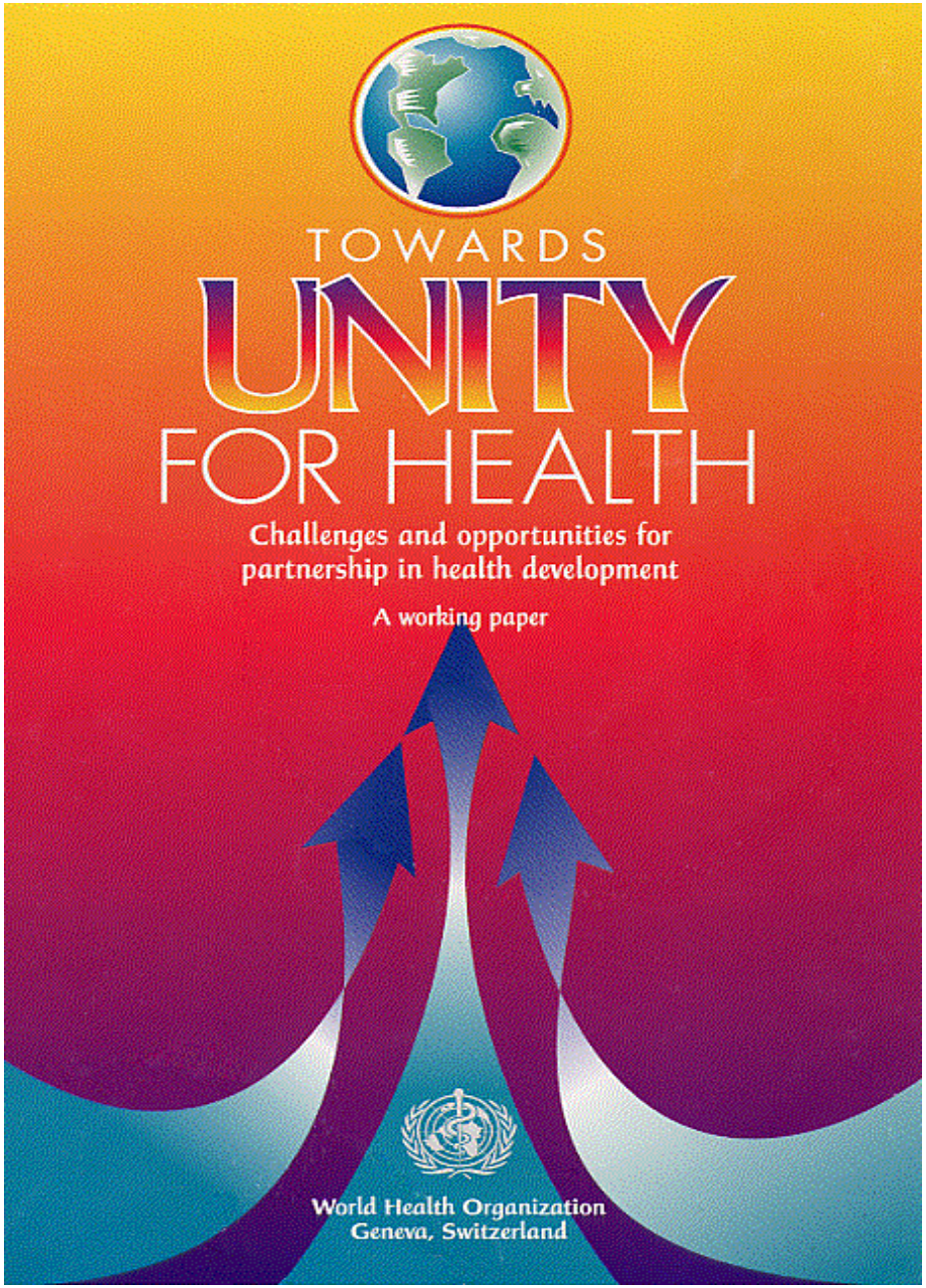
Epidemiology and Primary Health Care: To an strategic alliance

