

The Chilean Rural Practitioner Programme: a multidimensional strategy to attract and retain doctors in rural areas

Sebastian Peña,^a Jorge Ramirez,^b Carlos Becerra,^b Jorge Carabantes^c & Oscar Arteaga^b

Abstract Developing countries currently face internal and external migration of their health workforce and interventions are needed to attract and retain health professionals in rural areas. Evidence of multidimensional interventions, however, is scarce. This study explores a long-standing strategy to attract and retain doctors to rural areas in Chile: the Rural Practitioner Programme. The main objective is to describe the programme, characterize its multidimensional set of incentives and appraise preliminary programme outcomes.

Retrospective national data were employed to examine recruitment, retention and incentives provided to extend the length of stay and motivate non-clinical work. The programme has successfully recruited a large number of applicants, with acceptance rates close to 100%. Retention rates are nearly 100% (drop-outs are exceptional), but only 58% of participants stay for the maximum period. Areas with greater work difficulty are attracting the best-ranked applicants, but incentives to engage in community projects, management responsibilities, continuous medical education and research have achieved mixed results. Rural doctors are satisfied with their experience and 70% plan to practise as specialists in a referral hospital.

The programme has successfully matched the interests of physicians in specialization with the country's need for rural doctors. However, a gap might be forming between the demand for certain specialties and what the programme can offer. There is a need to conciliate both parties, which will require a more refined strategy than before. This should be grounded in robust knowledge based on programme outcomes and evidence of the interests and motivations of health professionals.

Une traduction en français de ce résumé figure à la fin de l'article. Al final del artículo se facilita una traducción al español. الترجمة العربية لهذه الخلاصة في نهاية النص الكامل لهذه المقالة.

Introduction

An equitable distribution of human resources is essential to improve health outcomes. Low- and middle-income countries are hit hardest by the dual burden of external migration of health professionals to high-income countries and internal migration to wealthy urban areas.^{1,2}

Efforts to tackle external migration to high-income countries must be aligned with interventions to correct internal geographical inequities.^{3–5} Given the complex interplay of factors, interventions addressing a single determinant might not be sufficient to tackle this problem.^{6,7}

Several systematic reviews, however, have unveiled the scarcity of well designed interventions in low- and middle-income countries.^{8–10} A high-quality review did not find any methodologically sound intervention on financial and non-financial incentives, and two recent systematic reviews on financial incentives reported only one study from South Africa.^{8,10,11}

Observational studies from developing countries have focused on piecemeal interventions (educational, financial or regulatory).⁵ With the exception of Thailand, there is a paucity of evidence describing multidimensional interventions to allocate health professionals to rural areas.^{5,12}

This paper explores a long-standing strategy to attract and retain doctors in rural areas in Chile: the Rural Practitioner Programme. The objectives of the study are to describe this programme for rural doctors (*médicos generales de zona*), to characterize its multidimensional set of incentives and to carry out a preliminary evaluation of programme outcomes.

Programme evaluation, background and features

Retrospective data from two routine sources of information were employed. The system of incentives and the organization of the programme are set by a legal framework that was originally enacted in 1963 and derived into current Law 19664 after reform in the year 2000. In this study we used the latest available guidelines from 2008.

Programme outcomes were evaluated by using national data published by the Ministry of Health. A database of the programme was only created after the 2000 reform. Thus, the study uses the only available data on graduates applying for rural positions from 2001 to 2008. Data include: list of applicants, final score (a scale up to 100 points), score for each of four parameters (grades, research articles, activities and voluntary rural clerkship) and district chosen by applicants (if applicable). Data on participants applying for residencies are only available for 2008 and include: list applicants, final score (a scale up to 70 points) and its components (10 areas), and specialization programme chosen by applicants. Changes in scoring can occur during the process of application; we only used definitive scores.

The evaluation of programme outcomes is primarily descriptive. The main outcomes of the study are recruitment, retention and incentives for programme participants to choose a particular worksite or to engage in non-clinical activities. Given the wide range of determinants of physician's behaviour, we did not attempt to identify predictors or establish associations for individuals' decisions.

^a National Institute for Health and Welfare, Division of Welfare and Health Policies, Helsinki, Finland.

^b University of Chile, School of Public Health, Avenida Independencia 939, Santiago, Chile.

^c Ministry of Health, Human Resources Research Unit, Santiago, Chile.

Correspondence to Oscar Arteaga (e-mail: oarteaga@med.uchile.cl).

(Submitted: 1 October 2009 – Revised version received: 19 December 2009 – Accepted: 28 January 2010)

Background

Chile is an upper middle-income country in the southernmost part of South America. With a population of 16.7 million and a gross domestic product of 14 528 international dollars per capita,¹³ the country has experienced sustained economic and social development in the past decades.

