Community health case studies selected from developing and developed countries – common principles for moving from evidence to action

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Abstract

Community health is an effective strategy when it uses evidence to identify needs, resources and opportunities to assist communities to enhance their health status. To respond to community needs requires a commitment to population health research and evaluation, and to partnerships committed to a participative approach. Community health initiatives selected for this review reveal to varying degrees the incorporation of health goals within broader public agendas, collaboration of government with private and voluntary sectors, encouragement of coalitions, integrated approaches, and commitment to evaluation of processes and outcomes. Underlying these initiatives were found strong elements of broad strategic thinking: social development, healthy public policy, health systems development. Each required leadership within a distinct context, and can be defended as a public health priority. They all followed an evidence-based approach to planning: Where are we? Where do we want to be? How are we going to get there? How will we know we are getting there? Community participation was a key success factor. Community health initiatives must be scientifically sound, culturally acceptable, and managerially feasible. Evidence is not enough to generate action; leadership is essential: "the capacity to influence others to work together to achieve a common purpose".

Key words: community health, health promotion, evidence-based public health, planning, evaluation, leadership.

Introduction

According to the Institute of Medicine, "*there is strong evidence that behaviour and environment are responsible for over 70% of avoidable mortality, and health care is just one of several determinants...*"[1]. And to quote the African Medical and Research Foundation (AMREF): "*80% of health is made in households and communities;... only 20% is repaired in hospitals and clinics*" [2]. These observations reflect a universal truth: if we want healthier populations, we must address the determinants. In this paper we examine selected case studies of how this is being done in both developing and developed countries, thereby illustrating critical success factors in moving from evidence to action.

AMS

Selected case studies from developing countries

First, the story of AMREF: in 1957, three men of vision launched the Flying Doctor Service in Kenya. From this emerged the African Medical and Research Foundation, Africa's largest indigenous health NGO. While their first two decades focused on service delivery, AMREF came to realize that episodic clinical visits were neither effective nor efficient, and that community-based approaches were vital. AMREF's Mission today reflects this recognition: "...*In creating vibrant networks of informed communities that work with empowered health workers in stronger health systems, we aim to ensure every African has access to the good health which is theirs by right.*" [2, 3].

African Medical and Research Foundation became a health systems development agency for many countries. Its operations reflect disease burdens at the grassroots: malaria, HIV, school health, water, sanitation and hygiene. Its success in promoting primary health care builds on partnerships. It finds ways to improve people's health by examining the determinants: environment, culture, economics, micro-financing, politics, leadership and other ingredients. Supported by operational research, many AMREF initiatives become health systems models for Africa, influencing policies and practices across the continent. African Medical and Research Foundation is committed to evidence-based community health, and an example for the world.

Moving from observation to one example of AMREF action: Kenya's plains offer little water and swarms of flies, and trachoma persists among the Masaai. In traditional culture, each wife shares a one-room home with her children and newborn animals, preparing meals on a contaminated floor. To tackle this leading infectious cause of blindness, AMREF applies WHO's "SAFE" protocol: Surgery to treat end-stage disease, Antibiotics to reduce the reservoir of infection, Facial cleanliness and Environmental improvements, for example: "leaky tin technology" (a tin-can with a hole plugged by a thorn allows clean water to remain uncontaminated and used sparingly) to reduce transmission.

A recent report on AMREF's work in the Rift Valley reveals that the SAFE protocol reduced active disease within 3 years in children from 47 to 16.0%, while potentially blinding trachoma declined 4.5 to 1.7%. The proportion of faces with many flies fell over 4 years from 48 to 6%. The strategy is sustainable and has advanced eye care policy globally, boding well for WHO's goal of elimination by 2020 (GET 2020) [4, 5].

Turning now to the Aga Khan University's community health field sites in Pakistan, AKU's mandate emphasizes "*training... young people for leadership in addressing the health problems of the people...(and)...development of prototypes of health services that are effective and affordable*" [6]. Beyond improving local conditions and outcomes in urban and rural settings, these initiatives have contributed to health systems developments that resonate nation-wide [6]. For example, during an initial 10-year period, AKU's urban health interventions in Karachi's squatter settlements more than halved infant and maternal mortality, as recognized in a "*Commonwealth Award of Excellence ... in Women's Health*". Other institutions followed suit, shifting Pakistan's earlier model of institution-based education towards one more integrated with primary health care. This model of community health development, using locally-recruited health workers and basic health information systems augmented by surveys to assess health status and intervention impacts, contributed to the Family Health Program in Sindh province, provincial and national School Nutrition Programs, and Pakistan's Lady Health Workers program [7, 8].