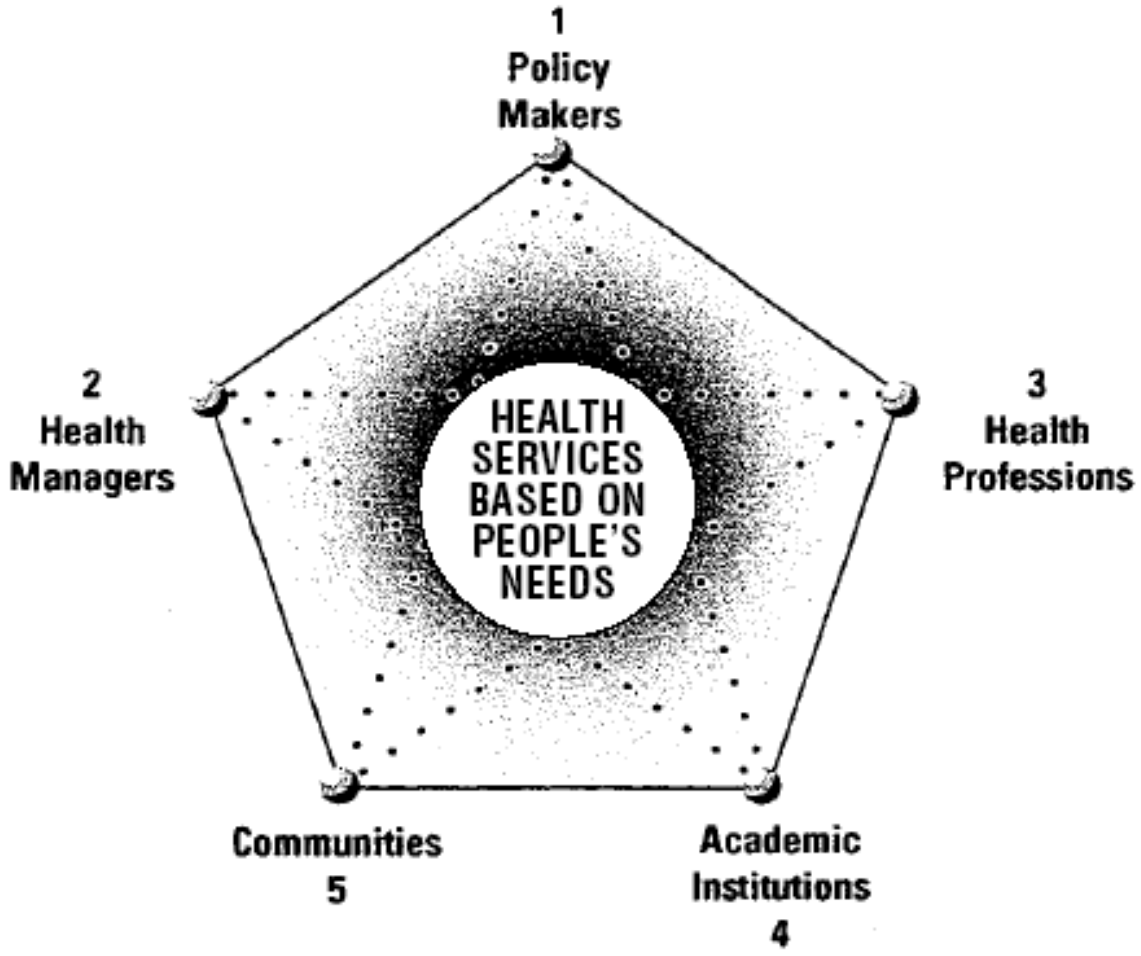
Andreu Segura

Health Institute Studies

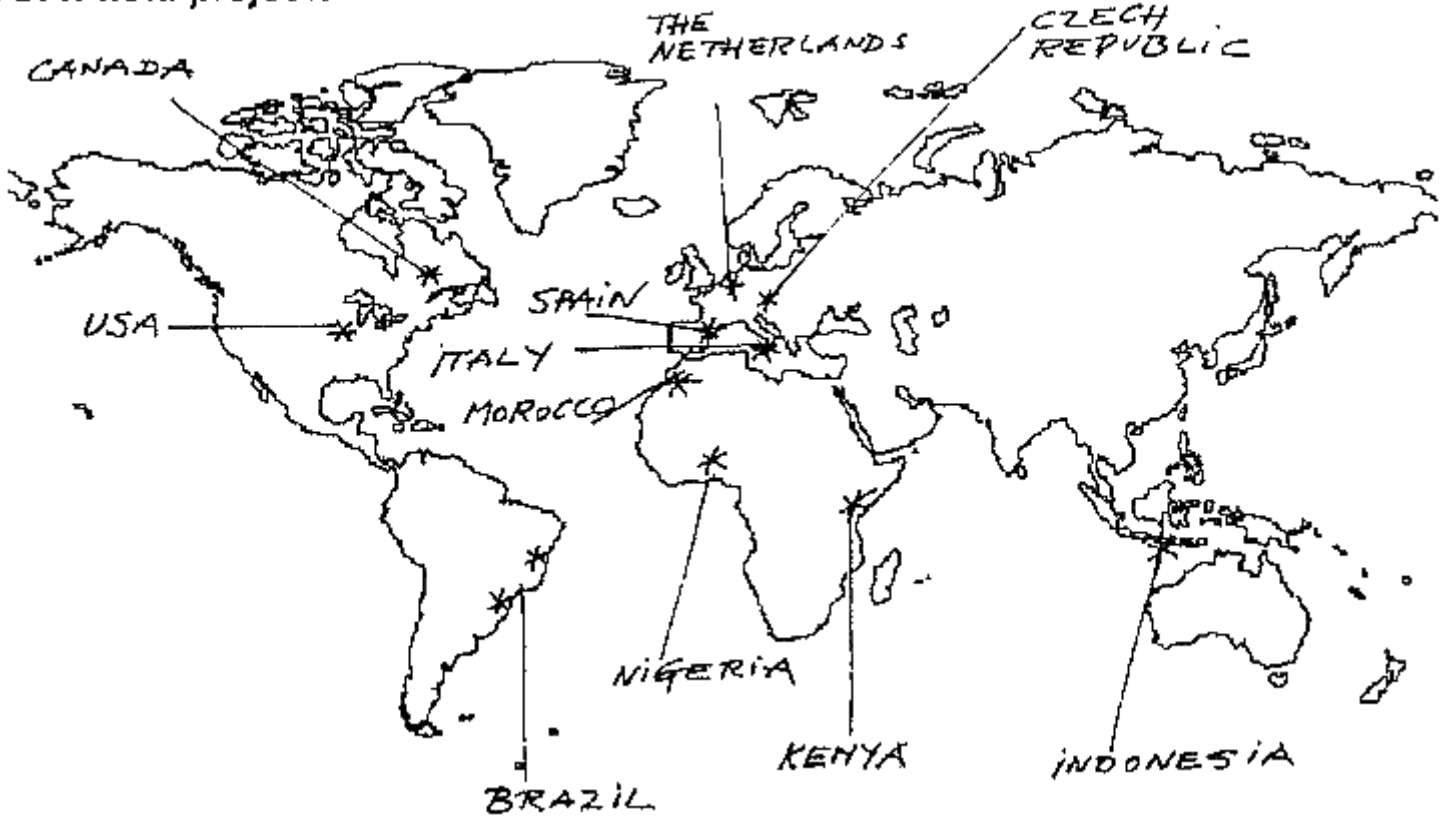
Barcelona (Spain)


TOWARDS
UNITY
FOR HEALTH
Challenges and opportunities for partnership in health development
A working paper
World Health Organization
Geneva, Switzerland

The "Partnership Pentagon"



TUFH field projects



Main aspects of AUPA Barceloneta activity

- Active collaboration with population's organizations
- Jointly programs with community pharmacists
- Jointly visits by GP's an specialists
- Elaboration of a set of standards of care addressed to main health problems
- Development of educative and participative actions

5.000 EJEMPLARES GRATUITOS

LA BARCELONETA

Diari Independent de Comunicació de Barri

ABRIL 2002 · NUM. 14

LA SALUT DEL BARRI CAP-VEÏNS

PRESENTACIÓ D'UN NOU ESPAI DE «LA BARCELONETA»

Avui, des del Centre d'Atenció Primària (CAP), encetem una nova col·laboració amb el barri que esperem que sigui d'utilitat per a tot el veïnatge. Es tracta, en primer lloc, de publicar cada mes un article breu dedicat a qüestions relatives a la salut de les persones i de la comunitat i, també, a informar-vos dels aspectes més importants de l'atenció sanitària.

An outbreak of Legionnaires' disease in an inner city district: importance of the first 24 hours in the investigation

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* Municipal Institute of Public Health, † Directorate of Environmental Surveillance, Barcelona City Council, Barcelona; ‡ Legionellosis Reference Laboratory, Health Institute, Carlos III, Health and Consumption Ministry, Madrid; § Catalonia Reference Laboratory, Barcelona Municipal Health Institute, ¶ Hospital del Mar, Barcelona Municipal Health Institute, # Primary Health Centre, Barceloneta, 'Organització i Salut', Barcelona, Spain

SUMMARY

OBJECTIVE: To present the main results of the investigation of an outbreak of Legionnaire's disease that occurred in an inner city district of Barcelona between 15 October and 15 November 2000.

METHODS: Epidemiological surveys of patients and environmental investigations were initiated on the day the first five cases were notified. Water samples and smears from cooling tower trays were taken for microbiological analysis. Maps of the distribution of cases and possible contamination foci were elaborated. Incidences were calculated for each census tract.

RESULTS: A total of 54 patients related to the outbreak were identified, with a case fatality rate of 5.5%. Incidence rate in the area closest to the cooling tower (6.40/1000) was significantly higher than that of the rest of the neighbourhood (2.23/1.000, RR 2.87, 95%CI 1.37–6.12, $P = 0.0035$). Cultures positive for *Legionella pneumophila* serogroup 1, subtypes Pontiac, Philadelphia or Allentown, were obtained from eight patients. On the 39th day of the investigation it was found that the strain isolated in one of the cooling towers coincided with the serogroup, subtype and molecular profiles identified in clinical samples.