The Human Development Index has risen steadily, with a decline in relative poverty (from 38.7 in 1990 to 13.7% in 2006) and increasing educational attainment.^{14,15} Health outcomes have equally improved: from 1960 to 2006, life expectancy increased by 20 years and infant mortality decreased from 119.5 to 8.7 deaths per 1000 live births.¹⁶

The Rural Practitioner Programme was launched in 1955, only three years after the creation of the Chilean National Health Service in 1952.¹⁷ Already in the 1930s and 1940s there was evidence of an unequal distribution of physicians around the country and a lack or shortage of doctors in many rural hospitals.¹⁸ By 1955, 65.2% of physicians lived in the capital province of Santiago despite its having only 32.7% of the country's population.¹⁹

Objectives, financing and administration

The main objective of the programme is to attract physicians to work in rural primary-care hospitals and health centres for a minimum of three years (and a maximum of six). The main incentive is a paid residency in a university hospital plus attractive salaries and benefits proportional to the degree of isolation and clinical responsibility.²⁰

The design of the programme has remained stable over the years, but the context of the specialization opportunities has changed. During the 1950s to 1970s, it was the only way for physicians to access specialization programmes and become part of the National Health Service. This was indeed a powerful incentive and, by 1972, 58.8% of graduated physicians participated in the programme.¹⁹

Reforms in the medical education and health-care system in the 1980s and 1990s introduced tuition fees, creating a direct route to residency programmes through self-financing. In addition, increasing numbers of private medical schools and the promotion of private health care have enforced competition for certain medical specialties that ensure better financial prospects.^{21,22} Residencies

Box 1. Items considered in the application for a specialization programme, Rural Practitioner Programme, Chile²⁷

Incentives associated with worksite's characteristics and length of stay

- Length of stay (10 points)
- Work difficulty (from A to E) (9 points)
- Work in rural health posts (8 points)
- Being the only doctor in the health district (3 points)

Incentives associated with development of the physician's work

- Development of community or health care projects (12 points)
- Management functions (8 points)
- Research articles (6 points)
- Continuous professional development (5 points)
- Health education and teaching activities (5 points)
- Civil servant evaluation (4 points)
- Total: 70 points

take place at university hospitals. Physicians can apply directly to the public and private universities or through the Rural Practitioner Programme. Here we describe the national, centralized process of the programme, which is independent of each university's own process.

One of the landmarks in the implementation of the Rural Practitioner Programme was the enactment of Law 15076 in 1963 (reformed in the year 2000 into Law 19664). This law granted autonomy from political support and ensured sustainability of the programme over time.²³ It also established a secure financing mechanism: funds come entirely from public resources after a negotiation on the total number of positions for the Rural Practitioner Programme in the national budget.

The programme has been administered by a specialized unit in the Ministry of Health. The unit coordinates the application process, defines the number of positions and negotiates the number of residencies with universities. Supervision and day-to-day management are carried out by the regional health services at a decentralized level.²⁴

Selection of participants

The application process is competitive and ranks graduates based on a quantitative score. Out of 100 points (highest score possible), grades are given the greatest importance (94.5 points), followed by research articles and activities (2 points each) and voluntary rural clerkship (1.5 points).²⁵

The Ministry of Health publishes a list of available positions, graded from A to E (A means highest work difficulty, based on the degree of isolation, geo-

graphic and climatic conditions, basic services available, quality and quantity of existing infrastructure and population covered).²⁶ Applicants select their placement in a public audience by using a viva voce procedure.²⁵

After three years (and a maximum of six) doctors are allowed to apply for a specialization programme. This time the application process ranks doctors based on the length of stay and work difficulty, as well as engagement in community or health projects; management responsibilities, education and training, and research (Box 1). Applicants, according to their position in the ranking, can then select residency programmes from positions negotiated yearly by the Ministry of Health.²⁷

Types of incentives

Drawing on Dolea's framework, we have categorized the bundled set of incentives of the Rural Practitioner Programme in four domains²⁸: (i) monetary compensation (direct and indirect financial incentives); (ii) education and regulatory interventions; (iii) management, environment and social support; and (iv) external incentives.

Monetary compensation

The programme considers both direct and indirect financial incentives. Direct incentives comprise a permanent salary and transitory allowances (Table 1). Permanent salary is a basic salary plus a seniority allowance that is added to the salary every three years (34% of basic salary after three years and 44% after six years). Transitory allowances depend on the geographical conditions, workload (shifts and overtime work) and job re-

Table 1. Domains and incentives of the Rural Practitioner Programme, Chile²⁰

Domain	Name	Description
Educational	Voluntary rural clerkship	<ul style="list-style-type: none"> Four-week clerkship with physicians from the Rural Practitioner Programme, included in the application process.
Financial	Direct	Permanent salary based on: <ul style="list-style-type: none"> Basic salary Seniority (increments: basic salary +34% after 3 years and +44% after 6 years) Transitory allowance: <ul style="list-style-type: none"> Responsibility: for physicians in management functions (director and vice-director). Ranges from 40–70%²⁹ Full-time compensation: reward of 23% for physicians working fulltime Special conditions: composed of geographical area stipend (10–180%, depending on level of isolation) plus shifts and extra hours³⁰ Performance bonus: one-off payment based on individual or collective performance^{31,32} Geographical area (% extra on basic salary depending on place of residence; for all public sector employees)³³ Residency (% extra on basic salary to compensate the loss of responsibility and geographical area allowances during the residency period)
	Indirect	<ul style="list-style-type: none"> Paid specialization programme³⁴ Installation and closure kit (includes double salary the first and last month and transport costs (personal and assets)) House (owned by health services or municipalities)
Management, environment and social support	Incentives to engage in hospital management and community work	Eight types of activities included in the application guidelines for specialization programmes (Box 1)
	Continuous professional development	A month/year for clinical clerkship in reference hospital and 3 days/year for continuous medical education. Up to 160 hours of paid training for selected applicants ³⁵
	Free days	12 days/year for personal reasons (twice the number other public sector employees receive) and a week more of holidays in regions I, II, XI, XII, XV and Palena Province (X region)
External incentives	Incentives that facilitate enrolment	<ul style="list-style-type: none"> Internship during medical school (4–8 weeks) Introduction of tuition fees for residency programmes, growing number of private medical schools and graduates and a burgeoning for-profit private health sector
	Incentives that facilitate retention	<ul style="list-style-type: none"> Rapid expansion of basic health and education services (1960s and 1970s), improved rural connectivity (1980s). Internet and mobile phone connectivity (1990-onwards) Rural Practitioner Association - the trade union of Rural Practitioner Programme's participants. Strong and representative association, an active stakeholder in negotiating with authorities.

