



RETOS A LA INVESTIGACIÓN EN SALUD BUCODENTAL GLOBAL. REFLEXIONES SOBRE LA SITUACIÓN EN MÉXICO

Dr. Gerardo Maupomé

Challenges to global dental health research – thoughts about the situation in Mexico
Roadmap for this presentation 000000 Challenges to good health status in the international arena Approaches to solve global health challenges Dimensions to jointly appraise solutions and challenges Caveats of the content Challenges to good health status in the international arena – mainly highlights but not a comprehensive list
Approaches to solve global health challenges – in line with recommended actions for health by World Oral Health Report (WHO, 2003)
Dimensions to jointly appraise solutions and challenges – emphasizing multidisciplinary approaches used to inform likely solutions
Examples of research: Challenges to good health status are presented, followed by...
Approaches to characterize and solve global health challenges, paired where applicable with... Examples of research efforts to shed light on likely solutions – often multidisciplinary What are the challenges to good health status in the international arena? An issue of unequal distribution of resources Challenges overlap...
An issue of unequal distribution of resources

- o Disparities in health systems, or disparities in access to existing infrastructure
- o Disparities in access to health-related knowledge, or in the distribution of health care human resources

Disparities in health infrastructure No health care systems (situation focused on basic survival – war, drought, mass migration)
Little infrastructure (government enforcing policies that purposely do not address health for cultural or financial reasons) Infrastructure or health system may be primitive and insufficient or inefficient Infrastructure may be poorly maintained or staffed because the politics/economy/culture have changed since the health system was built
Infrastructure may be remote or inaccessible to some people, with no or insufficient transportation Disparities in the distribution of human resources in health care Flight of human resources: brain drain WHO (1979): 90% of health care workers (HCW) target Australia, Canada, Germany, UK, USA As of 2004, only the UK instituted a code of conduct to guide international recruitment of HCW Researcher migration is less clear than the migration of HCW Ahmad (2004) proposed the following national strategies to ameliorate the impact of HCW migration:

- o Determine political, economic, social, professional reasons for emigration
- o Restructure training programs to reflect current local infrastructure and local needs
- o Involve local and rural communities in the selection of students Also from Ahmad (2004)
- o Implement strategies to make it worthwhile for local people to stay local
- o Enter into bilateral agreements to control and offset HCW flow to control, compensate, and allow only temporary emigration

Train ‘right’ amount and ‘right’ profile of HCW in wealthy countries to stem brain drain.
Research may offer results more often relevant to wealthy countries:



Large (largest?) burden of disease is concentrated in low- and middle-income countries – mainly related to basic sanitation and health care

Most scientific production published is from wealthy countries 3 researchers per 1,000 residents in wealthy countries 3 researchers per 10,000 residents in less developed countries (UNESCO, 2002) Is research a luxury? Reasons for low research output in less developed countries:

- o Scant research production (lack of continuing support and infrastructure, lack of incentives)
- o Inadequate preparation of manuscripts (language barriers, less tradition of scientific work)
- o Insufficient access to scientific literature

Lack of understanding of what the scientific publication industry and environment are about (few advocates, lower relevance to readership/advertisers) Proposed solutions worth exploring are:

- o Advocate for increasing representation of scientific bodies from non-wealthy countries in editorial boards
- o Promote special issues or outlets for themes focused on global health priorities

CDC Working with Partners to Improve Global Health, www.cdc.gov/ogh

NIDCR OIH, www.nidcr.nih.gov/Research/Internationalactivities

- o Increase/optimize the resources allocated to research, targeting key areas (find solutions to local health challenges rather than merely publishing)

WHO World Report on Knowledge for Better Health, www.who.int/rpc/meetings/pub1

- o Expand collaborations between wealthy and low- and middle-income countries to optimize opportunities for joint research and publications

Fogarty International Center mechanisms, such as GRIP, HEED, FIRCA awards, www.fic.nih.gov

- o Enhance ability of health systems to interact with other agents modifying health (education, finance, agriculture, and food production) Expand free or low-cost access to scientific journals, particularly through structured reviews that may offer summarized bodies of knowledge (Cochrane Collaboration, HINARI, PERI, BIREME)