CONCLUSIONS: Rapid coordination of clinicians, microbiologists, epidemiologists and environmentalists permitted the source of infection and the affected cases to be correlated within a few days.

KEY WORDS: *Legionella pneumophila*; community outbreak; typing methods

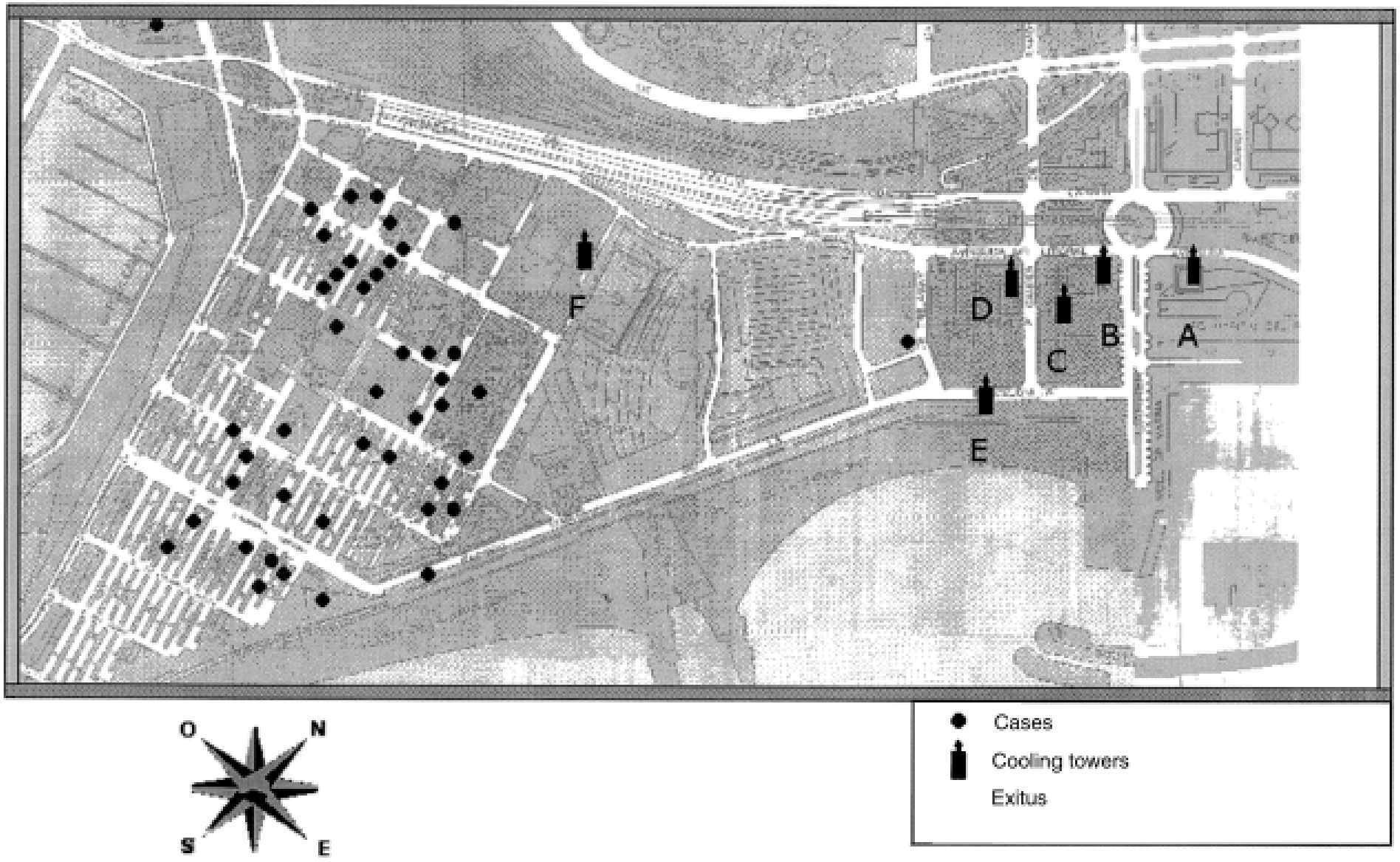
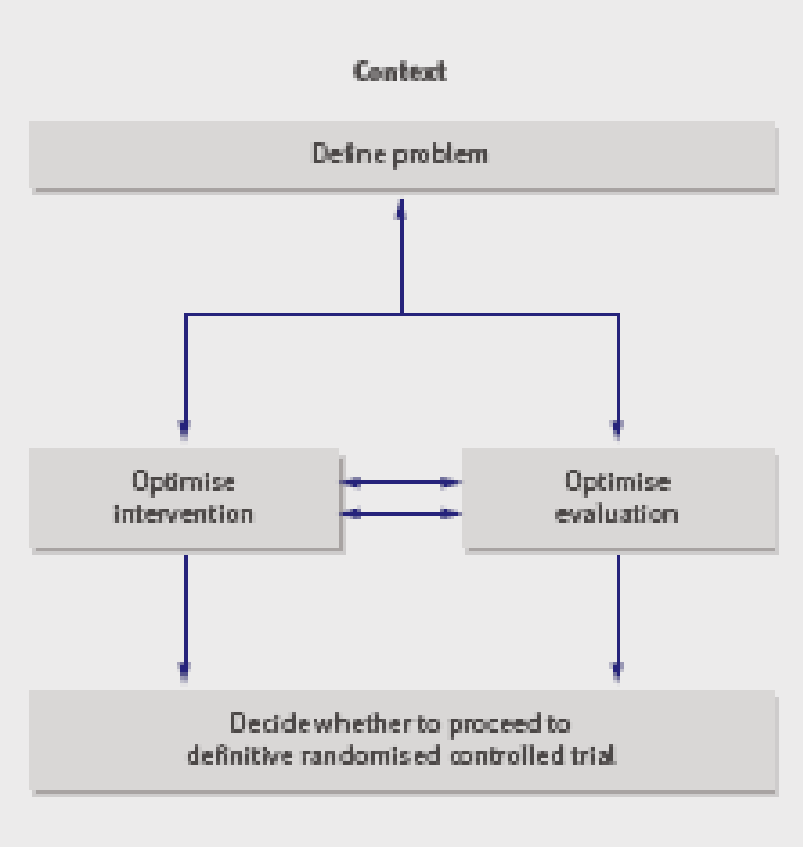


Figure 3 Activity of contamination foci.