For 2008 the basic salary was equivalent to US\$ 1 275 (calculated on the year average published by Chilean Central Bank).³⁶

sponsibilities.^{20,30} In practice, transitory allowances can increase the basic salary up to five times.

Additionally, physicians working in municipal health centres are entitled to negotiate with local authorities other allowances for community outreach activities, shifts or overtime work.³⁷ Likewise, physicians often increase their income by working in the private sector after regular working hours. During the residency period, they maintain the permanent allowances but stop receiving some transitory ones, resulting in a drop of 10–15% in the total salary.

The most important indirect financial incentive is the specialization programme. During the three years of residency, the Rural Practitioner Programme provides a salary and covers the tuition fees, which would otherwise have to be covered with private funds (around US\$ 5000 per year). Also, there is an in-

stallation and departure kit (including a double salary for the first and last month, transport tickets and a removal van). Some health services or municipalities own houses that are given to physicians for free or low rent, although no exact estimate on this subsidy is available.

Education and regulatory interventions

During medical training, students are also allowed to participate for up to four weeks in a voluntary rural clerkship assisting rural practitioners (mostly participants of the Rural Practitioner Programme) in the normal activities of rural primary health care (e.g. inpatient and outpatient health care, shifts in the emergency department and outreach to rural health posts). From 2005 to 2009, an average of 93% of programme applicants had completed the maximum hours of voluntary rural clerkship.³⁸

Management, environment and social support

The competitive application process for residency programmes includes two kinds of incentives: (i) incentives associated with worksite's characteristics and length of stay; and (ii) incentives associated with the development of the physician's work. The former are designed to encourage physicians to choose the most isolated geographical areas and stay for the maximum period of six years; whereas the latter attempt to motivate physicians to get involved in community work, taking management responsibilities and participating in research and continuous medical education. Box 1 shows that most of the score is allocated to assess a physician's individual performance.

During their performance in rural areas, doctors can attend one month of training annually at the corresponding regional hospital. This is an excellent

opportunity to strengthen the capacity of rural practitioners, and to allow them to establish networks with specialists in regional hospitals. Additionally, rural doctors are entitled to six days per year of continuous medical education and one day off every month for personal matters (twice the number than for other public sector employees). Physicians working in remote regions have five extra days of holiday.

External incentives

External incentives are not part of the programme but could play a role in facilitating recruitment or promoting retention of participants.

Recruitment incentives include the mentioned changes in the specialization market (tuition fees for residencies, increased number of graduates and private sector growth) and the recent introduction of rural internships by medical schools. In fact, 54% of accredited medical schools have introduced rural internships of 4 to 8 weeks during medical training.

Retention incentives result from the improvement of working conditions in rural areas, including the expansion of basic health and education services (during the 1950s to 1960s), enhancement in rural connectivity (1970s to 1980s), better equipment and salaries in rural health facilities (1990s to 2000s) and internet and mobile phone access (2000s).

Equally, participants are organized in a strong trade union. The union is a key stakeholder in negotiating better working conditions with the authorities and has built a powerful social network for peer support, which helps new participants to understand the complex legal framework. The union also promotes research on rural health and organizes yearly scientific meetings.³⁹

Programme outcomes

According to Bärnighausen & Bloom, it is possible to evaluate programme outcomes based on the outcomes among participants (results), between participants and non-participants (effects), and effectiveness at population level (impacts).¹⁰ Available data only allow us to evaluate programme results, namely recruitment, retention, incentives associated to work site's characteristics and performance and satisfaction.

Table 2. Recruitment and acceptance rates of physicians in the Rural Practitioner Programme, Chile, 2001–2009

Recruitment of physicians	2001–2004 average	SD	2006	2007	2008	2009
Number of available positions	153.5	31.8	126	144	165	160
Number of applicants	381	94.2	514	593	558	485
Applicants/positions ratio	2.5	0.4	4.1	4.1	3.4	3.0
Filled positions (%)	99.3	1.4	100	100	100	100
Acceptance of position (%)^a						
First quartile	19	1.6	19	27	44	50
Second quartile	39.3	15.1	37	53	51	42
Third quartile	52.3	14.6	43	54	43	41
Fourth quartile	42	7.5	27	9	27	27

SD, standard deviation.

