

PLAN ESPERANZA: A MODEL FOR CANCER PREVENTION AND CONTROL IN PERU

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Peru is mobilizing pluralistic and equitable population-based cancer control through sustained national action and international collaborations. In 2012, the Peruvian government declared support for a National Comprehensive Cancer Care Plan (Plan Esperanza) that would provide comprehensive coverage for cancer care to its most vulnerable population, as well as timely care to all Peruvians by strengthening promotion, prevention, early detection and treatment of cancer through strengthened services in the public sector. Comprehensive Health Insurance (SIS) now covers comprehensive cancer care, palliative care and complementary support for 12 million poor and vulnerable Peruvians. Additionally, through decentralization of cancer control services, ongoing efforts to reduce gaps in geographic and economic access in the most remote regions of the country are being realized. Plan Esperanza has demonstrated that it is possible to integrate public sector services and decentralize cancer control to provide unbiased services to all communities including its marginalized population to effectively reduce gaps in geographic and economic access.

Globally, 12.7 million new cases of cancer were diagnosed in 2012 and it is predicted that this figure will rise to 21.3 million new cases by 2030. In 2012, 1.7 million new cases were diagnosed and 1 million people died from cancer in Latin America (1). In 2002, the mortality: incidence ratio in low-income countries was 74.5%, 0.59 in Latin America and 0.43 in the highest-resourced countries (2). Cancer is the third leading cause of death in Latin America (3, 4, 5).

Peru is a multiethnic and multicultural South American Andean country of 1,285,215 km², with 25 regional governments and extensive biodiversity in three natural regions: the coast, the highlands and the jungle. Its population is 30.2 million inhabitants, 49.9% female and 50.1% male, of which 70.1% have a residence in urban zone and 29.9% a residence in a rural zone; 51.9% are resident in coastal region (28.6% Lima Metropolitan), 35.4% in the highlands and 12.6% in the jungle region (2). The birthrate is 19.13 births per 1,000 inhabitants; the mortality rate 5.95 deaths per 1,000 inhabitants and life expectancy is 75 years for women and 71 years for men (11). The structure of the population pyramid has been changing over the past few years with a declining birth rate and a rising adult and elderly population (12).

Cancer in Peru: The demographics

Since 2000, cancer is the second leading cause of death in Peru, accounting for 18% of all deaths with an increasing trend (14). In 2008, 42,000 new cases of cancer were diagnosed. More than 46,000 new cases are projected for 2015 and > 51,000 new cases by 2020 as a consequence of population growth and ageing (13). The estimated annual incidence of cancer in 2012 is 150.7 cases per 100,000 inhabitants (5, 8, 15).

The National Institute of Neoplastic Diseases (INEN) Hospital Registry reported 109,251 new cases of cancer, between 2000 and 2011. The ten most frequent cancer types were cervical (16%), breast (12.1%), stomach (8.1%), leukemias (5.6%), prostate (4.6%), melanoma (4.4%), lung (4.2%), colorectal (4.1%), lymphoma (3.6%) and thyroid (3.1%). By gender, 63% of cases were female, 37% male. The highest proportion of cases (37.5% of the total) occurred between 41–60 years. By location of residence, new diagnoses were registered in Lima (50.2%), Ancash (4.8%), Piura (4.7%), Callao (4.4%), Junín (4.3%), Lambayeque (4%), La Libertad (3.6%), Ica (3.3%), Cajamarca (3.2%) and Arequipa (2.2%). Prior to Plan Esperanza, the social status was predominantly Hospital plus Social (out-of-pocket expenses) (55.2%) followed by SIS (Public Comprehensive

Table 1: Total patients in INEN from 2009 to 2014 from low-income backgrounds

Year	2009	2010	2011	2012	2013	2014
SIS Cobertura Básica			SIS Y/O Cobertura total			
SIS (FISSAL + SIS)	17.20%	23.10%	31.40%	38.40%	63.70%	64.31%
HOSPITAL + SOCIAL (Gasto de Bolsillo + Fondo Ayuda INEN)	58.10%	51.70%	42.70%	34.00%	8.20%	7.33%
Total	75.30%	74.80%	74.10%	72.40%	71.90%	71.64%

Health Insurance) (14.3%), and Essalud (Social Health Security) (12.8%) (17). Following the launch of Plan Esperanza (Table 1), out-of-pocket expenses have decreased from 58.1% (2009) to 7.33% (2014) and patients associated with the comprehensive public health insurance programme (SIS) have increased from 17.2% (2009) to 64.31% (2014) (16, 28).

Whilst cancer is considered to be a preventable and curable condition if detected early, for cultural, economic and social reasons 85% of detected cases are diagnosed in advanced stages. (6, 8).