Designing and evaluating complex interventions to improve health care

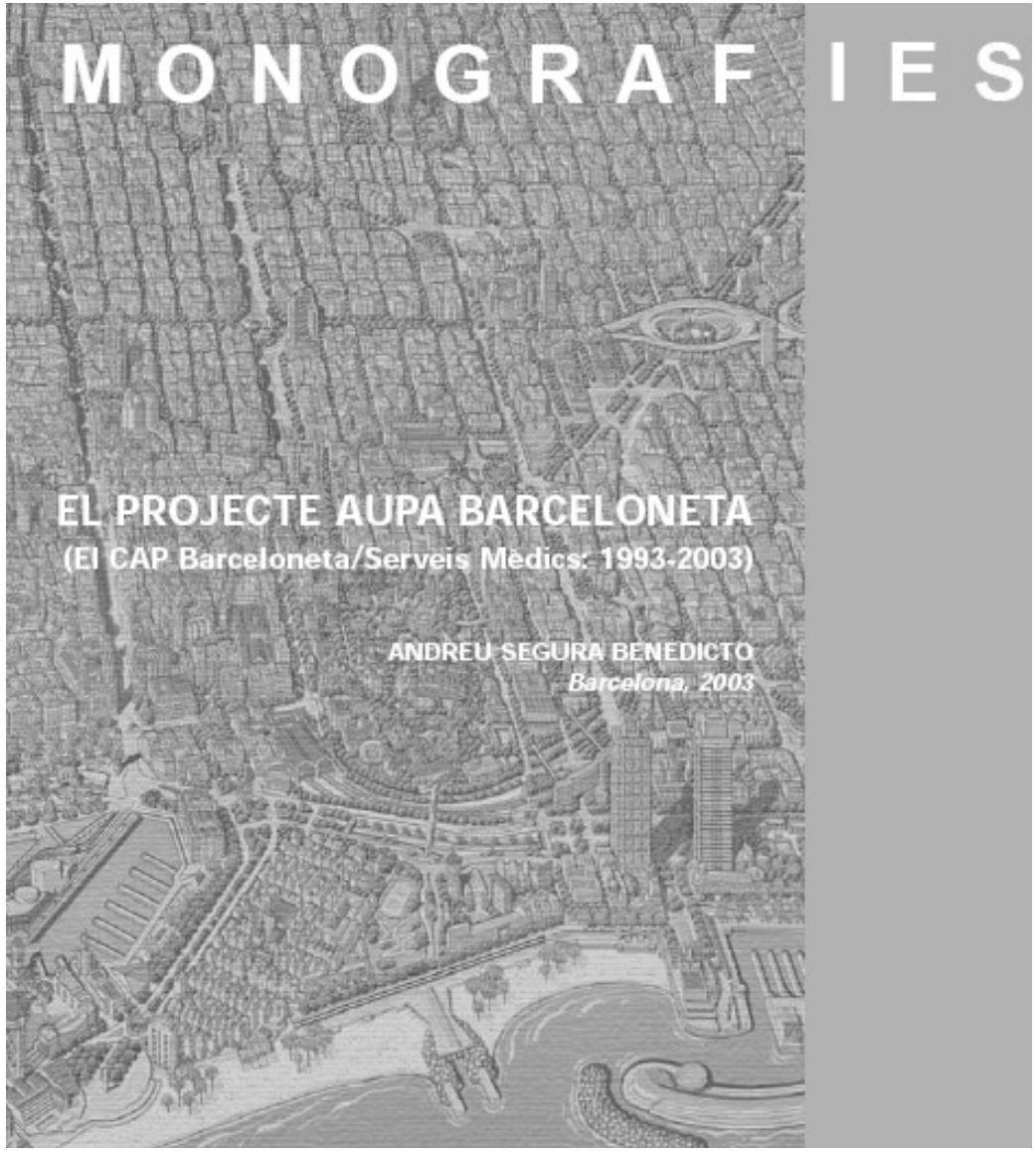
BMJ | 3 MARCH 2007 | VOLUME 334

Determining the effectiveness of complex interventions can be difficult and time consuming. **Neil C Campbell and colleagues** explain the importance of ground work in getting usable results



Relation between context, problem definition, intervention, and evaluation for complex interventions

The essential process involves mapping out the mechanisms and pathways proposed to lead from the intervention to the desired outcomes, then adding evidence and data to this map



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EDUCATION FOR HEALTH

ORIGINAL RESEARCH

Towards Unity for Health in the Barceloneta: An Innovative Experience in Community-Based Primary Health Care

A Segura[1], FA Miller[1], G Foz[2], A Oriol y Bosch[1]

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BRITISH MEDICAL JOURNAL

LONDON SATURDAY AUGUST 13 1955

USES OF EPIDEMIOLOGY*

BY

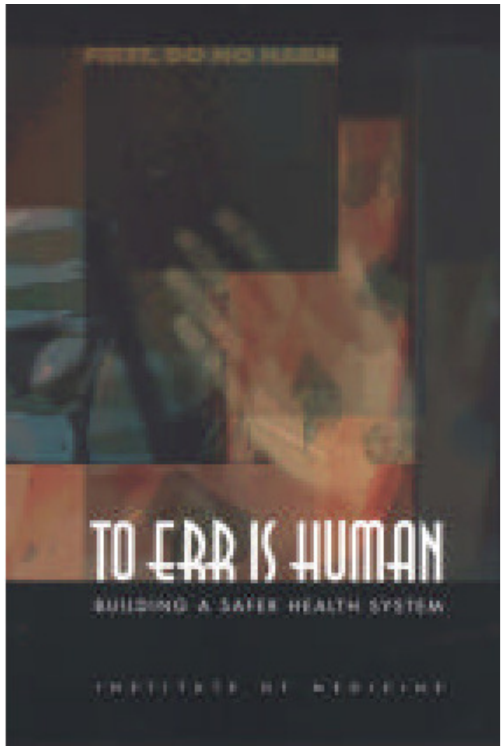
J. N. MORRIS, M.R.C.P., D.P.H.

Social Medicine Research Unit, Medical Research Council

Epidemiology is to-day the Cinderella of the medical sciences. The proposition might, however, be advanced that public health needs more epidemiology, and so does medicine as a whole, and, it may be said, society at large. *Public health* needs more epidemiology—this is the most obvious intellectual basis for its further advance. Epidemiology, moreover, as a tried instrument of research—with its modern developments in sampling and surveys, small-number statistics, the follow-up of cohorts, international comparisons, field experiment, and family study; and with its extensions to problems of genetics as well as environment, to physiological norms as well as disease, the psychological as well as the physical, morbidity as well as mortality—epidemiology now offers the possibility of a new era of collaboration between public health workers and clinical

To Err Is Human:
BUILDING A SAFER HEALTH SYSTEM

Health care in the United States is not as safe as it should be--and can be. At least 44,000 people, and perhaps as many as 98,000 people, die in hospitals each year as a result of medical errors that could have been prevented, according to estimates from two major studies. Even using the lower estimate, preventable medical errors in hospitals exceed attributable deaths to such feared threats as motor-vehicle wrecks, breast cancer, and AIDS.



Is US Health Really the Best in the World?

