Training and Application of Community-oriented Primary Care (COPC) Through Family Medicine in Catalonia, Spain

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The community-oriented primary care (COPC) approach, implemented in various countries by family physicians, general practitioners, and other primary care workers, integrates clinical medicine with aspects of public health. A process of 20 years of training health professionals (40-hour workshop) by the professional association of family physicians (Catalan Society of Family and Community Medicine), training family medicine residents and giving support to health teams in Catalonia, Spain, generated a present group of 30 primary care teams involved in community health projects. This paper describes and analyzes factors related to changes in the health system, the role of family medicine in Spain, and to features of the COPC approach and its training methods as elements that narrow the gap between training and practice.

(Fam Med 2008;40(3):pp-pp.)

Community-oriented primary care (COPC) is “a continuous process by which primary health care is provided to a defined community on the basis of its assessed health needs by the planned integration of public health with primary care practice.” COPC practice integrates the care of personal health problems with the community’s major health problems by developing promotive, preventive, curative, and rehabilitative programs to target populations.

The COPC approach initiated by Sidney Kark in South Africa was later developed by Kark and his team at the Hebrew University-Hadassah School of Public Health and Community Medicine in Jerusalem, Israel. The main features of COPC are primary health care, a defined population, a health team that takes responsibility for the health of the community as a whole, and intervention programs addressed to identified health needs and community involvement in all steps of the process.

COPC has been researched and taught extensively and is taught in Israel and in other countries through workshops developed and carried out by staff members of the School of Jerusalem. The workshops were initially designed for public health students in Jerusalem and later adapted to suit the requirements of the Residency Program in Family Medicine of the Hebrew University in Jerusalem and of professionals in other countries.

This same teaching model was abridged and adapted for the training process of COPC in the Catalonia region of Spain. In this paper, we describe an experience that began by the training of primary care professionals in the COPC model. The model has developed into the practice of COPC in 30 primary care centers in the region today.

Developing COPC Capacity and Training

There are two key dates for the development of COPC in Catalonia. The first is the creation in Spain of the medical specialty of family and community medicine in 1978. The second is the reform of primary care services beginning in 1985. This reform changed primary care services by moving toward a system in which the population is divided into “health areas” of about 20,000–30,000 population each, and health care is provided by full-time multidisciplinary primary care teams composed of family physicians, pediatricians, nurses, a social worker, and clerk personnel.

Implementation of the reform encouraged a group of family physicians of the Catalan Society of Family and Community Medicine (CAMFiC) in the late 1980s to search for an appropriate expression of the community component of their residency and practice. At that time, COPC was not a policy of the Catalan health system.
In 1987, this group of family physicians from CAMFiC contacted members of the COPC team in Jerusalem and initiated a collaboration to begin COPC training in a Spanish environment. The training continues to this day, and the reform is now complete, with the functioning of more than 300 health centers and more than 2,000 family physicians covering a population of 7 million people in Catalonia.

**COPC Workshops**

The first workshop in Barcelona in 1987 revolved around three elements: (1) learning the principles and methods of COPC (30% of the total time of the workshop), (2) planning a COPC program based on real data from the participants’ communities (60% of the total time), and (3) presentation of the groups’ work (10% of the total time). The workshop was geared toward the cyclical process of COPC:5,14 defining the population, identifying and prioritizing their main health needs, planning the community health program. The intervention program considered each stage of the natural history of the selected condition and included outreach activities, multidisciplinary teams, and community involvement.

Participants were divided into groups of six to eight members with a distribution of professionals that resembled the composition of a Spanish primary care team. A tutor experienced in COPC assisted each group. The group assignment was to plan and present a proposal for intervention within the practice of one of the group members.

The tutor’s role was to promote and facilitate the use of epidemiological thinking in the various stages of COPC, to stimulate the group to work in a systematic manner toward the achievement of the workshop’s goals and to emphasize the opportunities and constraints that may be encountered in the application of COPC. The tutor also encouraged the search and elaboration of data available in the Catalonian Health System.

The workshops lasted 8 hours a day for 5 successive days. This concentrated schedule allowed for an intensive exchange of knowledge and experience among the participants and staff.

