

## MEDICAL EDUCATION

## A countrywide programme of continuing professional development in Argentina

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### Abstract

**The Argentinean Society of Paediatrics introduced in 1993 a continuing professional development (CPD) programme to raise standards of clinical practice. The aims of the project were to introduce a structured, distance learning programme accessible to all paediatricians in the country, but especially for those working far from centres of paediatric excellence. The programme is planned on an annual basis. It includes four activities: a written manual designed by a team of medical experts and educationalists comprising 12 topics; field work for participants; annual meetings in several locations in the country for discussion of the subjects; and an evaluation based on centrally designed multiple choice questions distributed by mail. In spite of a registration fee of £90 a year, participation in the programme increased from 3357 in 1993 to 4126 in 1996, from a membership of 10 216 paediatricians in Argentina. The popularity of the programme may result from an appropriate interpretation of professional needs of paediatricians in Argentina, adequate organisational arrangements that reach all colleagues, including those working in remote areas, and a genuine motivation of paediatricians for participating in a learning process.**

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The Argentine Society of Paediatrics has for many years grappled with the idea of developing strategies that would contribute to raising professional standards for all Argentinean paediatricians. Continuing professional development (CPD)<sup>1 2</sup> is essential in a country characterised by an uneven geographic distribution of wealth and health resources, in which access to academic centres is much easier for those living in large cities. After qualification most doctors combine part-time jobs and private practice; a formal paediatric training (residency in paediatrics) being restricted to a fraction of medically qualified professionals.

Common to most paediatric associations, the Argentine Society of Paediatrics has organised traditional courses and conferences, many of them well attended. However, several considerations contribute to the feeling that these teaching programmes are not enough to fulfill the current needs of local paediatricians<sup>3 4</sup>: geographical reasons and the general profile of local paediatric practice, the rapid changes in medical technology and management, and the increasing predominance of women paediatricians over the past 10 years. In Argentina, as in many countries, women take leading responsibilities for many roles at home, and extra commitments prevent female doctors from attending scheduled courses. These considerations, together with the high infant mortality and morbidity rates, have prompted the Argentine Society of Paediatrics to generate and carry out a new strategy in paediatric education for Argentina based on a distance learning programme. As the main features of paediatric practice and child health patterns are common to other countries, we hope that our four years of experience running this programme can contribute to other paediatric associations with similar problems.

### Child health care in Argentina

Argentina has 32.5 million inhabitants and approximately a third are children under 15 years.<sup>5</sup> Infant mortality is 22/1000 with a four-fold regional variation (between 12 and 45/1000).<sup>6</sup> In urban centres (85% of the population), the vast majority of children are cared for by paediatricians, in rural areas they are also under the care of general practitioners. The Society of Paediatrics has 10 216 members in two main categories. The requirements for full membership are to have certified previous paediatric training (either passing the paediatric examination set by the Society of Paediatrics, or having completed a residency in paediatrics plus seven years of paediatric practice), and to have personal and ethical conditions certified by two members. Forty seven per cent of paediatricians registered in the CPD programmes of the society have completed a three year residency in paediatrics. The society is integrated into nine regions, with a director for each region, and 45 local offices.

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### Description of the programme

The programme, named Programa Nacional de Actualización Pediátrica (PRONAP), primarily aims to give a structured programme for paediatric updating with a major focus on the country's health problems. The programme should be accessible to all paediatricians, regardless of their geographical location, and it should be compatible with the working agenda of most paediatricians. Female doctors and colleagues not in contact with academic centres were a main concern of the organisers of the programme. The topics are geared towards new aspects in the handling of paediatric problems relevant to clinical practice within the general strategy of primary care.<sup>3</sup> The programme is nationwide, and assessed by a national council composed of the nine regional directors.

The programme is implemented through the society's central offices. It is an ongoing programme in which the paediatric subjects are changed over time. It uses four main instruments: a printed manual, self evaluation exercises, an annual meeting with peers, and practical field activities.