We have submitted to the main public health journal in Mexico and one of the leading journals in Latin America a structured review of the literature on what works and what does not work in preventive dentistry The guidelines were derived from recommendations made by the Canadian Task Force on Preventive Health Exams and the U.S. Preventive Services Task Force. We have submitted to the main public health journal in Mexico and one of the leading journals in Latin America a structured review of the literature on what works and what does not work in preventive dentistry The guidelines were derived from recommendations made by the Canadian Task Force on Preventive Health Exams and the U.S. Preventive Services Task Force. By contrasting those recommendations with the production of research papers directly relevant to Mexico, we were able to rate the strength of the evidence at the local level, and lay out where the emphasis for future research should be. What kind of human resources are available? Profile of HCW workforce in wealthy countries Existing professional monopoly model is expensive to create and maintain In theory, works well as a unified health care delivery model and decision-making mechanism



USA: 13.5% of 1997 GDP spent in health care; 14.1% in 2001
OECD: 7.5% of 1997 GDP spent in health care

USA situation: The scarcity of dental services

1/3 of the population lacks dental insurance 32 million lack dental insurance and access to public dental services (Medicaid or Medicare) 7 million need dental care 1% of babies eligible for public assistance have a dental examination before 12 months of age Dental care in North America: Model concentrated on dentists, with limited use of allied personnel Mainly solo-practice, fee-for-service Clinical services cater to the group with the least biological/clinical needs Geographic misdistribution of monopolist professional resources Organized dentistry: expanded access should come from increased public funding Professionals' donating free care is common yet insufficient

Access to Baby and Child Dentistry (ABCD) – from WA to about 10 states Non-traditional systems exist, such as self care training, peer support, *promotora* schemes, interventions with MD+RN (e.g., F varnish) New Zealand-type dental therapists is an alternative approach, adopted under various guises by Australia, Canada, and UK A dental team member other than a dentist is allowed to diagnose, give local anesthesia, cut cavities, fill teeth, and extract baby teeth Creation of more diverse and more versatile allied personnel in the future? Creation of temporary dental worker program in California? For middle-income countries, the creation of alternative health systems and HCW would likely entail reforming the current structures – very similar today to European or North American models Mexico: 59 dental schools in a country with about 100 million people. 3,477 dentists graduated in 1997 About 2/3 of student body are women, about 2/3 of dental practitioners are men Virtually no allied professions exist in dentistry Many of the issues surrounding the misdistribution of human resources in dentistry derive from training professionals that are too expensive and too sophisticated for the market and the type of oral health problems. Regional models can be used to establish how various components of the model may be adapted into a culturally viable, financially acceptable strategy Consensus is needed to transform HCW training, expertise, and roles to provide more versatile models of preventive and clinical care.

Discussions and negotiations with professional groups and regulatory agencies should be based on comprehensive assessments of the current situation and ideal solution(s).

Investing in building dental schools or training dentists without further consideration of the goals being targeted is just as misguided as deciding that the current stereotype of dental professional is fixed and unmovable. The latter has led to perceptions of current busyness or lack of work in the dental office being the main impetus for deciding to train more or fewer human resources in the future. Some least-developed countries currently have little dental education infrastructure (Sub-Saharan Africa, Central America) Informal HCW do exist, such as dental healers in Guatemala Solutions must assimilate local skills and resources so that whatever systems are implemented in the future are better tailored to the needs of the country Two crucial questions. First: What diseases/disorders are present? Momentum to establish health priorities, and include oral health issues. Good ol' fashioned epidemiology...Epidemiologic research is needed in urban and rural settings to ascertain levels of treated and untreated disease, and to understand the impact of public health programs in sites with barriers in access to care and in sites without such barriers. Explanatory models for oral health phenomena may be attained by contrasting findings



from different locales in multinational efforts. Even efforts that are focused on a smaller setting offer information to help set priorities and policies. Research in traditionally underserved populations, such as the elderly, offers a description of their treatment needs their perceptions in terms of quality of life and oral health status the impact of social circumstances (e.g., social support and social network) on oral status and prosthetic profiles the relationship between nutrients and

oral health status Second question: What type of health system is needed? What type of HCW is acceptable? Open debate incorporating the notions of Health as a human right

Health and quality of life What constitutes basic (fundamental) health status versus elective health care (e.g., cosmetic improvements Distributive justice lies at the heart of the debate.