**The Catalan COPC Working Group**

After the first COPC workshop, in Barcelona in 1987, a COPC Working Group of the CAMFiC was created. Today the Group consists of 12 family physicians and six public health practitioners, two of whom are also family physicians. Throughout the years, the Group has been involved in teaching activities (outside the workshops), in publications,15-18 and in the development of a Web site in Spanish and in English (www.apoc-copc.org). They also provide advice to health professionals and health services in the process of developing COPC in their own workplaces in the region.

Since 1987, the working group has carried out 17 workshops as described above. Workshops have each been attended by 20–30 participants, with a total of more than 400 self-selected primary care professionals since 1987. Seventy five percent of these participants were family physicians while the remainder were mainly nurses, with few social workers and public health physicians. The workshops were supported by CAMFiC and financed by participants’ fees, which were mostly subsidized by the participants’ employers.

An extraction data sheet was provided from the first workshop to participants to facilitate the gathering of their community data. This form was later developed into a guide that was published by the CAMFiC. The guide is available to all family physicians in the region as a framework for the systematic collection of community health and health services data for use in training and application of the approach. It contains the sources of information available for population data in the Catalonia region and provides suggestions on specific forms to facilitate the extraction of relevant data.18

Throughout the years, training of the principles of COPC to the 400 primary care professionals has expanded as those who participated in the workshops teach what they learned to other professionals in the primary care teams where they work and in the family medicine residency program in Catalonia where COPC principles and methods are also incorporated in the curriculum.

**Teaching COPC to Family Medicine Residents**

The residency program in family and community medicine in Spain is provided by the National Health System. It began in 1979 with a 3-year program carried out partly in hospitals and partly in health centers. In 2005, the program was extended to 4 years.19 The teaching is coordinated by “teaching units” that are part of the health providers organizations. At present there are 156 teaching units in Spain teaching a total of 1,771 residents each year. Of these, 17 teaching units are in Catalonia with 266 total residents each year. Since 1993, the Spanish residency curriculum includes the COPC principles as proposed by the Catalan Working Group20 and members of the Group were involved in the teaching activities of COPC in most of the Catalan teaching units (Table 1).

**Implementation of COPC**

Training activities were one of the key outcomes for the COPC application in Catalonia. In 2004, a group of primary care teams in Catalonia created a network of health centers involved in community health projects. At present, this network includes 30 primary care teams of four different health regions that take COPC as the main model of development of their practices. The teams in the network were led by the professionals
who participated in the previously described workshops or by family physicians trained in COPC in their residency program. The network has been named AUPA and shares the purpose of the Towards Unity for Health (TUFH) Project of the World Health Organization (AUPA means “acting together for health” and comes from the Spanish translation of TUFH).21,22 Table 2 shows the centers and professionals that are involved and trained in COPC and the main health problems addressed in their communities. Many of the teams are in preliminary steps or in the stage of community diagnosis or prioritization of health needs. In Table 3 and in Appendices 1–3 we describe in more detail some of the programs that are in more advanced stages of the COPC process.

### Table 1

<table>
<thead>
<tr>
<th>Health Region*</th>
<th>Teaching Units</th>
<th>Current # of Residents/Year</th>
<th>COPC Courses (Total Hours of Training Per Resident)</th>
<th>Beginning of COPC Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barcelona</td>
<td>8</td>
<td>159</td>
<td>20</td>
<td>1999</td>
</tr>
<tr>
<td>Catalunya Central</td>
<td>1</td>
<td>34</td>
<td>10</td>
<td>1998</td>
</tr>
<tr>
<td>Girona</td>
<td>2</td>
<td>18</td>
<td>24–30</td>
<td>1993</td>
</tr>
<tr>
<td>Lleida</td>
<td>1</td>
<td>14</td>
<td>No</td>
<td>—</td>
</tr>
<tr>
<td>Tarragona</td>
<td>3</td>
<td>28</td>
<td>20</td>
<td>1996</td>
</tr>
<tr>
<td>Terres de l’Ebre</td>
<td>1</td>
<td>9</td>
<td>20–24</td>
<td>1996</td>
</tr>
<tr>
<td>ACEBA**</td>
<td>1</td>
<td>4</td>
<td>No</td>
<td>—</td>
</tr>
</tbody>
</table>

* The health system in Catalonia is decentralized in seven health regions: Barcelona, Catalunya Central, Girona, Alt Pirineu-Aran, Lleida, Tarragona, and Terres de l’Ebre. Alt Pirineu-Aran does not have a teaching unit in family and community medicine.