Table 1 Contents of the programme

Year	Subjects
1993	Acute respiratory infections New immunisations Neonatal asphyxia AIDS in children Failure to thrive Relapsing bronchial obstruction Relapsing otitis media Acute diarrhoea in infants Tuberculosis Fever of unknown cause Low birthweight
1994	New image techniques and applications Symptomatic treatments Hepatitis Common skin diseases Emergencies High blood pressure School failure Neonatal sepsis Jaundice in the preterm baby Nutritional recovery Paediatric actions in the healthy adolescent Congenital malformations
1995	Prehospital handling of a patient with trauma Enteroparasitosis Disorders of feeding behaviour at adolescence Headache Follow up of preterm babies Upper respiratory infections Paediatric odontology Urinary infection Breast feeding Relapsing abdominal pain Gynaecology infections Paediatric orthopaedics Clinical ethics in paediatrics (special article)
1996	Frequent surgical syndromes Palliative care Prevention of pregnancy at adolescence Accident prevention Sleeping disorders Diabetes mellitus and diabetic ketoacidosis Use and abuse of substances in childhood and adolescence Diagnosis of hearing disorders Obesity Congenital heart disease Non-epileptic paroxysmic episodes Nutritional anaemia in infancy

### PRINTED MANUAL

Every three months a printed manual is sent by mail to programme participants. Each manual has approximately 30 pages and contains a chapter on each of three subjects. Thus, a student would receive four manuals each year with 12 subjects altogether. Table 1 shows the topics during the first four years of the programme.

Each topic is selected by the continuous education subcommittee according to the following criteria: magnitude of the problem from a population perspective and based on the main causes of mortality and morbidity in the country; the "goals of child health", signed between national and international health authorities<sup>7,8</sup>; the suggestions of the 45 local offices of the society; and the existence of significant medical progress in the area. There is a balance among the usual types of paediatric practices—ambulatory, inpatient, and intensive care—as well as cover of all paediatric ages (from the newborn to adolescence). The final list of 12 subjects and the proposed authors are subject to approval by the society's steering committee. There is a meeting with the selected authors to discuss guidelines on how the chapter should be written, including resources to be used, and options in terms of diagnosis and therapeutic procedures by level of complexity.

Once the chapter is written, it is edited by an expert in medical education, specialised in the presentation of educational materials. These specialists do all the editorial work, assess the sequence and the internal coherence of the material, and select elements that need to be highlighted, using available graphic design and technology. This work is done in close contact with the author. Each chapter ends with a selection of easily accessible recommended further reading.

### SELF EVALUATION EXERCISES

The authors also prepare two types of self evaluation exercise: those directed to highlight contents and those aiming at the application of recently acquired knowledge. The correct answers are given in the manual.

### ANNUAL MEETING

A meeting with voluntary attendance is organised annually. This is a very good opportunity for the discussion of topics included in the manual. The meetings are coordinated by specially trained paediatricians. Practical exercises are part of the sessions. In 1993 more than 3000 paediatricians participated in the 25 meetings organised all over the country.

### FIELD WORK

Field work is aimed at stimulating team work around the audit of activities in the paediatric field. It is expected that a group of paediatricians tackle a particular paediatric problem in their local place of everyday work.

### EXAMINATION

A multiple choice question, voluntary examination of about 80 questions is carried out by mail at the end of the year; participants have 90

Table 2 Participation of paediatricians in the programme and at annual meetings

	1993	1994	1995	1996
Number	3357	3386	3352	4296
% from the provinces	80.5	75.1	72.5	66.2
% females	62.0	64.7	66.4	67.9
Total number of annual meetings	25	20	15	21
Number of meetings in the federal district	3	1	3	3
Number of meetings in the provinces	22	19	12	18
Number (%) of participants at the meetings	862 (25.6)	430 (12.6)	510 (14.3)	737 (17.1)

Table 3 Number of participants taking multiple choice examinations

	1993	1994	1995	1996
Number of participants and % of total in PRONAP	2641 (78.7)	2778 (82.0)	2982 (84.1)	3653 (85.0)
Number (%) of women	1686 (63.8)	1863 (67.1)	2065 (69.2)	2570 (70.6)

days to return it. The examination is supposed to be done at home, alone, consulting any literature necessary. It is centrally and electronically processed. The threshold for passing the examination is 60%.

The students are given a certificate with 250 learning hours credited. This type of certificate with the number of hours of the courses are taken into account in local professional job appointments by selection committees all over the country.