Three main theories:

- o Libertarian -- favoring freedom of choice, with blurred divide between basic and elective care
- o Egalitarian -- everyone should have an equal claim on available resources, with good health being a precondition to an equality of opportunity
- o Contractarian -- inequalities are unavoidable but a fair contract may be struck by addressing basic needs across the population

Creation of a local/national policy stipulates the framework in which solutions must be found. Why health care? Depending on what is invested to promote good health, appropriate clinical care services and good health offer an attractive return on investment Is access to health care a human right or a financial decision? Why health research? Return on investment Buxton et al. (2004) suggested that health research pays off by

- o Accruing direct cost savings to the health care system, in both wealthy and less-developed countries
- o Leading to benefits to the economy from a healthy workforce
- o Offering benefits to the economy from commercial developments
- o Maintaining the intrinsic value to society derived from the health gain

Research efforts can improve policies to identify needs and implement strategies Evidence-based dentistry can provide support for the most effective ways to address health needs – e.g.

- set dental recall intervals according to risk status
- deliver effective treatment to specified morbidity profiles
- encourage behavioral change as a first line of treatment
- characterize decision patterns to set thresholds for intervention
- A few examples:
 1. Set dental recall intervals according to risk status
- Caries Risk Assessment, and Periodontal Risk Assessment classifications
- Carious effects of drug-induced xerostomia – quantification of xerostomic impact in relation to type and number of medications used It is feasible to predict subsequent delivery of clinical and preventive services, in relation to patients' perceptions of oral health status, and to satisfaction with such status
- Through simplified approaches at determining caries risk status, patients may be allocated to diverse preventive regimens.

Caries Risk Assessment classifications within dental HMOs The caries risk assessment encompasses several aspects, including the long-term use of medications inducing



xerostomia. 2. Deliver effective treatment to specified morbidity profiles Evaluation of impact of fluoride prescriptions in terms of caries risk status We have found so far that the use of a caries risk assessment scheme supports fluoride prescriptions for high-risk patients, but prescriptions are written for any risk status, with preference for high risk dentists perform better at prescribing fluoride when incentives exist for adhering to guidelines dentists seem to base their prescription patterns along a simpler classification – low risk vs. moderate+high risks 3.a Encourage behavioral change as a first line of treatment Implementation of the PHS Clinical Practice Guideline

(ask, advise, assess, assist, arrange) tobacco cessation program throughout dental offices at KPNW – followed by examining the impact on demand for periodontal services The tobacco cessation initiative is being rolled out throughout dental HMO clinics, using some as controls. Ask and Assist activities are well established; most smokers appreciate being asked at every clinical contact about readiness to quit. Referral to a quit-line is the ultimate success outcome. Tobacco use remain very high in least-developed and middle-income countries.

We are working on an assessment of the costs of periodontal treatment among current smokers, former smokers, and never smokers, as well as estimating the financial benefits of quitting. 3.b Encourage behavioral change as a first line of treatment

Community intervention in American Indian locales to substitute water for pop, and reduce caries risk and improve BMI The community intervention has finished the formative stage (with substantial anthropologic and situational assessments) and we are now following a birth cohort over time. Through dental and anthropometric exams every 6 months, we aim to demonstrate that communities that phased out pop have healthier teeth and better BMIs in toddlers than the comparison communities.

Reclaiming use of water and breastfeeding as cultural identities play an important role in the research, with little other preventive dental efforts. 4. Characterize decision patterns to set thresholds for restorative intervention Evaluation of diagnostic thinking processes in restorative dentistry, plus Stated components of the decision process itself

Observed clinical behaviors Using questionnaires and simulated clinical models, we evaluated the building blocks that make up clinical decisions. By bringing these conclusions to the evaluation of qualitative studies, we were able to identify the more important pieces used when deciding whether to undertake restorative treatment. Subsequent studies have looked into factors, clinical and non-clinical, that modify perceptions of treatment need and clinical intervention. Changes in policies and infrastructure should be based on sound interpretation of realities This is the foundation afforded by research Resources and solutions are focused on local needs Policies use existing knowledge/infrastructure and encourage investment in research Research initiatives encourage local and broad dissemination The legacy of health research Existing research leads to more local research, ideally by Enjoying sustainable financing

Building capacity Following priorities Strategizing incentives for innovation Emphasizing transfer of knowledge, as well as knowledge translation and utilization Involvement of dental schools Existing information offers learning opportunities to diagnose and manage “unusual” cases (PBL format?) Students/schools are involved in community outreach experiences Contact with global health challenges place in perspective the strengths and weaknesses of health systems Involvement of dental schools International health challenges



are a reality in the community accessing clinical services, and among dental students Health challenges will continue to add value to the experience of dental practice, and will require appropriate responses Disease prevention, outreach involvement, risk assessment are key areas.