^a Quartiles are calculated on the rank of the last applicant who took the offered position.⁴

Source: Ministry of Health, 2001–2009.³⁸

Recruitment

Recruitment refers to how successful the programme is in finding applicants and filling the vacancies. As Table 2 shows, the programme seems to be attracting a great number of applicants. They exceed the number of available positions by at least 2.5 times and have increased in the past three years; since 2002, acceptance rates are 100%.

However, closer scrutiny suggests that graduates do apply but do not necessarily take the vacancies (Table 2). This tendency to opt-out is stronger for better-ranked applicants. From 2001 to 2004, only 19% of better-ranked applicants (first quartile) enrolled in the programme, reaching a peak of 52.3% in the third quartile. In the two years prior to this study, this tendency seems to have improved, since the programme attracted 44% and 50% of first-quartile applicants, respectively. The scoring system gives great importance to academic achievements (98.5% of the score comes from grades and research), but it is unknown whether this profile corresponds with the skills needed in rural settings.

Retention

Retention represents the proportion of participants that stay the required period of time. Leaving the programme is exceptional and most cases occur at the beginning of the application process. Open positions are normally filled in subsequent calls at national or decentralized level, resulting in very few positions left vacant for more than one year.²⁵ The programme, however, is less successful in motivating doctors to stay for the maxi-

imum period, achieving only 58% of the maximum length of stay.⁴⁰

Incentives associated with worksite

Results for incentives associated with the worksite's characteristics (Table 3) show a gradient of average scores for physicians applying for rural jobs, suggesting that positions with higher level of work difficulty (and hence more rewards) are effectively attracting better-ranked applicants.

Table 4 shows the proportion of physicians that received maximum score in incentives associated with physicians' work. The Rural Practitioner Programme has successfully motivated physicians to engage in non-clinical work, particularly in promoting continuous medical education and health education activities. Despite representing a large share of the total score (28 points, 40%), the least successful areas were participating in community outreach activities, developing community and health-care projects and assuming management functions.

Satisfaction

A recent representative survey of Rural Practitioner Programme participants ($n = 202$, 26% of the total) suggested a high degree of satisfaction with the programme: more than 90% considered their experience as positive and 69.7% planned to practise as a specialist in the referral hospital. Respondents identified relationships with family and partner, working conditions, income and social relations as the most influential factors in their daily experience as rural doctors. Isolation and climatic conditions were given the least importance.⁴¹ This is consistent with ear-

lier studies highlighting the importance of non-financial incentives as determinants of participants' satisfaction.⁴²

Current challenges

Our results have several limitations. Despite the experience of more than five decades, lack of retrospective data made it impossible to analyse long-term trends and to compare physicians who have participated in the Rural Practitioner Programme with those who have not.

There is increasing evidence of factors that may predict retention of physicians in rural practice, often using specially designed surveys.^{43–46} Analysing predictors of positive programme outcomes would have strengthened the external validity of our results. However, this paper being the first report on the Chilean Rural Practitioner Programme at an international level, we chose to use only currently available data.

Notwithstanding these limitations, the study expands the knowledge base of multidimensional strategies on retention and attraction. The key element of the programme is a bundled set of financial and non-financial incentives, concerted in a strategic way to influence physicians engaging in activities considered of public health importance and extending the length of stay. Results suggest that the programme is successfully attracting physicians to work in rural areas, while achieving remarkably high retention rates and overall satisfaction.

The programme is also encouraging continuous medical education, research and health education, in line with previous reports.⁴⁷ Community outreach activities, development of community and health-care projects and management functions had less promising results, which can be partially explained by two factors. First, opportunities for rural physicians are variable and the availability of management positions and community outreach activities is limited. Second, not all specialties motivate participants equally and there is skewed competition for a few specialties (arguably those associated with more income or without shifts). This permits doctors with lower ranks (and hence fewer activities) to enrol in less competitive positions.⁴⁸

Nevertheless, it must be highlighted that contrary to other reported experiences that aim to retain doctors in rural settings permanently, the Chilean Rural

Table 3. Average score of doctors applying for rural jobs according to site category in the Rural Practitioner Programme, Chile

Category of site ^a	Average score of applicants ^b					
	2004	2005	2006	2007	2008	2009
A – most work difficulties	89.2	89.7	86.7	91.9	87.5	91.1
B	86.3	88.3	87.2	90.5	86.4	89.9
C	86.9	87.2	87.2	88.4	87.1	87.8
D	85.5	86.3	85.9	85.7	86.6	85.1
E – least work difficulties	85.2	86.2	84.8	84.2	85.3	82.9

^a Sites are graded from A to E according to work difficulty, based on the degree of isolation, geographic and climatic conditions, basic services available, quality and quantity of existing infrastructure and population covered.^a

^b The average score of applicants for rural jobs is calculated based on four parameters: grades (94.5 points), research articles (2 points) and activities (2 points) and voluntary rural clerkship (1.5 points). Maximum points = 100 points.^b

Source: Unit of Destination and Residencies, Ministry of Health.²⁵

Practitioner Programme has always been conceived as a mechanism to retain individual doctors for a period of no longer than 6 years, after which they are replaced by another physician who will remain in the site for a similar period.⁴⁹

The application process is also relatively weak in promoting specialties that might be needed in the rural area but are not interesting for physicians. This is the case, for example, of family medicine residencies, which have had very low acceptance rates (10.3% from 2001 to 2007).⁴⁸ In developed countries, family physicians are more likely to go into rural practice. In this context, lack of interest of Chilean doctors in family medicine could become an important obstacle to retain doctors in rural areas on a more permanent basis.⁵⁰

It can be said that, retrospectively, the Rural Practitioner Programme has been successful in matching physicians' interest in specialization with the country's needs for rural doctors. However, a gap might

be arising between the demand for certain specialties and what the programme can offer. In this sense, the crucial challenge is how to conciliate the needs of both parties, which will require a much more refined strategy than before.