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

### Table 2

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

* 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.
Of the 30 centers in AUPA, eight are also part of the residency program in family medicine and are using their community programs to teach community medicine to their residents through the COPC approach. These teams have undertaken the commitment to introduce the practice of the COPC process whereby residents learn the COPC approach while they are involved in the development of its practice.

**Discussion**

A review of the dissemination of the COPC approach shows that in some countries the amount of teaching and exposure of professionals to this approach are not matched by its practical application. The experience in Catalonia, on the other hand, offers an opportunity to a process in which training was successfully followed by practical application. Examples of completed projects are shown in the appendices.

Several factors may have had a role in the successful Catalanian experience. First, the COPC approach was relevant to the health system and the reality of health services in Spain, specifically as related to geographic definition of population served, universal coverage, and the reorientation attitude generated by the reform process. Second, family medicine played a key role in primary care services and in organization and functioning of primary care teams.

Third, the structure and organization of the workshop aimed to reproduce real-life situations as much as possible. For example, the work group resembled a health team, and assignments were based on real data from the participants’ practices and communities. There was also a deadline for the assignments and the practicability of the proposal was examined in relation to the particular local situation.

Fourth, tutors in the workshops were knowledgeable, experienced, and highly motivated. They were

<table>
<thead>
<tr>
<th>Health Region</th>
<th>Name of Health Team</th>
<th>Health Problem Addressed</th>
<th>Components of the Program Currently Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barcelona</td>
<td>El Carmel</td>
<td>Obesity in children</td>
<td>See Appendix 1</td>
</tr>
<tr>
<td></td>
<td>Montornés-Montmeló</td>
<td>Mental health in adult age</td>
<td>See Appendix 2</td>
</tr>
</tbody>
</table>
|               | 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          | Vila-seca           | 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 |

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

** Nominal group technique is a consensus planning process.
always members of the COPC Working Group who had also participated as students in the workshops and had later acquired practical experience in their own communities.

Finally, the changing health system of Spain provided an environment receptive to adopting innovative approaches. The environment allowed for a process in which training was slowly complemented by the practice of community orientation, which then became the main incentive for work and development. The creation of the medical specialty of family and community medicine (1978) and the reform of primary care in Spain in the 1980s offered the appropriate environment for the experiment in training and later was the source for further discussions about the application of the approach. Eventually, APOC (Atención Primaria Orientada a la Comunidad—Spanish for COPC) became part of the health services jargon in many areas in Spain.18

The future of the COPC approach in the Catalonian health system may be facilitated by the ongoing process of public health reform in the Catalonian region,24 which also aims to increase community participation in the local health system. The availability of health data will also be improved by this process of reform.

We are aware that the COPC training process may be hindered by the contrast between the long-term effects of the community intervention and the demand of immediate results by health directors, by the overload of primary care teams, and by the lack of specific resources or technical support in certain areas. The funding for the intervention programs may also constitute another barrier to community orientation of primary care teams. Although the financing of primary care services, including preventive and health promotion activities, is guaranteed by the universal coverage of the Spanish Health System, the extra cost for community intervention activities and for the process of community diagnosis and evaluation of the programs may not be affordable by primary care teams. In one of the case studies, the financing for the implementation and evaluation activities was facilitated by a grant from the Spanish Ministry of Health. The aim of coordination between primary care teams and local public health services that is declared in the project of Catalan public health reform could represent a way to a solution of this problem in the near future.