### Resources

PRONAP is a self financed programme, with the registration fee paid by the participants. The fees are equivalent to £90 for members and £205 for non-members. The fee is equivalent to twice the payment for 24 hours on duty at the emergency ward of a public hospital. Payments are made to the society. The human resources involved in the programme are one full time coordinator (senior paediatrician), one assistant (junior paediatrician), three secretaries, one expert in medical education, and 25 tutors for the annual meetings. Except for the tutors, the personnel are paid. The society uses its full administrative

Table 4 Validation of the examination taken in 1993

	Volunteer paediatricians	PRONAP participants
Number attending the examination	35	2641
Number passing the examination	12	2625
Median score	43	63.5
Maximun possible score	77	77
Range of scores obtained	58–29	74–19

Table 5 Members of the Argentine Society of Paediatrics 1988–96

Year	Total	Annual increment	Women		Annual increment	Federal district		Greater Buenos Aires		Provinces	
			n	%		n	%	n	%	n	%
1988	7018		3250	46.3		1498	21.3	923	13.1	4597	65.5
1989	7350	332	3452	47.9	1.6	1599	21.7	991	13.5	4760	64.8
1990	7694	344	3670	47.7	-0.2	1723	22.4	1056	13.7	4915	64.3
1991	7951	257	3885	48.9	1.2	1820	22.9	1118	14.1	5103	63.0
1992	8130	179	4101	50.4	1.5	1913	23.5	1175	14.5	5042	62.0
1993*	8709	579	4565	52.4	2.0	2027	23.3	1260	14.5	5422	62.2
1994	9505	796	5132	54.0	2.0	2329	24.5	1429	15.0	5747	60.5
1995	9930	425	5538	55.8	1.8	2548	25.7	1547	15.6	5835	58.8
1996	10274	344	5862	57.1	1.3	2881	28.0	1668	16.2	6044	58.8

\*Year PRONAP started.

organisation for the financial administration of the programme.

### Main outcomes of the programme

#### ACCEPTABILITY OF THE PROGRAMME

Table 2 shows the number of paediatricians in the programme from 1993 to 1996; nearly 45% of society members participate each year. Of interest is the growing number of participants, the large proportion of doctors from the provinces, and the high and increasing percentage of female doctors, higher than the percentage of female members of the society—this agrees with the main objectives of the programme. Participation in the annual meeting is hampered by the high travelling and accommodation costs.

The main criticism from the participants was related to the late arrival of the teaching material, usually because of postal problems. The tutors were evaluated by the students and 97% were considered suitable.

#### STUDENTS' PERFORMANCE

Table 3 shows the percentage of paediatricians who participated in the examination. The percentage of PRONAP students increased each year. In each of the four years more than 93% of the students passed the examinations. The 5th, 50th, and 95th centiles of a set of questions taken in 1993 were 53, 64, and 74 out of 77 questions answered correctly. Most students passed the examination, therefore, an obvious question for the organisers was to assess the extent to which the examination was measuring the student's acquisition of knowledge, and whether the examination was technically suitable. The students were allowed to consult texts when performing the examinations as the aim of the programme was to ensure that students studied and consulted medical texts. As a proxy measure of validation of the examination results, the same questions were given to 35 paediatricians with more than 10 years' experience, living in Buenos Aires, who did not participate in the course. These paediatricians were not allowed to confer with other people or to consult books. There was a substantial difference in favour of the students who participated in the programme ( $p < 0.001$ ) (table 4).

#### IMPACT ON THE SOCIETY'S MEMBERSHIP

Table 5 shows the number of members in the society for the past 10 years. A steep rise in the

membership is evident from 1993 onwards, coincidental with the implementation of PRONAP. There was an increase in the proportion of female members, and the proportion of students from the provinces. This last finding is important in a country where approximately 30% of the population live in greater Buenos Aires.

### Discussion

PRONAP is an example of a distance learning programme,<sup>9-11</sup> whose most conspicuous feature is the physical distance between the teachers and the students. This method of education has been studied from several viewpoints (planning, financing, etc)<sup>12 13</sup> in Latin America. There is no other similar distance learning programme in Argentina. The school of dentistry implemented a more modest programme (without evaluation) in 1994, but there are no publications analysing it in detail.

In PRONAP, the evaluation indicates that the CPD programme for paediatricians has had high acceptability, and is taken seriously by most participants. Paid registration in the CPD programme was not a hindrance as approximately 45% of all paediatricians in the country participated in the programme, and most of them did so for more than one year; distance learning programmes usually have a high drop-out rate from one year to another. Most doctors in the programme live outside Buenos Aires metropolitan area, a positive feature of the programme, given that nearly 30% of the population live in Buenos Aires.<sup>5</sup>

The most likely explanation for the high acceptance of the programme is its nature, designed according to an adequate interpretation of the different realities in which paediatric practice develops, and its adaptation to the variety of domestic schedules of practising paediatricians. We should emphasise the genuine and lively interest of paediatricians in learning, and perhaps the perception that their participation in the programme would contribute to their curriculum vitae.