Such conciliation must start with strengthening the evidence base for decision-making processes. First, research should be encouraged to evaluate programme outcomes. This includes comparing programme participants with other rural doctors, and analysing the impact at population level and determining the cost-effectiveness of the programme.

Second, more insightful studies on incentives and motivation should be promoted as a means of facilitating evidence-based decisions. These could include surveys to find out participants' incentives and motivation, discrete choice experiments among graduates and practising doctors and longitudinal follow-up of recent cohorts of graduates. Future efforts to expand this knowledge base will allow

Table 4. Proportion of physicians performing activities associated with individual work, Rural Practitioner Programme, Chile

Type of activity	2008 (%) ^a
Continuous medical training	97.5
Health education and training	74.5
Research publications	67.5
Community outreach activities	61.8
Development of community and health-care projects	60.5
Management functions	59.2

^a Calculations based on applicants taking the residency positions. Proportions were calculated based on maximum score. In management functions and work in rural health posts, the maximum score depends on the length of stay. We adjusted the calculations to the number of months enrolled in the programme to control for the length of stay as a confounding factor.^a

Source: Unit of Destination and Residencies, Ministry of Health.⁴⁰

the programme to align with the country's current population needs and best serve the objectives of Chilean national health policies.

Conclusion

The Rural Practitioner Programme in Chile represents a successful strategy to attract and retain physicians to rural areas by combining in a coherent way a set of financial, educational and management incentives. The present study highlights

the importance of non-financial incentives to determine a physician's behaviour. Interventions to retain doctors and other professionals in rural areas must balance organizational stability with flexibility to ensure the alignment of the incentives with national health policies and other challenges of the health workforce. Significant efforts are needed to implement evidence-based reforms of the programme to effectively adapt its successful design to the changing needs of the Chilean population. ■

Funding: None.

Competing interests: Sebastian Peña is a former participant of the programme. Jorge Ramirez and Carlos Becerra are currently undergoing the residency programme in Public Health as part of the Rural Practitioner Programme. Jorge Carabantes was responsible for the programme from 1995 to 2006. Between 2006 and 2008, he was director of the Division of Human Resources at the Ministry of Health.

ملخص

برنامج الأطباء الممارسين في أرياف شيلي: استراتيجية متعددة الأبعاد لاجتذاب واستبقاء الأطباء في المناطق الريفية

ذات الصعوبات الأكبر في العمل تستهوي أفضل المتقدمين، إلا أن الحوافز التي تقدم للانخراط في المشاريع المجتمعية، ولتحمل المسؤولية الإدارية، وللتعليم الطبي المستمر، وللبحوث قد حققت نتائج متضاربة. فالأطباء في الأرياف راضون بخبراتهم، ويخطط 70% منهم للممارسة كاختصاصيين في مستشفيات الإحالة.

وقد نجح البرنامج في التوفيق بين اهتمامات الأطباء في التخصص مع احتياجات البلد للأطباء في الأرياف. إلا أنه قد تظهر فجوة بين الطلب على بعض الاختصاصات وبين بعض ما يمكن للبرنامج تقديمه. وهناك حاجة للتوفيق بين الطرفين، وذلك قد يتطلب استراتيجية أكثر نضجاً مما هي عليه قبل؛ وهذا ما ينبغي أن يؤسس على أساس من المعارف الصلبة حول حصائل البرنامج وحول البيانات على مصالح وحوافز المهنيين الصحيين.

تواجه البلدان النامية في الوقت الحاضر هجرة داخلية وهجرة خارجية للقوى الصحية العاملة، وشمس الحاجة إلى اجتذاب واستبقاء المهنيين الصحيين في المناطق الريفية. إلا أن البيانات حول التدخلات المتعددة الأبعاد قليلة. وتستقصي هذه الدراسة استراتيجية قائمة منذ وقت طويل لاجتذاب واستبقاء الأطباء في المناطق الريفية في شيلي، وهي برنامج الأطباء الممارسين في الأرياف. وقد كان الغرض الأساسي وصف البرنامج، والتعرف على خصائص وافية من مجموعة من المحفزات وتقييم الحصائل المبدئية للبرنامج.