Aga Khan University's community health model recognizes social development as the core determinant of health outcomes and commits to evidence in designing and evaluating interventions. Specific interventions include: iron supplementation in pregnancy, access to emergency obstetric care, water quality technologies, hygiene education and contraceptive choices [7, 8]. Participation lies at the heart of governance and delivery of services in all sites, achieved through community health management teams comprised of active and influential members e.g., teachers, entrepreneurs, religious leaders and volunteers. A critical emphasis is to promote the role of women in leadership and decision-making.

The benefits are mutual: field sites help the communities organize to address their needs, while the communities help AKU to strengthen its teaching and research [8, 9]. Being part of the Aga Khan Development Network, AKU achieves a multiplier effect through translation and dissemination of its experience throughout South Asia and East Africa.

As an example, stimulated by an enlightened government policy requiring resource companies to contribute up to 5% of their profits towards local development, a Rural Community Development Project was launched in 1996 as a collaborative venture between Lasmo Oil Company and AKU. A baseline assessment was carried out by AKU in Jangara, a poverty afflicted rural area: home deliveries comprised 92% of all births, infant mortality was 67/1000, and childhood immunization coverage (age<5) was 8%, clearly establishing maternal and child health as priorities [10].

Forward now to a 2002 report by the International Finance Corporation, a private- sector lending arm of the World Bank, which applies environmental and social standards to projects it supports. Their review of Lasmo operations states: "*the most successful effort is a Maternal and Child Health Center in Jangara, equipped with a laboratory, maternity ward, examination room, and ambulance serving local communities 24 hour a day. The center is staffed largely by women and includes a woman doctor, two lab assistants, one midwife, and a traditional birth attendant. Established in 1998, patients have increased from an initial monthly total of less than 200 to 800. The center sends four mobile clinics to remote villages every month to provide direct health services.*" [11]. The project also addressed water, sanitation and hygiene, primary education and income generation. AKU's role phased out in 2002-3, with transition to local NGO management.

Now turning to an island in the Indian Ocean, with 1.3 million people, Mauritius is a "community" that has shown impressive global leadership. In the late 1980s chronic diseases accounted for almost half their disease burden with an upward trend. Accordingly they set as a national priority "the reduction of non-communicable diseases" [12, 13]. Using legislative and fiscal measures, community-level health promotion, and mass media support, they adopted as goals: healthy nutrition, exercise, smoking cessation, and reduced alcohol intake. They applied taxation and advertising bans to diminish sales of tobacco and alcohol, and subsidised a transition from palm oil (high in saturated fats) to soybean oil for cooking. Within 5 years, favourable changes were observed in lipid levels, blood pressure, smoking, alcohol use, and physical activity. The mean number of risk factors for women and men declined, although overweight and obesity increased. They succeeded in reducing the risk of heart disease and cancer, although the prevalence of type 2 diabetes continued to increase [14].

In 2001, the initiative gained new support from the African Development Bank, using a goal setting exercise: by 2010, using health promotion methods, life expectancy would be increased from 66.7 to 69.5 years for men, and from 74.5 to 77.5 years for women [15]. By 2005 they had almost met the life expectancy target for men (69.2 years) and were fast closing the gap for women (75.7 years) [16].

The experience of Mauritius has encouraged other middle and lower income countries to develop similar initiatives, setting quantifiable targets within a health policy framework.

Let us pause a moment to reflect on the universal principles underlying these initiatives. They each contained elements of broad strategic thinking: 1) Social development, 2) Healthy public policy, 3) Health systems development. This required leadership within a political context, and each could be defended as public health priority. They all followed an evidence-based approach to planning: *1. Where are we? 2. Where do we want to be? 3. How are we going to get there? 4. How will we know we are getting there?* [17]. Most importantly, community participation was a key success factor for each of them.

