Epidemiology and the evaluation of primary health care.
Proposal for a strategic Alliance between public health and primary health care in Spain

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First of all, I would like to thank the organizing committee of this meeting and especially Dr. Harzeim for inviting me to be with you. For me, it is an honor to be able to participate in this symposium.

I am a public health epidemiologist and my relationship with primary health care began in 1994 when I was the director of the Catalan School of Public Health. We began to collaborate with the primary health care centre of the Barceloneta, which had just been inaugurated. The Barceloneta has a population of 19,000 inhabitants and is a socially deprived neighborhood. Life expectancy of its male population is 10 years lower compared to the rest of the city’s male population is proof of this situation.

Thanks to the health care reform, a new primary health care team organized as a self-managed cooperative was set up in the neighborhood. In the year 2000 when the school of public health was closed down, I was asked by the health care centre to develop a project for the integration of health care services selected by the WHO as part of the TUFH initiative (translated as AUPA (get up!) in Spanish).

TUFH was an initiative of Dr. Charles Boëlen from WHO Headquarters. The fragmentation of the different components of the health care systems, often
working as if they did not belong to one single system, hinders the care needed to meet effectively the health care needs of the population. The main objective of TUFH was to attempt to direct the health care system precisely towards the population by integrating all the stakeholders into the process.

Each vertex of pentagram symbolizes the most relevant stakeholders. The TUFH strategy consists in promoting the relationships among them to achieve a functional integration and improve the effectiveness, efficiency and equity of the health care interventions in the population’s health. A fundamental aspect of the strategy is to bring the public health services closer to the community primary health care services.

As I was saying, the TUFH made a call to select 12 projects as a set of experiences to be able to advance in the development of the strategy. One of these was the project AUPA in the Barceloneta, which I coordinated.

The experience was very enriching personally and professionally particularly because of the active participation of the neighborhood organizations and agencies. The neighbors’ association was especially active and even participated in the management of measures to reduce the excessively frequent visits to the health centre.

A small proportion of the patients, especially the pensioners, who have a lot of free time to visit their physician, collapsed the access of the other patients. In most of the cases, their demand for care was not justified because their illness followed its normal course. For this reason, it was decided that the patients’ access to their physicians would be limited during the week following their initial visit. Therefore, the patient was seen by a nurse who decided if a visit with a physician was required or not. In most cases, a physician was not needed. This provided the physicians with more time to attend the rest of their patients and improved the
general accessibility. This measure was agreed upon jointly with the neighbors’ association thereby facilitating the community’s acceptance of the plan.

Another interesting initiative involved the collaboration of all the neighborhood pharmacies. The eight pharmacies participated in diverse projects. Among them, I would like to comment on the one aimed at controlling patients with high blood pressure and diabetes. The three thousand patients affected by these ailments were consulted and half of them chose to be controlled by the pharmacists instead of the nurses in the health centers. A care protocol was jointly drawn up and the measurement procedures were homologized. The results in terms of effectiveness were equivalent in both, the health center and the pharmacies but the efficiency as well as patient satisfaction improved. Accordingly, the nurses in the health center had a lighter work load and since they had more free time, they were able to take over the control of the patients with chronic obstructive pulmonary disease (COPD), very prevalent in the neighborhood due to the importance of smoking.

Other initiatives involved the collaboration with specialists. Hospital specialists were invited to the health center where they jointly with GPs attended patients selected by the general physicians. This reduced the referrals, increased the general practitioners’ knowledge and their prestige among the patients. Furthermore, those patients that finally were referred to hospital were attended more rapidly. The specialists also participate in the joint sessions to evaluate the patients and analyze the appropriateness of the clinical activities. This contributed to improving the ability of the primary care team to solve problems and enhanced the coordination with specialized care. In fact, the case mix attended in the primary health centre was in many cases higher than the one seen in the hospital outpatients.

The activities referring to health education were developed according to the municipal public health care services and the local paper had a specific section
dedicated to “Neighborhood health” that covered the health care center’s problems, activities and results. There also was a section dedicated to the readers’ consultations.