Barbara Starfield, MD, MPH

INFORMATION CONCERNING THE DEFICIENCIES OF US MEDICAL care has been accumulating. The fact that more than 40 million people have no health insurance is well known. The high cost of the health care system is considered to be a deficit, but seems to be tolerated under the assumption that better health results from more expensive care, despite evidence from a few studies indicating that as measures used. Common explanations for this poor performance fail to implicate the health system. The perception is that the American public "behaves badly" by smoking, drinking, and perpetrating violence. The data show otherwise, at least relatively. The proportion of females who smoke ranges from 14% in Japan to 41% in Denmark; in the United States, it is 24% (fifth best). For males, the range is from 26% in Sweden to 61% in Japan; it is 28% in the United States (third best).

These total to 225 000 deaths per year from iatrogenic causes. Three caveats should be noted. First, most of the data are derived from studies in hospitalized patients. Second, these estimates are for deaths only and do not include adverse effects that are associated with disability or discomfort. Third, the estimates of death due to error are lower than those in the IOM report.[1] If the higher estimates are used, the deaths due to iatrogenic causes would range from 230 000 to 284 000. In any case, 225 000 deaths per year constitutes the third leading cause of death in the United States, after deaths from heart disease and cancer. Even if these figures are overestimated, there is a wide margin between these numbers of deaths and the next leading cause of death (cerebrovascular disease).

The NEW ENGLAND JOURNAL of MEDICINE

Perspective

JUNE 12, 2008

Redefining Quality — Implications of Recent Clinical Trials

Harlan M. Krumholz, M.D., and Thomas H. Lee, M.D.

Related articles, p. 2545 and 2560

Simple approaches to patient care are better — except when they are not. Recent clinical studies are leading to a reexamination of the paradigm whereby efforts to prevent vascular disease focus

Evidence-Based Public Health: Moving Beyond Randomized Trials

Cesar G. Victora, MD, PhD, Jean-Pierre Habicht, MD, PhD, and Jennifer Bryce, EdD

Randomized controlled trials (RCTs) are essential for evaluating the efficacy of clinical interventions, where the causal chain between the agent and the outcome is relatively short and simple and where results may be safely extrapolated to other settings.

However, causal chains in public health interventions are complex, making RCT results subject to effect modification in different populations. Both the internal and external validity of RCT findings can be greatly enhanced by observational studies using adequacy or plausibility designs. For evaluating large-scale interventions, studies with plausibility designs are often the only feasible option and may provide valid evidence of impact.

There is an urgent need to develop evaluation standards and protocols for use in circumstances where RCTs are not appropriate. (*Am J Public Health*. 2004;94:400–405)

on the performance of public hea
tions and suggest complementary
tive approaches that will yield val
eralizable evidence.

INTERNAL VALIDITY: RCTS AND BEYOND

The strength of the scientific in
ported by a study depends on its
lidity. Traditional epidemiological

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Primary Care Teams Involved in the AUPA* Network and Their Members Trained in Community-oriented Primary Care (COPC)

Health Region	*# of Primary Care Teams That Are in AUPA*	*# of Physicians and Nurses Involved in AUPA Teams*	*# Trained in COPC*	*Health Problems Addressed (by One or More Teams)*
Barcelona (206 primary care teams)	19	567	43	• Dependency in elderly • Obesity in children • Teenager health risks • Health education in patient groups • Healthy eating habits in children • Healthy lifestyles and self care in adult age • Mental health in adult age
Catalunya Central (35 primary care teams)	1	20	0	• Teenager health risks
Girona (36 primary care teams)	4	144	11	• Fragility in elderly • Falls in elderly • Health of immigrants • Self care in all age groups
Tarragona (34 primary care teams)	3	79	7	• Alcohol abuse in young and adult people • Absenteeism from school
ACEBA** (12 primary care teams)	3	107	5	• Falls in elderly • Community development plan

* AUPA means "acting together for health" and comes from the Spanish translation of TUFH (Towards Unity For Health) program of the World Health Organization.

** ACEBA, Associacio Catalana d'Entitats de Base Associativa, is an association of private providers of primary care located in two different health regions.

Primary Care Teams That Are Part of the AUPA* Network and Are in Advanced Stages of the Community-oriented Primary Care (COPC) Process

Health Region	*Name of Health Team*	*Health Problem Addressed*	*Components of the Program Currently Covered*
Barcelona	El Carmel	Obesity in children	See Appendix 1
	Montornès-Montmeló	Mental health in adult age	See Appendix 2
	Roquetes	Lack of healthy lifestyles and self care, adult age	• Neighborhood of 16,000 inhabitants in the city of Barcelona • Participatory community diagnosis • Participatory prioritization • Community program of self care intergenerational group of the community that prepares health care advice in common health problems that will be the base for workshops in the community
Girona	Anglès	Fragility in elderly	• City of 12,000 inhabitants • Prioritization by health professionals • Community diagnosis of fragility in elderly using several scales of activities of daily living, mobility problems, sensorial problems, and cognitive status
	Girona-2	Lack of healthy lifestyles and self care	• Neighborhood of 28,000 inhabitants in the city of Girona • Preliminary examination of the health of the community by the health team • Participatory prioritization • Community diagnosis of healthy lifestyles and self care in different population age groups
	Salt	Preventing falls in elderly and health of immigrants	See Appendix 3
Tarragona	Vila-seca	Alcohol risk consumption	• City of 18,000 inhabitants • Detection and prioritization of community health problems through nominal group technique** • Community diagnosis of alcohol consumption in 12 years old group (survey at the schools) and program of preventing alcohol risk consumption in young and adult population

The Community-oriented Primary Care (COPC) Project of Salt

Salt is an urban-rural community of about 28,000 inhabitants near the city of Girona, of a low socioeconomic level, and more than 30% of the population is immigrant. The COPC group is a multidisciplinary team formed by family physicians, residents in family medicine, nurses, clerk personnel and a social worker. They work in collaboration with different local governments, the Community Council of Aged People, community leaders, radio Salt, local magazines and local schools.

The team began its COPC Project in 1995 with a preliminary health examination of the community based on available data and opinions of the health team. A prioritization process using the Hanlon method identified falls in the elderly as a major problem. All the process was shared with representatives of the community who validated the project of developing a community intervention of preventing falls.

A community and multifactorial program was planned with the objective of reducing the number of falls and its complications in people aged 70 and older. A similar community was identified in the area as a control group. The program began with the community diagnosis of falls and their risk factors in the intervention and in the control community, used as the baseline of the program. It was also developed in a sequence of activities that included community actions (printed and videotaped educational material, talks in each residency, and citizen associations of elderly people and physical exercise programs specific for elderly in the community). Activities were carried out in collaboration with the community representatives, schools, local radio and newspapers, and the local government. Actions at the individual level were carried out by health professionals at the clinic and at home, based on clinical assessments, individual plans for diet and exercise, counseling on home risks, and prevention of falls and monitoring of information about any fall in elderly people of the population.

The evaluation of the program was carried out after 2 years of the beginning of the program in the intervention and the control population. The review of the results were finalized in 2004 and showed that the number of falls was similar in the two populations, but the consequences of falls (especially fractures) were significantly smaller in the intervention group.