Selected case studies from more developed countries

The North Karelia Project is a global benchmark for population health. Launched in 1972, within two decades, the incidence of ischemic heart disease was more than halved in both sexes in this Finnish province [18]. Eighty percent of this was attributable to reduced tobacco use, hypertension and blood lipids. Intersectoral policy initiatives were joined with community action, medical intervention and public-private partnerships.

The main behavioural change was dietary: the local diet was high in salt and fats, and a combination of education and industry cooperation effectively reduced the use of butter on bread from almost 90 to 10%, associated with a rise in use of soft margarine and butter-vegetable oil mixtures. Traditional butter use for cooking and baking was largely replaced by oils and margarines, and whole milk replaced by low-fat and skimmed milk.

The initiative extended in the late 1970s to Finland as a whole, stimulating declines in smoking, serum cholesterol and blood pressure [19]. After 25 years cardiovascular disease had declined 73%, lung cancer 71% and total mortality 49% [20]. While this demonstrates the use of epidemiological evidence for outcome evaluation, North Karelia also pioneered process evaluation: documenting *how* it was done – not the norm during the 1970s [21, 22].

The role of leadership has been critical: the project director ran successfully for a seat in parliament, and is now an internationally recognized advocate for scaling up population health interventions. Inspired by Finland's success, other European countries launched initiatives, and 22 are now linked within the so-called CINDI network [23]. The approach was emulated by the Pan American Health Organization in initiating the CARMEN network of projects in 1995 [24]; starting with Chile [25]. The two networks actively collaborate, with facilitation by Canada, a member of both networks [26].

The first author having been centrally involved in setting up CARMEN, we wish now to touch briefly on key elements in its conceptualization. Despite success in reducing risk in populations over short periods, outcomes which take decades to develop

generally take decades to alleviate. Therefore, when CARMEN was first negotiated with prospective participant countries, a commitment of at least 15 years was advocated, longer than any election cycle. The country had to select a demonstration area to serve as a national model in which to test policies and intervention approaches. A common protocol, sensitive to national priorities, was proposed, incorporating baseline and follow-up surveys of sufficient size for trend analysis.

Another WHO-associated initiative: the Healthy Cities – Healthy Communities movement also offers global learning. Sponsored initially by WHO's European Regional Office, it aims to enhance quality of life by making communities more conducive to healthy living, providing resources and facilities for recreation, easy access to settings for exercise, sport, and physical activity, and designing dwellings amenable to good living. Like CINDI-CARMEN, this approach emphasises sustainability and requires long term commitment. Success in Düsseldorf, Toronto, Dakar, and other pioneer cities encouraged expansion to cities in over 50 countries, and stimulated similar initiatives for rural and island communities [27]. It is relevant to note the Strong Rural Communities Initiative in Wisconsin whose purpose is to improve health indicators by promoting prevention [28].

To the extent that distinctions exist between CINDI-CARMEN and Healthy Communities, the former is explicitly focused on leading causes of morbidity and mortality, and their risk factors, and requires quantitative evaluation of outcomes. By contrast the Healthy Communities movement gives more attention to process indicators, reflecting a greater emphasis on determinants and intersectoral interventions. CINDI-CARMEN initiatives are nationally endorsed and operate at state or provincial level with local demonstration areas, usually with Ministry of Health leadership, while Healthy Communities are driven more by urban planning principles and centred on municipalities. Although each has a distinct philosophy and tends to have operated separately, more could be achieved by combining elements from both models [29].

Our final case study is an initiative in British Columbia, launched in 2005, called *ActNowBC*. In BC's universal system of health care, direct costs are projected to increase from 40% of the provincial budget in 2005 to 70% by 2018. The business case for *ActNow* is that much of this could be averted by enhancing the focus on prevention [30]. *ActNow* aims to reduce the chronic disease burden through action on the determinants: smoking, physical inactivity, low fruit and fibre intake, and alcohol misuse. Applying the Ottawa Charter on Health Promotion in emphasizing healthy public policy [31], *ActNow* is positioned outside the health sector with its own Minister of State, to bring other sectors into the health arena: community services, education, agriculture, employment and income assistance, transportation, environment, tourism, sport and the arts. Costs and benefits may be assessed therefore across all sectors. Operationally, *ActNow* is reflected in policy shifts, funding reallocations, and an array of supporting partnerships, perhaps most critically the BC Health Living Alliance and the Union of BC Municipalities.