وقد استخدم الباحثون المعطيات الوطنية الاستيعادية لدراسة التوظيف والاستبقاء والحوافز التي تقدم لتمديد فترة المكث وللتحفيز على العمل غير السري. وقد وظف البرنامج بنجاح عدداً كبيراً من المتقدمين بطلباتهم، ومعدل قبول يصل إلى 100% (إذ كان التخلي عن العمل استثنائياً)، إلا أن 58% من المشاركين استمروا حتى المدة القصوى. وقد كانت المناطق

Résumé

Programme en faveur des praticiens ruraux du Chili : stratégie pluridimensionnelle pour attirer et retenir les médecins dans les zones rurales

Les pays en développement sont confrontés actuellement à une migration interne et externe de leur main-d'œuvre médicale et des interventions sont nécessaires pour attirer et retenir les professionnels de santé dans les zones rurales. On dispose néanmoins de peu de données sur des interventions pluridimensionnelles. Les auteurs étudient ici une stratégie à long terme pour attirer et retenir les médecins dans les zones rurales du Chili : le programme en faveur des praticiens ruraux. Le principal objectif de l'article est de décrire ce programme, de caractériser la série pluridimensionnelle de mesures d'incitation qu'il utilise et de réaliser une évaluation préliminaire de ses résultats.

Des données nationales rétrospectives ont été utilisées pour étudier le recrutement des médecins et les moyens de les retenir, ainsi que les mesures d'incitation fournies pour allonger la durée de leur séjour et les pousser à accepter des activités non-cliniques. Le programme a réussi à recruter un grand nombre de candidats, avec des taux d'acceptation proches de 100 %. Les taux de maintien ont été voisins de 100 % (les

abandons ont été exceptionnels), mais 58 % seulement des participants sont restés pendant la période maximum. Les zones présentant les plus grandes difficultés professionnelles ont attiré les candidats les mieux classés, mais les mesures d'incitation pour qu'ils s'engagent dans des projets communautaires, des responsabilités de gestion, la formation médicale continue ou la recherche ont obtenu des résultats mitigés. Les praticiens ruraux sont satisfaits de leur expérience et 70 % prévoient d'exercer comme spécialistes dans des hôpitaux de recours.

Le programme a réussi à faire correspondre les intérêts des médecins en cours de spécialisation et les besoins du pays en praticiens ruraux. Néanmoins, un écart pourrait se creuser entre la demande en certaines spécialités et ce que le programme peut offrir. Il est nécessaire de concilier les deux parties, ce qui exigera une stratégie plus fine que celle appliquée auparavant. Cette stratégie devra s'appuyer sur une base de connaissances robuste concernant les résultats du programme et sur les preuves d'intérêt et de motivation des professionnels de santé.

Resumen

El Programa de Médicos Rurales de Chile, una estrategia multidimensional para atraer y fidelizar a profesionales de la salud en las zonas rurales.

Los países en desarrollo afrontan actualmente un problema de migración interna y externa de su fuerza laboral sanitaria, lo que obliga a emprender intervenciones que atraigan y fidelicen a los profesionales de la salud en las zonas rurales. Sin embargo, apenas hay datos sobre intervenciones multidimensionales encaminadas a ese fin. En este estudio se analiza una estrategia a largo plazo concebida para atraer y fidelizar a los médicos en las zonas rurales de Chile: el Programa de Médicos Rurales. El objetivo principal es describir el programa, caracterizar los incentivos en todas sus dimensiones y evaluar sus resultados preliminares.

Se emplearon datos nacionales retrospectivos para analizar la contratación, la permanencia y los incentivos ofrecidos a fin de ampliar la duración de la estancia y aumentar la motivación para realizar tareas no clínicas. El programa ha conseguido captar a un gran número de solicitantes, con tasas de aceptación cercanas al 100%. Las tasas de permanencia son casi del 100% (los abandonos son excepcionales), pero

sólo un 58% de los participantes agota el plazo máximo. Las zonas con las condiciones de trabajo más difíciles están atrayendo a los candidatos mejor clasificados, pero los incentivos para participar en proyectos comunitarios, tareas administrativas, formación médica continua e investigación se han saldado con resultados desiguales. Los médicos rurales están satisfechos con su experiencia, y el 70% tiene previsto ejercer como especialista en un hospital de referencia.

El programa ha conseguido acompañar los intereses de los médicos en fase de especialización con las necesidades de médicos rurales del país. Sin embargo, podría estar produciéndose un desfase entre la demanda de algunas especialidades y lo que el programa puede ofrecer. Es necesario conciliar las dos partes, lo que requerirá una estrategia más afinada, y para ello hay que basarse en un acervo sólido de conocimientos sobre los resultados del programa y la evidencia disponible acerca de los intereses y motivaciones de los profesionales de la salud.