In a world in which computerised learning systems are rapidly expanding, we took the decision of avoiding the use of software packages; printed material being a valid teaching instrument.<sup>14</sup> Computer programmes would have excluded people who have not incorporated this technology into their everyday work. These are the very people that the Argentine Society of Paediatrics wanted to attract to the CPD programme. We have recently implemented a distance course on x ray images with computerised support, with a participation of 1000 paediatricians, about 10% of the total membership. We are sure the local trend is towards a more generalised use of computers, so it may only be a few more years before we use larger distance learning programmes with computer support.

We are aware that in some English speaking countries CPD programmes include an appreciation of evidence-based medicine,<sup>15</sup> but such an approach has not been included in the PRONAP.

The CPD programme described in this report consists of 250 hours of work. This is done in an environment where paediatricians have difficulties in obtaining study leave in the public sector. The private and social security sectors do not provide support for any CPD programme, hence, the time for attending the current programme is provided by the paediatricians themselves, and the programme requires a strong commitment by the paediatricians many of whom work, study, and prepare materials after normal working hours and during weekends. The problem of protecting time for training from service commitments<sup>16</sup> is also present in Argentina. The programme includes a component of active participation, although not as intense as some self directed learning programmes.<sup>17</sup>

One limitation of any distance learning programme, is that it does not allow practical mastery of new technical procedures. We are looking into the possibility of adding video materials to the course that would help to tackle this limitation. However, it would be important to assess to what extent this material may be inappropriate, as it could induce paediatricians to carry out technical procedures for which they have not received proper training experience under supervision.

We strongly believe that participation in a CPD programme improves clinical practice, but this is difficult to measure, and it is necessary to develop better technologies for evaluation of the outcome of medical teaching programmes.

CPD is a central responsibility for medical associations in the current climate of increasing privatisation of medical facilities.<sup>18</sup> These trends do not always include financing of CPD programmes. Within this background, our experience provides hope to other medical associations facing similar conditions. A CPD programme can enrol a large percentage of colleagues; it can help increase professional standards, and increase self esteem of the paediatricians.

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### Commentary

PRONAP is laudable in its aim to raise standards of care for children by enhancing educational opportunities for paediatricians. Argentina is a large country of over 1 million square miles, a population of more than 10 million children, and over 10 thousand paediatricians practising in all areas of professional work and over a wide spread area.

Adults have different learning styles and there are different pressures in their working lives, although most paediatricians are pressed for time. There are some issues in common with the UK—for example, part time workers, geographical spread and distance from major centres, and availability of formal distance learning programmes. In this circumstance a variety of methods is likely to appeal most widely to the programme's target audience. The subscription for the scheme described appears good value for money and makes the programme self funding.

Meeting the needs of individual participants must be a recipe for success in CPD/CME programmes worldwide. As well as ease of access and a variety of approaches, a programme should be enjoyable, practical, and

achievable. The increasing success of the scheme in Argentina supports this as paediatricians are signing up in increasing numbers. Needs in primary care are as great as those in secondary care, and a balance must be achieved in the programme, as well as considering all age groups of children from the neonate through to diseases and lifestyles in young people. It is impressive that the organisers have involved experts in education and presentation of educational materials, a lesson already learned in some national schemes—for example, the USA, but still needing development in much of Europe.

There should be a balance in professional development between the needs of individuals and those of paediatricians as a group. Core skills and knowledge may need to be more clearly defined in future for the maintenance of good practice following qualification and early training. This may not be popular as many doctors believe they should define their own needs, but perhaps the needs of children are too important for the CME programmes in different countries to be left to individual doctors. More research on the evidence base for CPD/CME approaches is needed. We can learn from schemes such as this one from Argentina and others developed or developing around the world. New technologies will help innovative approaches—for example, computer based learning; however, there is still some way to go to ensure access for all.

CPD and CME programmes are here to stay. The public expects doctors to maintain professional competence and to keep up to date. There is an important role for societies of paediatrics, academies of paediatrics, royal colleges of paediatrics, and similar bodies to take a strong lead.

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