The *ActNow* evaluation framework observes both process and outcomes indicators [32]. It emphasises process at infrastructure, community and program levels, with risk factor prevalence the outcome at provincial level. Data are drawn from existing as well as new purpose-designed surveys. Having been engaged in advising on *ActNow* evaluation issues [33], and mindful of da Vinci's dictum that: "*Practice must always be founded on sound theory*", our view is that some targets to be met by 2010 from a 2003 baseline are evidence-based and achievable e.g., a 10% reduction in tobacco use, while others are more aptly viewed as "aspirational" e.g., a 20% reduction in overweight and obesity. Taking a longer view, *ActNow's* potential to reduce disease burdens depends on its sustainability well beyond 2010: a political challenge for successive elected governments.

A critical success factor for any such initiative is the motivation of stakeholders and interest groups. Much hinges on whether transformations now in motion will actually lead to value shifts in favour of health. Two main forces drive motivational dynamics: *values* and *power* [34]. All parties have definable interests: beliefs may range from predisposing to conflicting; in contemplating change, barriers must be overcome [35, 36]. Evidence-based stakeholder analysis, taking into account the values, beliefs, interests and practices of various groups can help devise ways to facilitate movement towards a healthier population. The enormity of actually achieving such a sustainable shift will be challenged by complex human values and behaviour.

Discussion

As noted earlier for the developing country case studies, underlying these initiatives in more developed countries were the same strong elements of broad strategic thinking: social development, healthy public policy, health systems development. Each required leadership within a distinct context, and can be defended as a public health priority.

An additional observation now worth making is that contexts become more politically complex as one moves up the chain from local to national levels of intervention. It is also worth noting that, as health systems evolve they hold within them

the seeds of inertia: if particular stakeholders become entrenched, this can produce inequitable competition for future resources. Because there is an inevitable lag between evidence and action, all too often those making the decisions are not necessarily well versed in what makes for the best balanced approach to achieving population health. This highlights the importance of promoting an evidence-based approach to leadership itself in the management of change.

Perhaps therefore the most essential ingredient in the success of these initiatives is leadership, which must exist at several levels. However, leadership is itself an outcome of processes in complex social and organizational environments, and all too often emerges by default. It is obviously in the interests of health systems to enhance the potential for effective leadership to emerge, and a growing body of research reveals insight on how to do this. For example, health leadership frameworks may be useful in fostering effective leadership for health initiatives, and attention can be given to it in educational and training settings [37]. One such framework now being applied in our immediate environment (British Columbia) speaks to five elements: leading self (self-motivation), engaging others, achieving results, developing coalitions, and systems transformation [38]. These components link strongly with the other central ingredient of successful community interventions: community participation.

Further, it is becoming more widely recognized that leadership development is not done solely to improve the skills of individuals, but is a core component of the development of organizations [39]. If we apply this principle more actively, then we will be more successful in addressing not only community health needs but those of health care systems as a whole. While it is beyond our immediate scope to explore such issues further, the expanding leadership literature supports the need for a greater emphasis on leadership as building a stronger capacity to achieve change through others [40].

The world is also coming to recognize that health and "healthcare" require more than responding to the needs of sick people, and that more attention needs to be given to intersectoral and integrated approaches that recognize the importance of upstream as well as downstream approaches. It requires that we revisit and apply more assertively the principles of primary health care, and of community development. This necessitates research and development, but this must be supported by strong communications and marketing skills, in order to effect positive change. From Africa to America, the evidence makes it clear that health is mostly made in households and communities. If this is where the evidence points, then this is where we need to focus more of our actions.

The case studies selected from these developing and developed country settings offer enormous encouragement that major transformations can be accomplished. All these examples followed an evidence-based approach to planning: Where are we? Where do we want to be? How are we going to get there? How will we know we are getting there? Leadership and community participation have been key success factors for each of them.

Conclusions

Health promotion initiatives in all settings must be scientifically sound, culturally acceptable, and managerially feasible. Evidence by itself is not enough to generate action. Leadership is essential, this being "the capacity to influence others to work together to achieve a common purpose." And universities can be a force for change: their relevance and impact are enhanced by community involvement. To paraphrase Sufi philosopher Hazrat Inayat Khan: "*thought without action is not worth the recompense*".

Acknowledgments

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