References

- Chen L, Evans T, Anand S, Boufford JI, Brown H, Chowdhury M et al. Human resources for health: overcoming the crisis. *Lancet* 2004;364:1984–90. doi:10.1016/S0140-6736(04)17482-5 PMID:15567015
- The world health report 2006: working together for health*. Geneva: World Health Organization; 2006.
- Stilwell B, Diallo K, Zurn P, Vujicic M, Adams O, Dal Poz M. Migration of health-care workers from developing countries: strategic approaches to its management. *Bull World Health Organ* 2004;82:595–600. PMID:15375449
- Mullan F. The metrics of the physician brain drain. *N Engl J Med* 2005;353:1810–8. doi:10.1056/NEJMs050004 PMID:16251537
- Dussault G, Franceschini MC. Not enough there, too many here: understanding geographical imbalances in the distribution of the health workforce. *Hum Resour Health* 2006;4:12. doi:10.1186/1478-4491-4-12 PMID:16729892
- Dieleman M, Harnmeijer J. *Improving health worker performance: in search of promising practices*. Geneva: World Health Organization; 2006. Available from: http://www.who.int/hrh/resources/improving_hw_performance.pdf [accessed 23 March 2010].
- Semeels PM, Lindelöw M. *For public service or money: understanding geographical imbalances in the health workforce*. Washington, DC: The World Bank; 2005. Available from: <http://econ.worldbank.org/resource.php?type=5> [accessed 23 March 2010].
- Grobler L, Marais BJ, Mabunda SA, Marindi PN, Reuter H, Volmink J. Interventions for increasing the proportion of health professionals practising in rural and other underserved areas. *Cochrane Database Syst Rev* 2009;CD005314. doi:10.1002/14651858.CD005314.pub2 PMID:19160251
- Chopra M, Munro S, Lavis JN, Vist G, Bennett S. Effects of policy options for human resources for health: an analysis of systematic reviews. *Lancet* 2008;371:668–74. doi:10.1016/S0140-6736(08)60305-0 PMID:18295024
- Bärnighausen T, Bloom DE. Financial incentives for return of service in underserved areas: a systematic review. *BMC Health Serv Res* 2009;9:86. doi:10.1186/1472-6963-9-86 PMID:19480656
- Sempowski IP. Effectiveness of financial incentives in exchange for rural and underserved area return-of-service commitments: systematic review of the literature. *Can J Rural Med* 2004;9:82–8. PMID:15603680
- Lehmann U, Dieleman M, Martineau T. Staffing remote rural areas in middle- and low-income countries: a literature review of attraction and retention. *BMC Health Serv Res* 2008;8:19. doi:10.1186/1472-6963-8-19 PMID:18215313
- World economic outlook databases*. Washington, DC: International Monetary Fund; 2009. Available from: <http://www.imf.org/external/ns/cs.aspx?id=28> [accessed 23 March 2010].
- La situación de pobreza en Chile 2006*. Santiago: Ministry for Planning; 2007. Spanish. Available from: <http://www.mideplan.cl/casen/publicaciones/2006/Pobreza.pdf> [accessed 23 March 2010].
- Human development report - country fact sheet - Chile*. Geneva: United Nations Development Programme; 2008. Available from: http://hdrstats.undp.org/en/countries/data_sheets/cty_ds_CHL.html [accessed 23 March 2010].
- World health statistics*. Geneva: World Health Organization; 2008. Available from: http://www.who.int/whosis/whostat/EN_WHS08_Full.pdf [accessed 23 March 2010].
- de la Jara JJ, Bossert T. Chile's health sector reform: lessons from four reform periods. *Health Policy* 1995;32:155–66. doi:10.1016/0168-8510(95)00733-9 PMID:10156636
- Allende S. *La realidad médico-social chilena*. Santiago: Ministerio de Salubridad; 1939.
- Juricic B, Cantuarias R. La salud rural en Chile: programa para atraer médicos a las zonas rurales [Rural health in Chile: a program to attract physicians to rural areas]. *Bol Oficina Sanit Panam* 1975;78:203–11. PMID:123448
- Law 19664*. Santiago: Ministry of Health; 2000. Available from: http://www.minsal.cl/ici/leyes_reglamentos/ley19664.pdf [accessed 23 March 2010].
- Roman O. Las nuevas escuelas de medicina en el panorama médico actual [The new medical schools in Chile and their influence on the medical scenario]. *Rev Med Chil* 2009;137:1099–104. Spanish PMID:19915777
- Goic A. Proliferación de escuelas de medicina en Latinoamérica: causas y consecuencias [Proliferation of medical schools in latin America. Causes and consequences]. *Rev Med Chil* 2002;130:917–24. Spanish PMID:12360803
- Carabantes J. Ciclo de Destinación: instrumento de equidad. *Cuad Med Soc* 1998;34:18–26.
- Arteaga O. *Desempeño e incentivos en la gestión de recursos humanos en salud: algunas experiencias institucionales del sector público en Chile*. Washington, DC: Pan American Health Organization; 2002. Spanish.
- Proceso de selección para ingreso a la Etapa de Destinación y Formación y otorgamiento de becas primarias*. Santiago: Ministry of Health; 2006. Spanish.
- Carabantes J, Yevenes S. *Estudio de categorización establecimientos de baja complejidad*. Santiago: Ministry of Health; 2000. Spanish.
- Bases proceso de selección para acceder a cupos en Programa de Especialización año 2010 para médicos contratados por el artículo 8 de la Ley N 19664, en Etapa de Destinación y Formación de los Servicios de Salud*. Santiago: Ministry of Health; 2009. Spanish.
- Dolea C. Increasing access to health workers in remote and rural areas through improved retention. In: *First expert meeting to develop evidence-based recommendations to increase access to health workers in remote and rural areas through improved retention*. Geneva: World Health Organization; 2009. Available from: http://www.who.int/hrh/migration/background_paper.pdf [accessed 23 March 2010].