The integration between clinical medicine and public health,25 an inherent component of the COPC approach,26 is also being considered in the World Health Organization-related Network: TUFH organization, which considers and promotes partnership with other stakeholders in the delivery of health care, as well as in the World Organization of Family Doctors (WONCA). WONCA places particular emphasis on the important contribution of family physicians in this integration. A publication of WONCA supported the need and the methods of a community orientation based on the field experience of COPC.27

A noted limitation in the description and analysis of our process is the lack of a formal evaluation. The development of COPC in Catalonia did not have an evaluation component established in advance but was rather a dynamic process that created new situations while evolving throughout a dissemination of the principles and methods of the model. The outcomes of the projects (appendices), however, point to important changes in the delivery of health care with community orientation in the region. These changes are valuable since they created many more opportunities for comprehensive health care with increasing community involvement and stakeholder interest.

Acknowledgments: We acknowledge all the current and past members of the COPC Working Group of the CAMFiC for their involvement in introducing COPC in the Catalan Health Service system and especially to Dr Isabel Montaner (former coordinator of the group) for the valuable information provided to this manuscript.

We acknowledge Dr Isabel Montaner (El Carmel), Dr Nuria Prat (Montmeló), and Dr Montserrat Pujiala (Salt), and their respective COPC teams for the information provided about their programs that served to prepare the appendices of COPC in the Catalan primary health care teams. We also acknowledge all the teams of the AUPA project for their efforts to maintain the community orientation of primary health care.

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References

be adjusted to the pace determined by the community. Interim lessons learned: To be feasible and sustainable, the community orientation required the agreement of all members of the health team. For the activities involved in the program.

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. Later reoriented as “Lack of healthy eating habits and lack of physical exercise in the youth population.”

In 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 through radio programs, school workshops for parents, and learning workshops for children (producing videos on food and exercise). Two types of evaluation activities in the health center are carried out according to protocols in the pediatric and general practice consultations. Community action is implemented (physical exercise). The program is coordinated by a team of five nurses, two family physicians, one pediatrician, and one social worker. The community showed the prevalence of obesity: 22% with obesity and overweight, 59% with sedentary lifestyle, 48% with lack of healthy eating habits.

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 activities 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.
Appendix 2

The Community-oriented Primary Care (COPC) Group of Montornès-Montmeló

The health center covers a population of about 20,000 residents in four adjacent cities, in an urban and rural area near Barcelona. The COPC group is composed of three family physicians, three nurses, and one office worker and is part of the community group Fem Salut (“making health”) formed by members of the health team and of different professional and volunteer groups of Montmeló (one of the cities of the area), as social worker, health manager, teachers, students, and housewives, with the collaboration of local government.

In 2004, a preliminary assessment was carried out by the health team and key community informants, who answered the question: What are the more important health problems affecting your community? Qualitative information was also collected through nominal groups. A meeting with members of the health team and key informants of the community was organized to decide on the prioritization of health problems. The health problem selected was psychological distress and it was decided to plan a community intervention in Montmeló.

A Community Diagnosis was planned to obtain information on perceived stress, discomfort, dissatisfaction, and self perception of thoughts, feelings, and behaviors that could imply a mental health problem, in people aged 18 years and older. To be able to measure psychological distress in the community, vulnerability features were related with the self perception of quality of life (QOL) of the individuals. QOL was measured by the WHOQOL-Brief Questionnaire, validated in Spanish, which includes items related to four areas: physical, mental, and social relationships and environment and questions on global quality of life and health, with the addition of an open question about stressful life events and the Family APGAR test. The field work is now being carried out with the cooperation of the local government, and a similar population of the area will be used as a control group. The sample is based on clusters, using key places in the community and also on associations, schools, and sport clubs.

The intervention will be at community level related to the therapeutic effect of laughing planned in collaboration with the Department of Social Psychology of the University de Barcelona and a nonprofit association for the production of brochures, a Web site, logotypes, and campaigns. The specific actions are expected to be implemented in the second part of 2007. Evaluation will be based on a repeated administration of the same questionnaire of the diagnosis stage to both the intervention and the control population.

Interim lessons learned: The group wishes to have COPC as part of the daily practice of professionals, because now the work depends mainly on the voluntary efforts of persons involved. The need for division of tasks is identified, while maintaining the function of the group and having the community as the driving element.

Appendix 3

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.