Lessons learned and future development: The team acquired skills on community medicine and elderly falls and was able to develop a community program as a normal activity of the service. The project received a grant by the Research Founding of the Spanish Ministry of Health. All the team, local media, and the local government and institutions were involved in a program for elderly people. The intervention program is now carried out as a routine of the team and the community, and the health team is now in the process of developing a community program addressed to health needs of the immigrant population.

El Carmel—A Community-oriented Primary Care (COPC) Program for Childhood Obesity in Barcelona

The health center located in the neighborhood of El Carmel in the urban area of Barcelona provides health care to a population of about 21,000 people from low socioeconomic level. The health team is comprised of 12 family physicians, four pediatricians, 15 nurses, one nursing assistant, one social worker, and 10 clerks.

Since 1996, an examination of social and health indicators of the neighborhood has been carried out (preliminary examination) mainly as a teaching instrument for the family medicine residency program. The update carried out in 2004 was based on existing epidemiological information (mortality, morbidity, and socioeconomic data) as well as qualitative data gathered through focal groups (four women's groups, youth, neighborhood association, and a parents' association of a primary school). A prioritization process took place with a discussion on the health data by team members involved in community activities, later shared with the community local "Association for the Neighborhood Community Development" that selected the health problem of childhood obesity, later reoriented as "Lack of healthy eating habits and lack of physical exercise in the youth population."

In 2005, a Community Diagnosis of Childhood Obesity Project was carried out in a sample of children aged 6 to 9 years in the neighborhood. The results showed the prevalence of obesity: 22% with obesity and overweight, 59% with sedentary lifestyle, 48% with lack of healthy eating habits.

At the end of 2005, a community program was developed with the objectives of preventing a further increase in the prevalence of obesity and overweight in children (6–16 years old), as compared to national tendencies, and increasing the number of children with healthy eating habits and healthy lifestyle (physical exercise).The program is coordinated by a team of five nurses, two family physicians, one pediatrician, and one social worker. The community activities were planned together with members of the neighborhood association. Two primary schools in the neighborhood are also actively involved. Activities in the health center are carried out according to protocols in the pediatric and general practice consultations. Community action is implemented through radio programs, school workshops for parents, and learning workshops for children (producing videos on food and exercise). Two types of evaluation are planned for 2007: to repeat the survey done in the community diagnosis for the same age group and to measure the degree of satisfaction of all people involved in the program.

Interim lessons learned: To be feasible and sustainable, the community orientation required the agreement of all members of the health team. For the activities whose planning and implementation relates to the involvement of community members, it is required that the time and expertise of the health professionals be adjusted to the pace determined by the community.

Community dimensions of Primary Health Care in Barcelona. Preliminary results. Spanish version of Primary Care Assessment Tools-Facility

Community activities	Probably yes	Yes, absolutely
Activities outsider the centre	28%	59%
Awareness to deal with health Community problems	42%	41%
Acceptation opinions and ideas from population	52%	41%
Ability to adapt programmes and services	48%	42%

Community dimensions of Primary Health Care in Barcelona. Preliminary results. Spanish version of Primary Care Assessment Tools-Facility

Use of health data	Probably yes	Yes, absolutely
Mortality rates	20%	20%
Communicable diseases reports	32%	24%
Vaccination coverage	28%	69%
Job-related risks	38%	26%
Clinical histories	29%	62%

Community dimensions of Primary Health Care in Barcelona. Preliminary results. Spanish version of Primary Care Assessment Tools-Facility

Means to monitor effectiveness	Probably yes	Yes, absolutely
Patient surveys	28%	38%
Community surveys	33%	19%
Opinions from community organisations	38%	27%
Opinions from staff	41%	54%
Analysis of key data	32%	31%
Systematic evaluations	35%	47%
Information from other community health workers	37%	31%
Monitoring committee with users	16%	11%

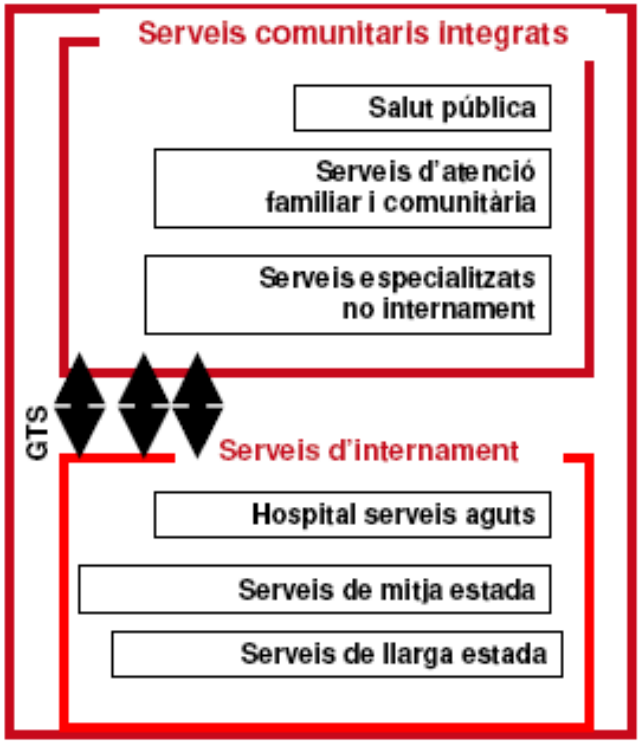
Community dimensions of Primary Health Care in Barcelona. Preliminary resu
Spanish version of Primary Care Assessment Tools-Facility

Relationships	Probably yes	Yes, absolutely
Culturally diverse groups	27%	27%
Religious organisations	21%	5%
Neighbourhood groups	34%	33%
Community social services	38%	56%

Pla d'innovació de l'atenció primària i salut comunitària 2007-2010

(Plan "Innovation of Primary Care and Community Health")

