late hours and Sundays vs. all hours).[20-23] Whilst WISN is useful the process of understanding team composition it needs to account for shared activities, skills management, supervision and referral within a contracted panel.[24]

There has been little done on team composition and process – roles, competencies and relationships - for a primary health care system re-organised towards personalised team-based care for defined populations in South Africa. This is more so if it takes a whole system approach, including private providers.

Comparing outcomes for teams

Work done using Primary Care Assessment tool (PCAT) indicates poor user perceptions of person-centredness.[25] There has been little done in South Africa on assessment of all-cause mortality for small practice populations apart from demographic surveillance in the larger rural setting of Agincourt sub-district, Limpopo and the national Saving Mothers Reports.[26 27] Preliminary work done in Chiawelo Community Practice (CCP) shows low utilisation rates, high population awareness, high patient satisfaction, short waiting times, high benefit and low costs (at 40% of the national non-hospital PHC expenditure).[28]

There has been little done on outcomes at process and clinical level, in relation to comprehensive and integrated primary health services in South Africa.

Specific Aims

1) Describe the multidisciplinary team composition for community practice in South Africa
2) Compare outcomes of care in all sites of interest and related controls
3) Implementation outcomes such as feasibility, cost, reach and accept

Study design and target populations

The overall study design will be the development of Community Practices of ±6000 people within 4-6 Community Health Centres (CHCs) linked to different University Departments of Family Medicine. These Community Practices will use COPC principles: key stakeholders engaged, CHWs deployed into defined population served, practice orientation to community, and targeted health promotion in 4-6 urban-rural sites identified by each Department of Family Medicine. The profiling of the community being served will be established in the process of COPC care. The service and health promotion efforts are based on the specific burden of needs and disease of the community served, as obtained from all these sources of information (CHW, Stakeholder and Practice). The patients of the CHC (within which each Community Practice will be located) will serve as control. Each Community Practice will need a family physician able to direct a team led by a doctor (supported as in the Diploma of Family Medicine) and appropriate multidisciplinary team members who are able to set up a community practice within the public service and recruit a panel of 6000 people in low to middle income communities. The expected number of patients would be 1000 per month (based on two visits per person per year, akin to the public service currently). The study designs of the various studies will vary as described below. The overall strategy will be reviewed by the national team of investigators. The question *"How should care be horizontally integrated and coordinated among the multidisciplinary primary health care team in South Africa?"* will guide the process.

Methodology

1. *The research question is what the optimal team composition is – roles, competencies and relationships - for a family doctor led community practice of* ±6000 *people in South Africa*

Our plans are to:

- To annually explore team composition (including activity standards, based on the Workload Indicators for Staffing Need (WISN) methodology) using a modified Nominal Group Technique (NGT). The networks of Departments of Family Medicine will purposively identify stakeholder experts from South Africa.(Hasson, Keeney and McKenna, 2000; Keeney, Hasson and McKenna, 2006) The national study meeting will discuss the overall research process, team approaches and engage in the NGT process (using rounds to seek consensus on team activity standards using WISN) (Day and Bobeva, 2005). Thereafter a focus group meeting will be held reflecting on the WISN tool and overall process.

2. *The research proposition is that there is a qualitative difference in outcomes at the levels of process, patient, and population between community practices and controls.*

Our plans are to:

- Examine each site of care as case studies in Year 1 and Year 3 with key informant interviews, local data and observation to explore the processes of care (including changes from the previous study).
- Undertake annual open-ended focus discussion in Year 2 and Year 3 with key groups in each site of care (staff; CHWs; stakeholders groups; women; and youth) on the processes of care and its impact on them (including changes from the previous study).

To examine these qualitative differences, a diversity of participants of key groups will be practically drawn from the population. Snowball sampling may also be used to identify further participants from these critical cases. The researchers will collect qualitative data from focus group discussions, interviews and journals after member checking, verbatim transcriptions of all digital recordings, anonymisation and crosschecking-validation by the researchers.[29] The researchers will do individual and collective content analysis of the transcripts as well as written

evaluation using a framework approach. There will also be some discourse analysis.[30] Case study methodology will be used to write up the cases.[31]

3. *The research hypothesis is that there is a quantitative difference in outcomes at the levels of process, patient, and population between community practices and controls.*

Our plans are to:

- Undertake an annual staff performance review by all related staff using a 360-degree feedback tool that is anonymized and examined by staff type.
- Compare the quality of primary care in Year 2 and Year 3 with the primary care assessment tool (PCAT).
- Compare key clinical outcome indicators of chronic care (HIV, Diabetes and Hypertension) of a sample of chronic patients from community practices and controls
- Compare key prevention outcome indicators of preventive care of a sample of general patients from community practices and controls

For the 360-degree feedback, all staff in the team in each site will provide feedback. The PCAT for consumer-clients will be used for key groups in each site of care (stakeholders groups; women; and youth). A clinical outcome tool will be developed from South African national guidelines for three groups of chronic disease (HIV, Diabetes and Hypertension). A preventive care tool will be developed from the United States Preventive Services Task Force, adapted for South African use. A randomised sample of 235 (in each group) and 278 (based on 95% confidence level and 5% margin of error) will be respectively drawn from the ±600 chronic patients (in each group) and 1000 general patients per month in the community practices. A similar sample will be drawn from the CHCs patients. The researchers will collect quantitative data using the PCAT and data tools for chronic care and preventive care. The researchers will describe the quantitative data statistically and explore for differences and associations.

Potential research team and partners

The project will be led by Prof. Shabir Moosa from the Department of Family Medicine in the University of the Witwatersrand. The other eight Departments of Family Medicine in South Africa will be approached to join this project as partners.

Overview of workplan

Q1-Q2: Stakeholder engagement and community practice setup in 4-6 sites
Q3-Q4: Pilot Testing and Approval of Research
Q5-Q11: Collection of data
Q12: Finalisation of reports

Barriers to implementation

There may be difficulty with standardisation of the project and variables changing in sites. There may also be difficulty with buy-in from managers and the lack of involvement of staff at a local community practice level. The strategies to overcome this would be to have a national process in planning involving the national department of health and strong ongoing local stakeholder involvement in development of community practices.

Dissemination of results

The results will be disseminated with stakeholder engagement using regular reports and policy briefs. Results will also be disseminated using accessible peer-reviewed journals. There is opportunity to develop this as a practice-based research network than can scale to Southern Africa and research more complex issues in community practice.

There are other research possibilities that will be explored at the point of funding:

- Undertake annual surveillance of all deaths by fieldworkers with interview of family regarding history and experience of all-cause mortality (and/or referrals in each site of care (as a begin to collecting data on births, migrations and full demographic surveillance).
- Compare each site of care for population health status and risk by examination and self-reported knowledge, attitude and practice based on SANHANES.
- Compare each site of care for cost differences between community practices and non-hospital PHC expenditure of the public service as defined by the District Health Barometer.
- Compare population-level outcomes of random samples of the enrolled population of community practices and the catchment population of the CHC, looking at appropriate indicators of access, financial protection and health status from the Joint Learning Network.

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