I should point out that when there was an epidemic outbreak of legionella in the community with 54 cases and 3 deaths, the Primary Health Care Centre played a very important role in the epidemiologic research carried out, the information given to the population and the epidemiological control of the outbreak along with the municipal public health authorities. Thanks to this, the inhabitants felt more protected. The joint work carried out facilitated the discovery of the source of the infection and the solution to the problem.

Surely, because of these, the Barceloneta primary health care team received the best scores in the annual evaluations of the primary health care centers. However, the experience ended in the year 2004. I can refer you to a publication of a detailed evaluation written in Catalan but with an English abstract. If you have interest a short note published in “Education and health” with the most relevant conclusions is available in the web.

Now, let me to tell you, briefly, about the relationship of epidemiology with these activities. Epidemiology has been defined as the basic science of Public Health because it is an appropriate tool to analyze health problems and their determinants in human populations. According to Morris in his seminal paper published in 1955, it is also useful to bring the individual clinical perspective closer to the collective public health one.

Public Health is based on the knowledge of the evolution of health problems and their determinants in human populations and also on the impact of these determinants in terms of health. Among these determinants, the health care system itself is included. Although its interventions are aimed at improving health, they have become, particularly in wealthy countries, such an important cause of
illness that iatrogenic is one of the main health problems in the first world countries.

Just as the famous report by the Institute of Medicine clearly stated at the end of 1999, medical errors produce more deaths in the United States than AIDS, breast cancer, or traffic accidents. A few months after, professor Starfield published a conclusive criticism in JAMA of the American health care system in which, among other arguments, she provided an estimation of the impact of iatrogenic, which, according to her, had become the third cause of death.

Iatrogenic does not only refer to errors and negligence but it also includes the adverse effects of the health care interventions. More health consumption is made, more adverse effects appears. Therefore, the increase of the demand of medical care, frequently fostered from the system itself, is one of the reasons explaining the increase of iatrogenic. If there is an indiscriminate use, it is unlikely to be appropriate.

The proposal of restrictions in the use of health care in a world where most of humanity suffers fundamental deprivation, seems paradoxical. What is meant is not to do without health care but to diminish its inappropriate use. This bad use generates many futile interventions as well as an extreme dependence on the health care system. And, consequently, encourages the medicalization of everyday life, hindering people’s autonomy and their empowerment to control their own health as was stated in the Ottawa Charter.

In this context, the outstanding development of epidemiology in recent years has occurred especially in the area of academic research rather than in the daily practice of health care services. A development due to, in my opinion, its contribution in determining risk factors of chronic diseases and the determinants of these diseases as well as the estimation of the efficacy of preventive clinical
interventions, especially with drugs, by using randomized controlled trials and the proliferation of metanalysis.

Etiologic and evaluative research that is basically aimed at risk factors or subrogated endpoints, requires assumptions, despite their likeliness, do not necessarily have to be always true. Hence, the real impact on health is almost always uncertain and may even be negative.

A recent editorial in the New England Journal warns us of the negative effects that may be provoked by those interventions that only lower certain risk factors or intermediate endpoints.

When epidemiological studies only take into account certain isolated risk factors or their decrease after specific interventions, they can be used, voluntarily or not, to promote dreams in the population that expects medical care to solve problems that may be addressed better from other perspectives. The possibility of an early detection and treatment of lung cancer using sophisticated explorations should not substitute the primary prevention of the negative consequences of smoking, which are not only limited to lung cancer. However, it does contribute to health care consumerism and consequently to the medicalization of everyday life.

It may be useful to remember that epidemiology was born to help solve the health problems that affected, in the present time, human populations. Its aim was to obtain real improvements that can be observed easily. A practice committed to finding adequate solutions to the real health problems of the populations and of the health care services.

The jobs closer to the real health problems are performed more directly by the professionals working in the territorial public health services, although they often are limited to the surveillance and control of communicable diseases. It would be convenient to widen the scope of action of epidemiology within the public health
services of the health care system and strengthen their relationship with the academic departments of epidemiology.