Generalitat de Catalunya
Departament de Salut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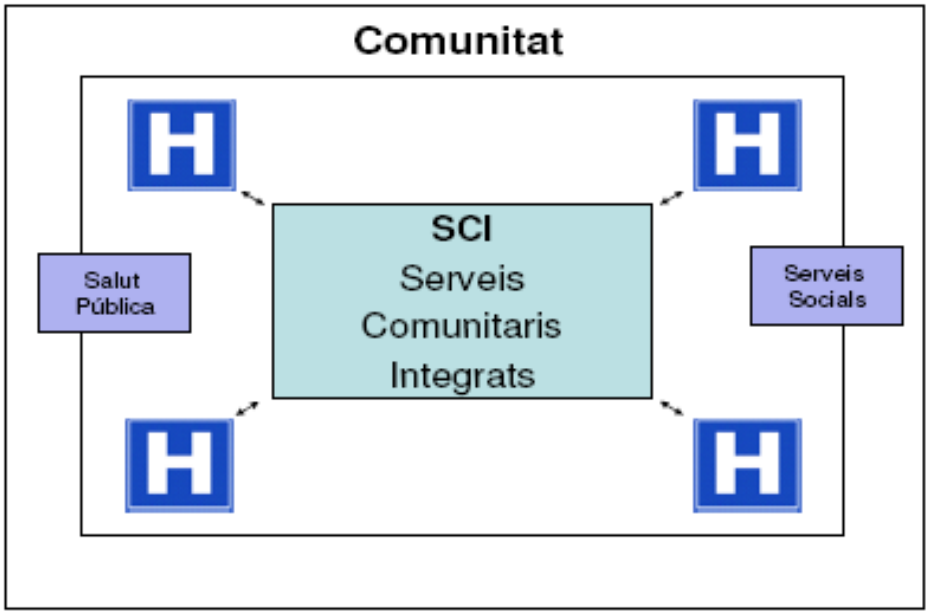
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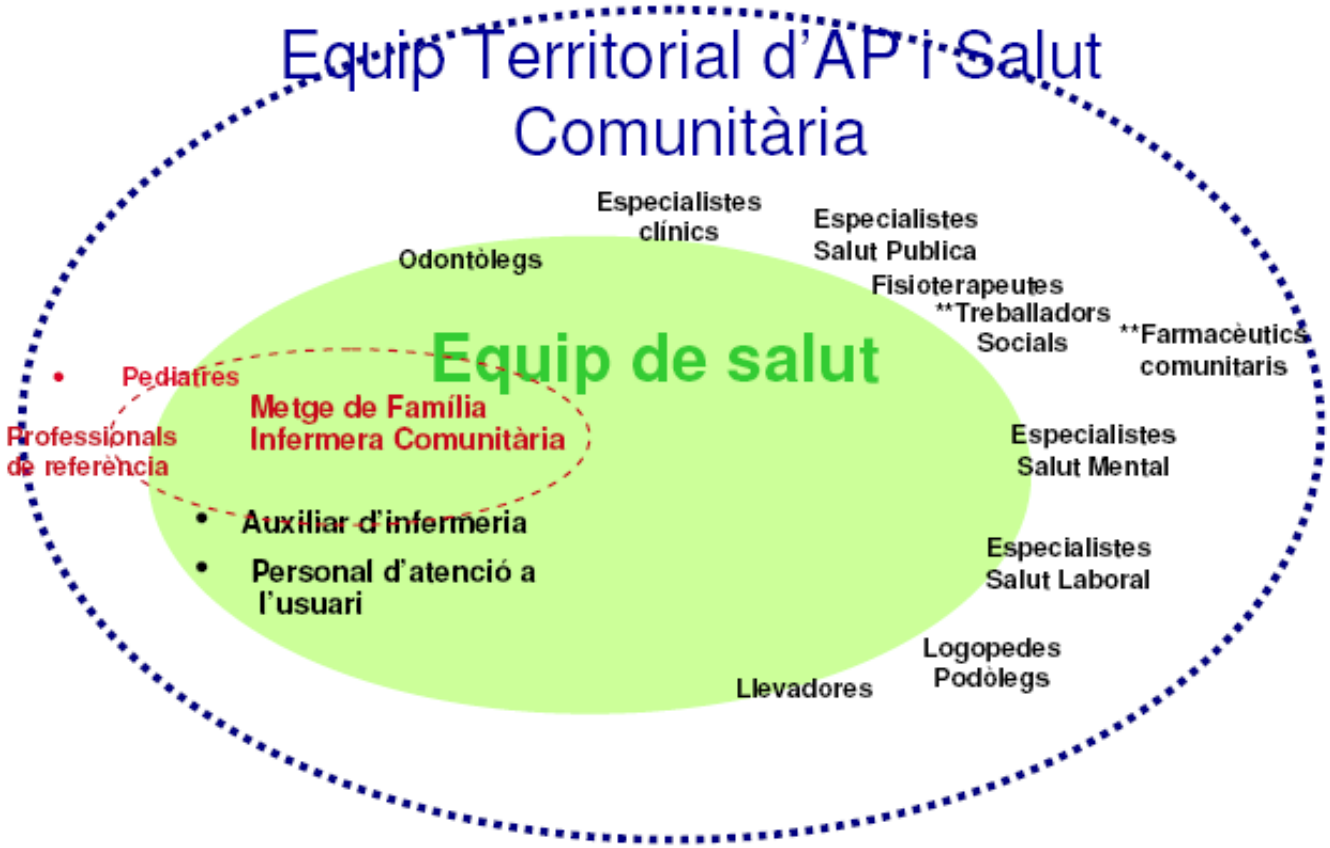

*Nota: Professionals de l'equip territorial d'AP i SC

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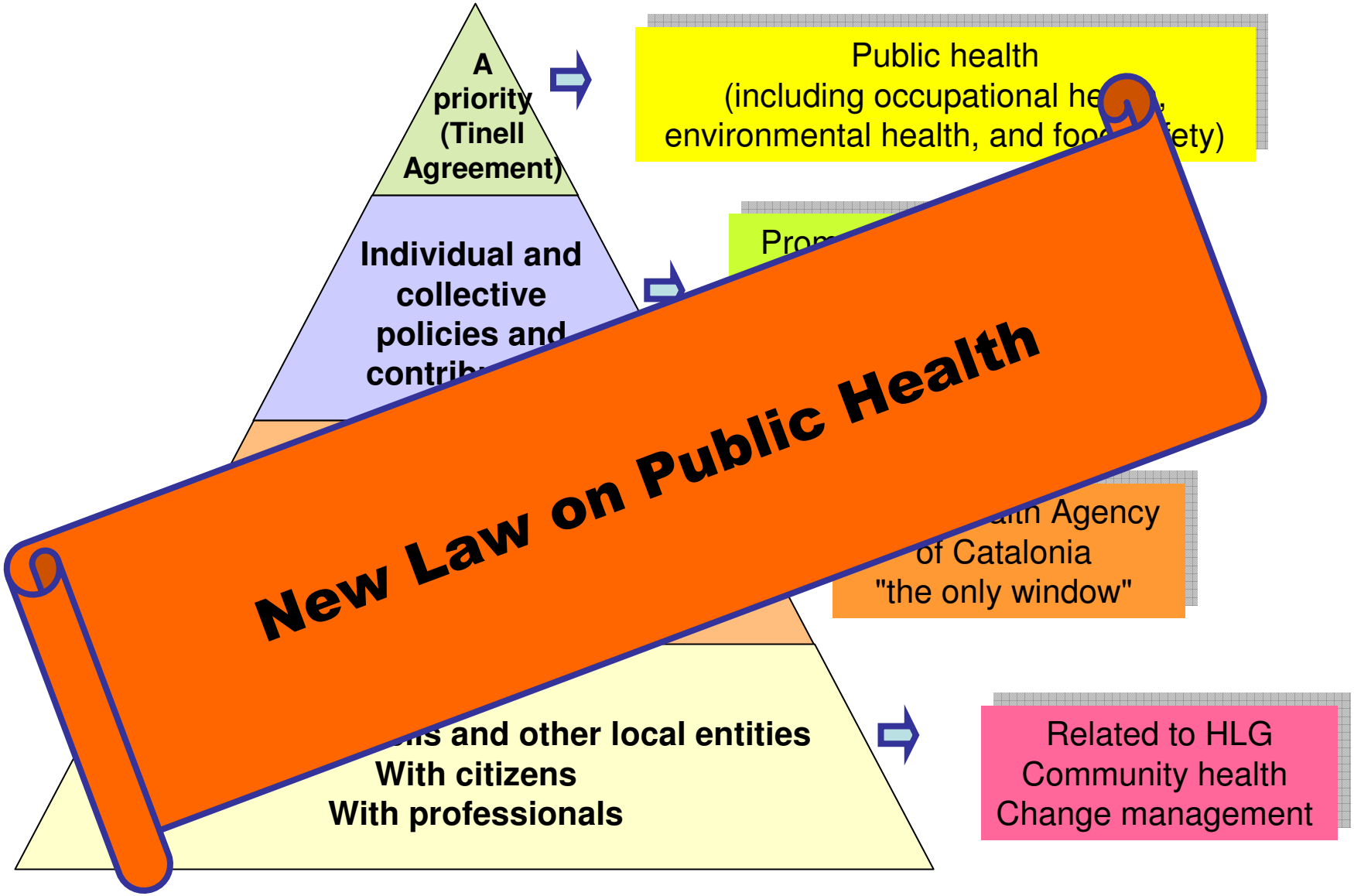
The Public Health Reform