29. Reglamento para la concesión de la Asignación de Responsabilidad establecida en la Ley no. 19.664. Decreto 841. Santiago: Ministry of Health; 2001. Spanish. Available from: http://www.minsal.cl/ici/leyes_reglamentos/841.pdf [accessed 23 March 2010].
30. Reglamento para la concesión de la Asignación de Estímulo establecida en la Ley no.19.664. Decreto 847. Santiago: Ministry of Health; 2001. Spanish. Available from: http://www.minsal.cl/ici/leyes_reglamentos/847AZ.pdf [accessed 23 March 2010].
31. Reglamento para pago de bonificación por desempeño individual - Ley no. 19.664, art. 37. Decreto 848. Santiago: Ministry of Health; 2001. Spanish. Available from: http://www.minsal.cl/ici/leyes_reglamentos/BONOINDIVIDUAL848.pdf [accessed 23 March 2010].
32. Reglamento para pago de bonificación por desempeño colectivo institucional - Ley No. 19.664, art. 37. Decreto 849. Santiago: Ministry of Health; 2001. Spanish. Available from: http://www.minsal.cl/ici/leyes_reglamentos/BONOCOLECTIVO849-2.pdf [accessed 23 March 2010].
33. Decreto Ley no. 249, de 1973, Escala unica de grados y sueldos de la administración pública. Santiago: Ministry of Agriculture; 1973. Spanish. Available from: http://alegislativo.bcn.cl/publicadores/pub_link_asistente/admin/ver_archivo_subido.php?id_archivo=306&file=1 [accessed 23 March 2010].
34. Reglamento sobre acceso y condiciones de permanencia en Programas de Especialización Ley no. 19.664, art. 37. Decreto 91. Santiago: Ministry of Health; 2001. Spanish. Available from: http://www.minsal.cl/ici/leyes_reglamentos/ESPECIALIZACION91.pdf [accessed 23 March 2010].
35. Reglamento sobre actividades de capacitación a que se refiere el párrafo segundo del inciso primero del artículo 46 de la Ley no.19.664. Decreto 752. Santiago: Ministry of Health; 2001. Spanish. Available from: http://www.minsal.cl/ici/leyes_reglamentos/CAPACITACION752.pdf [accessed 23 March 2010].
36. Statistical database. Santiago: Banco Central; 2009. Available from: http://si2.bcentral.cl/Basededatoseconomicos/951_portada.asp [accessed 23 March 2010].
37. *Imparte instrucciones en relación con el desempeño de profesionales funcionarios de la Etapa de Destinación y Formación en consultorios de atención primaria municipal*. Santiago: Ministry of Health; 2006. Spanish.
38. *Listado de puntajes definitivos con reposición proceso de selección para ingreso a la Etapa de Destinación y Formación para médicos de la última promoción 2001-2009*. Santiago: Ministry of Health; 2000-2008. Spanish.
39. Agrupación de Médicos Generales de Zona [Internet]. 2009 Available from: www.mgz.cl [accessed 23 March 2010].
40. *Listado de puntajes definitivos para acceder a cupos de especialización para médicos EDF art no. 8, año académico 2009*. Santiago: Ministry of Health; 2008. Spanish.
41. Ramirez J, Rivera P. *Experiencia del generalato de zona. Expectativas y certidumbres en torno al ciclo de destinación y formación. Informe final [Experience of the Rural Practitioner Programme: expectations and uncertainties. Final report]*. Santiago: Medical Association of Chile; 2008. Spanish.
42. Díaz X. El médico general de zona: imágenes de su trabajo, valores ocupacionales y estudio de satisfacción profesional. *Cuad Med Soc* 1971;12:5–12.
43. Fryer GE Jr, Stine C, Vojir C, Miller M. Predictors and profiles of rural versus urban family practice. *Fam Med* 1997;29:115–8. PMID:9048172
44. Rabinowitz HK, Diamond JJ, Markham FW, Paynter NP. Critical factors for designing programs to increase the supply and retention of rural primary care physicians. *JAMA* 2001;286:1041–8. doi:10.1001/jama.286.9.1041 PMID:11559288
45. Laven GA, Beilby JJ, Wilkinson D, McElroy HJ. Factors associated with rural practice among Australian-trained general practitioners. *Med J Aust* 2003;179:75–9. PMID:12864716
46. Chan B, Degani D, Crichton T, Pong R, Rourke J, Goertzen J et al. Factors influencing family physicians to enter rural practice: Does rural or urban background make a difference? *Can Fam Physician* 2005;51:1247.
47. Van Dormael M, Dugas S, Kone Y, Coulibaly S, Sy M, Marchal B et al. Appropriate training and retention of community doctors in rural areas: a case study from Mali. *Hum Resour Health* 2008;6:25. doi:10.1186/1478-4491-6-25 PMID:19017381
48. *Estadísticas de las becas de especialización de la Etapa de Destinación y Formación 2001-2007*. Santiago: Ministry of Health; 2009. Spanish.
49. Hutten-Czapski P. Rural incentive programs: a failing report card. *Can J Rural Med* 1998;3:242–7.
50. *Rural practice, keeping physicians in* [position paper]. American Academy of Family Physicians; 2009. Available from: <http://www.aafp.org/online/en/home/policy/policies/r/ruralpracticekeep.html> [accessed 23 March 2010].