The contribution of those field epidemiologists who work solving serious health problems that are relatively simple, such as infantile dehydration or malnutrition is worthy of mention. These initiatives may be less interesting from an academic viewpoint but very effective from a practical point of view.

A more pragmatic dimension of evaluative research should be developed along with the academic one. Technical tools as well as a professional commitment based on the rationality of public health should be made available to the community and the health care system. A strategy for the reorientation of the health care systems should be developed to satisfy the health needs of the population. In this sense, I consider exemplary the contributions of, among others, Cesar Victora.

Consequently, I would like to speak of the role that epidemiology and by extension, public health could play in the necessary- in my opinion- community reorientation, by establishing a strategic alliance with primary health care.

The relationship between Public Health and the overall health care system has not been traditionally very good. The schism that occurred between the sanitary movement and scientific medicine has not been solved yet. In fact, in many countries, the group of public health services has become a type of marginal appendix of the overall health care system carrying out specific tasks such as those of a health police but not working jointly with the rest of the components of the system.

The fragmentation of the health care systems entails the existence of important gaps between its different components. Not only between Public Health and clinical care but also between primary care and specialized and hospital care.
In most countries, especially the wealthy ones, primary care has not become the core of the health care system such as the Alma Ata conference proposed precisely thirty years ago. It works more like an auxiliary aid for specialists when actually it should be the other way around. The specialists’ work, even in the hospital, should be organized based on the requirements of the primary care professionals who are responsible for the health care of the patients in the community.

Although this seems logical, the influence of the hospital sector that is moreover supported by the pharmaceutical and health care industries, the subordination of primary care and the insufficient collective public health services, make it difficult to implement it.

However, public health services as well as primary care have a certain communitary orientation and therefore, they should objectively be the leaders of those changes that would allow for the reorientation of the health care systems towards the needs of the population.

These changes require complex interventions resulting from a strategy to redesign health policies and those of the health care system. Accordingly, the AUPA experience in the Barceloneta can be considered a complex intervention that did not address a specific health problem but was oriented towards the needs and demands of the community. Moreover, it promoted the coordination of all the stakeholders.

In this approach, epidemiology played the role of a resource to be used to carry out rationally the health care services. No randomized clinical trials were carried out, but the performed activities were more appropriate according to the intervention priorities.
The attempt, although unsuccessful, was a motivation for other professionals who were already implementing primary care community oriented activities (COPC) inspired in the experience of the Kark, husband and wife, in South Africa who, with the support of epidemiologists such as Jaime Goffin sponsored the professional organizations of family and communitary medicine in Spain. And, as a tribute to the effort made in the Barceloneta, decided to change the name of the project that, from 2003 on has been called AUPA and includes 30 primary care teams from Catalonia.

AUPA is a network of primary care teams with an explicit interest in community care. All the teams in the network carry out an initial health diagnosis of the community and the Institute of Health Studies, where I work, provides them with demographic and epidemiologic information of the reference populations and advice on how to carry out the interventions and the evaluation. We have a small budget to finance the purchase of material.

Unfortunately, they are not the necessary resources so that the primary care professionals can dedicate enough time to communitary actions. However, a general recommendation that is given to the teams is that preventive clinical activities should be reduced since they require an enormous effort, produce scarce results and contribute to medicalization.

In addition, we are attempting to have communitary activities supported in those centers that train interns in family and communitary medicine, preventive medicine and public health. Moreover, some centers have gotten other professionals and even civic organizations to collaborate actively such as in the Barceloneta experience.

From that moment one, and when possible, counting on the community’s participation, a health problem is chosen. It should be susceptible to measures
taken at a communitary level and should not respond exclusively to clinical interventions.

Some of the problems that the teams work on are, for example, the prevention of fractures in the elderly, with the aim of lowering the risk of falls and not acting only clinically by preventing osteoporosis.

Another project is the prevention of infantile obesity jointly carried out with the day-care centers, schools and the families. Promoting healthy eating and physical activity through communitary interventions in the markets, the restaurants, schools or community diners are complementary activities to the clinical advice given in the medical and nursing consultations.