Activities to depelop jointly by Primary Health Care and Public Health Services

- Analysis of local health needs
- Control of communicable diseases and outbreaks
- Health promotion and health protection
- Programs
- Interventions to reduce inequities
- Improvement of health services
- Prevention of iatrogenics

Adapted from Griffiths , et al.

The concept of prevention: a good idea gone astray?

B Starfield,[1] J Hyde,[2,3] J Gérvas,[4,5] I Heath[6]

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ABSTRACT

Over time, the definition of prevention has expanded so that its meaning in the context of health services is now unclear. As risk factors are increasingly considered to be the equivalent of "diseases" for purposes of intervention, the concept of prevention has lost all practical meaning. This paper reviews the inconsistencies in its utility, and suggests principles that it should follow in the future: a population orientation with explicit consideration of attributable risk, the setting of priorities based on reduction in illness and avoidance of adverse effects, and the imperative to reduce inequities in health.

at risk of over-medicalization, to protect him (sic) from new medical invasion, and to suggest to him (sic) interventions which are ethically acceptable".[5] Gofrit *et al.* defined quaternary prevention as "debriefing, quality assurance, and improvement processes", which "complete the cycle of prevention by collecting information about the processes, multi-disciplinary analysis of the data, deriving conclusions, and distributing them to all the involved bodies".[6]

Quaternary prevention has also been defined by cardiovascular disease experts as "rehabilitation or restoration of function", applicable to "those with severe cardiovascular dysfuntion".[7] These three

J Epidemiol Community Health 2008;**62**:580–583.

1948
1998
WORLD HEALTH ORGANIZATION
ORGANISATION MONDIALE DE LA SANTÉ

WORLD HEALTH DECLARATION

I

We, the Member States of the World Health Organization (WHO), reaffirm our commitment to the principle enunciated in its Constitution that the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being; in doing so, we affirm the dignity and worth of every person, and the equal rights, equal duties and shared responsibilities of all for health.

II

We recognize that the improvement of the health and well-being of people is the ultimate aim of social and economic development. We are committed to the ethical concepts of equity, solidarity and social justice and to the incorporation of a gender perspective into our strategies. We emphasize the importance of reducing social and economic inequities in improving the health of the whole population. Therefore, it is imperative to pay the greatest attention to those most in need, burdened by ill-health, receiving inadequate services for health or affected by poverty. We reaffirm our will to promote health by addressing the basic determinants and prerequisites for health. We acknowledge that changes in the world health situation require that we give effect to the "Health-for-All Policy for the twenty-first century" through relevant regional and national policies and strategies.

III

We recommit ourselves to strengthening, adapting and reforming, as appropriate, our health systems, including essential public health functions and services, in order to ensure universal access to health services that are based on scientific evidence, of good quality and within affordable limits, and that are sustainable for the future. We intend to ensure the availability of the essentials of primary health care as defined in the Declaration of Alma-Ata[1] and developed in the new policy. We will continue to develop health systems to respond to the current and anticipated health conditions, socioeconomic circumstances and needs of the people, communities and countries concerned, through appropriately managed public and private actions and investments for health.

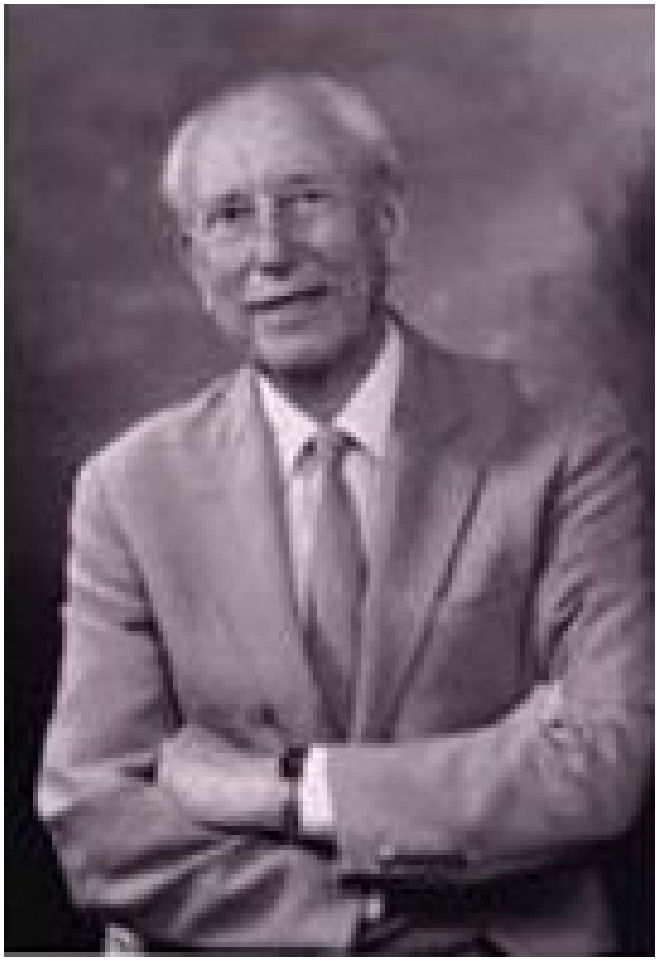
IV

We recognize that in working towards health for all, all nations, communities, families and individuals are interdependent. As a community of nations, we will act together to meet common threats to health and to promote universal well-being.

V

We, the Member States of the World Health Organization, hereby resolve to promote and support the rights and principles, action and responsibilities enunciated in this Declaration through concerted action, full participation and partnership, calling on all peoples and institutions to share the vision of health for all in the twenty-first century, and to endeavour in common to realize it.

[1] Adopted at the International Conference on Primary Health Care, Alma-Ata, 6-12 September 1978, and endorsed by the Thirty-second World Health Assembly in resolution WHA32.30 (May 1979).



Professor Mervyn Susser was born in September 26th 1921