In five years the AUPA network has gone from 12 participating centers to 30 and the frequency and intensity of the interventions has been slowly increasing, but the project is yet in its initial phase and there are great limitations. However, the existence of this network entails an opportunity to develop changes in the orientation of the health care system. An opportunity that may benefit from the recent proposal of the Catalan authorities in health policies, The Plan for the Innovation of Communitary and Primary Care, which I will refer to further on.

General medicine in Spain is officially called community and family medicine. However, there is not enough information to know whether our primary care adequately develops interventions to promote and protect health in the family and communitary sphere.

Accordingly, it is of great interest to explore the situation of the primary care services in relationship with the communitary aspect of their work. After validating the Spanish version of the Primary Health Care Assessment Tools PCAT by Shi and Starfield, just as in the United States, Quebec and Brazil, our group performed a survey directed by Dr. Maribel Pasarin. It was carried out in the
health area of Barcelona that has a population of 4.5 million inhabitants and 200 Primary Health Care Teams, and we have answers from 133 teams.

The preliminary data corresponding to the communitary dimension of the practice of primary care in Cataluña show that there is a high sensitivity towards communitary aspects, which suggests a certain predisposition that could be used to further develop this orientation.

These results point out that the communitary dimension of primary care is present in the everyday work of the professionals. However, it tells us little about the content of the health interventions in the community that are liable to have biases from the clinical vision of medicine with prescriptive and medicalized orientations. The results also show those aspects that need to be improved, especially the active participation of the community itself and the relations with other components of the health care system, such as public health.

In any case, the existing conditions make it possible to improve the communitary orientation of primary care so that the Catalan government’s policies concerning the innovation of primary and communitary care that I spoke of, may be developed in practice.

However, professionals in the system do not feel well prepared to supervise community projects. Moreover, many professionals feel overwhelmed by the intense demand, with an average of 10 annual visits per inhabitant and a predominance of problems referring to the patient’s state of mind and to occupational, family or social conflicts. Also, the preventive clinical activities, many induced, take up a lot of the professionals’ time in an unfortunately inefficient and inequitable way. This limitation is due to, among others, the lack of community support programs to act upon the social determinants of risk factors.
As I mentioned before, a few months ago the Health Department of the Regional Government decided to establish a plan for the innovation of primary and communitary care. Among its main objectives is the proposal to create integrated communitary health services that would group the more clinical services of the current primary care (these include the primary health care centers and those dedicated to rehabilitation, podriatrics, and dentists as well as the ambulatory mental health and social health services) with the collective public health services that carry out health promotion and protection activities within the population.

At the same time, the Autonomic parliament is discussing a new public health law that proposes the creation of a new public health agency and its joint development with territorial health governments, a new political formula that aims to commit local sectors more actively in health.

All these initiatives are an opportunity to orient effectively the health care system towards the population, its health needs and expectations for improved health, naturally, if these are pertinent.

In my opinion, the key is to achieve a better approximation of the public health services and the primary care ones in such a way that both may work together with the population in promoting community health. The idea is that this will increase the influence of community health within the overall system.

In Catalonia and, in general, in Spain, the public health services are mainly dedicated to the protection and the promotion of community health as well as to the surveillance of diseases and the control of epidemic outbreaks. These services generally depend on the public administrations and often on the municipal or local administrations.
The primary care services in those countries that have a specific organization such as in Spain and in Brazil are population oriented. This common characteristic of both the public health services and the primary care ones makes it easier to establish a closer collaboration between them than the currently existing one.

This would be the first step in the strategy of reorienting the health care system towards the community. Of course, if the community is not also involved, an alliance between public health and primary care would probably not be enough. The population must be in favor of the change. It is well known that population expectations generally lead to consumerism.

In order to counteract this tendency to health consumerism and medicalization, two arguments could be set forth. Finance is one of them. The extraordinary increase of health care expenditure in wealthy countries puts the public health care systems at financial risk. However, the influence of the health care industries and the corporative interests of the health care system itself are very powerful and will continue giving an incentive to consuming. In general, the population also considers consuming as something positive. The other argument is based more on health. Medical consumerism is not only expensive but it is also dangerous for health. This is why it is necessary to insist on the prevention of iatrogenic.

To achieve a real approximation of public health services and primary care ones, it is necessary to design programs of activities shared by both within the health care system and where the role of the epidemiologist may be decisive. These activities should be developed jointly with relative ease.

Based on a proposal made by the British board of Public Health Medicine, by Sian Griffiths and collaborators, we are establishing a set of activities that, making the most of the plan for innovation, will allow us to advance in the development of community health care.
But, as I am spent more time, let me only enumerate the activities and only tell us about the last one. These activities are:

The Analysis of Local Needs:

The national health care systems organize their services in territorial and demographic units that can be analyzed using epidemiological criteria to establish intervention priorities and objectives according to the characteristics—importance and vulnerability—of the local health problems and their determinants, and to compare the different territorial units and stimulate the improvement of programs and health care management.

Research and the control of communicable diseases:

The control of communicable diseases is an objective currently shared by the primary care teams and the public health services. Despite this, the areas of cooperation are reduced. Primary care usually considers the notification of communicable diseases and epidemic outbreaks as a bureaucratic obligation from which they obtain few benefits.

Health promotion and disease prevention programs:

The current limitations of the health promotion and disease prevention activities in the health care services are related to their scarce effect on: the social determinants of people’s behaviors, the life conditions that affect people’s diets, their mobility, housing, workplaces and other spheres of social life. An approach that reconciles clinical interventions and communities by using joint programs where clinical and community activities respond to only one strategy, could improve the efficiency and equity of health promotion and disease prevention and, above all, facilitate the active participation of community groups and organizations.
Interventions in the local communities to reduce inequities.

One of the possibilities of population based programs is the capacity to perform selective interventions in those groups that less frequently use the care services and often are those that are more in need of them. These inequities affect, above all, the disease prevention and health promotion activities.

Contributing to the improvement of the health care services:

The public health services could also collaborate in the benchmarking initiatives favored by some agencies that purchase primary care services. These experiences not only encourage self-improvement but they also make it easier to acknowledge useful innovations and contribute to their widespread use.

Prevention of iatrogenic:

A specific section of the improvement of the health care services must be dedicated to the iatrogenic prevention. An epidemiological analysis and the prevention and control of the adverse effects of the health interventions are a fundamental strategic objective. On one hand, because of how important iatrogenic has become in wealthy countries and on the other, because it is convenient to modify the health care systems’ orientation and the consumer expectations of the population.

It is, however, a particularly difficult objective to achieve because most iatrogenic is the result of indiscriminate consuming and medicalization. To ask for a sign to be placed on the door of the physician’s office saying “Danger” seems to be unrealistic, although it is literally true.
The activities to prevent iatrogenic should be based, in the first place, on obtaining information on its magnitude. The information should be made available in a constructive and responsible way.

This information could be used to promote joint debates with the population in such a way that the population itself would take it into account to adapt their health care demands. The health care services would be responsible for always warning patients of the probability of suffering adverse effects so that stricter requirements would be justified to guarantee the pertinence of the indications.

Perhaps the design of programs to carry out quaternary prevention would help to reduce iatrogenic. They would especially be applied to preventive activities that are no longer very meaningful, as Barbara Starfied recently pointed out in an article with the collaboration of a Spanish primary care doctor, Juan Gervas. The term quaternary prevention was an idea of a French primary care physician, Marc Jamoulle, who, according to him, came up with the idea as he was taking a Masters Course in Public Health.

I would like to take this opportunity of the Anniversary of the Alma Ata to dedicate this presentation to Mr and Mrs Kark who were the promoters of community-oriented primary care and to their friend Mervyn Susser, to me one of the most distinguished epidemiologists of our time, who was born in September 26th, the year 1921. Happy birthday professor Susser!