In 2004, Peru lost 377,000 years of productive life due to deaths from cancer, representing an economic loss of approximately US\$ 900 million annually. Stomach, cervical, breast, melanoma, prostate, lung, colorectal, lymphoma, leukemia and liver cancer accounted for 68.4% of total productive years of life lost, with haematological malignancies (leukemia, multiple myeloma and lymphoma) together accounting for 25.604 and 21.610 lost productive life years in men and women respectively (18, 19). These cancers pose the greatest burden of disease and are regarded as high-cost illnesses (FISSAL) (20).

In the public health system 75% of cancer cases are diagnosed at the advanced stage versus 20% in the private health system with attendant consequence upon survival. Of those cases, 65% are diagnosed in women. Mortality rates are higher in women than men, due to cervical cancer and breast cancer; and in older adults compared to younger people. These biological, social and cultural disparities highlight the need for targeted action (6, 15, 21).

Cancer in Peru: Health services

The supply of health services for cancer care in Peru is centralized in the capital (Lima). Service distribution nationally is unequal and requires the strengthening of

health services and levels of care through distributed provider networks to enhance the prevention and control of cancer (10, 21).

Since 2011, the Budget Programme of Cancer Prevention and Control has enacted reforms in the Peruvian public finances that prioritize financial resources for interventions for primary and secondary prevention; the identification of new cases has been increased, generating the need to expand access and coverage for cancer treatment; and the importance of strengthening the response capacity of health services nationally has been recognized through prioritizing the provision of services by type of most common cancers, vulnerable geographic areas, population density and number of related human resources for prevention and control of cancer (17).

To further enhance population cancer control, the Peruvian government declared its support for a national comprehensive cancer care plan with improved access to cancer services in November 2012 (Plan Esperanza). Its specific objectives are to prevent the development of cancer in the 12 million poor and extremely poor people through the promotion, prevention and early detection of cancer; as well as providing timely, comprehensive, quality treatment and care for all patients through strengthened services in the public sector (6, 10). Thus, despite a lower proportion of health expenditure in Peru compared to the average health expenditure as a proportion of GDP in Latin American countries, the intent is to create a comprehensive coverage package that offers pluralistic and equitable population-based cancer control.

Cancer control in Peru: INEN and the global health community

International collaboration has been instrumental in mobilizing policies and actions for the prevention and

control of cancer in Peru. The American Cancer Society, the International Union Against Cancer and the National Institute of Cancer in the United States have promoted a multisectoral coalition against cancer with INEN with a view of having Peru free from advanced cancer through cultural and educational development and access to quality services for health improvement and cancer control by 2016 – however, no budget or financial resources were assigned for this purpose (7). Notwithstanding, relationships were created, including active and responsible civil society participation (23).

In July 2011, the Network of Cancer Institutes (RINC/UNASUR) was established in Rio de Janeiro. In November 2011, a meeting to strengthen systems for monitoring and evaluating the Plan Esperanza was held in Lima (9, 24).

In September 2011, the political declaration of the high level meeting of the United Nations General Assembly on the Prevention and Control of Noncommunicable Diseases was issued which recognized noncommunicable diseases, including cancer, as a challenge for socio-economic development, environmental sustainability and poverty reduction (12, 25).

In June 2012, during the Rio + 20 Conference on Sustainable Development in Brazil, the burden of noncommunicable diseases worldwide was recognized as one of the main obstacles to sustainable development (10, 24, 25).

In October 2012, under the Project for a Global Plan of Action for the Prevention and Control of Noncommunicable Diseases 2013–2020, WHO stated that the prevention of NCDs such as cancer, is a precondition to achieve sustainable human development and interdependent social, economic and environmental dimensions of development (12, 26).

In 2012, INEN partnered with the South West Oncology Group (SWOG) and the Cancer Research Network (US-LACRN) sponsored by the NIH/NCI (US) in scientific cooperation projects and software development.

Cancer in Peru: INEN and policies for prevention and control

The National Cancer Institute of Peru was created in 1939, changed name and was reorganized in 1952 with Dr Eduardo Cáceres Graziani (father of Peruvian oncology) assuming leadership of the National Institute of Neoplastic Diseases (INEN) resulting in significant interest in cancer control, valuable scientific contributions to global health and the development of specialty education that began with the medical residency in oncology (12).

In 2004, Law N° 28343 – 2004 established the national interest in, and public necessity for, the decentralization of oncology services and macro-regional offices linked to the network of INEN. The North IREN (Regional Institute for Neoplastic Diseases) was established in La Libertad (Trujillo, 2007) and South IREN in Arequipa (2009). Continuing expansion to provide highly specialized services for cancer control throughout the country is currently under construction in Huancayo (Central Region, Concepcion) and in the East region of Loreto (Iquitos, the Amazon IREN). Also, since 2011, INEN has promoted the implementation of 21 cancer prevention offices (primary and secondary prevention) and 13 cancer units in general hospitals (22, 29).

Given the existing multiplicity of public and private health providers, the fragmentation of prevention and cancer control activities, limited coverage of prevention and comprehensive cancer care and no measurable or evaluable interventions, it was imperative that INEN gained the functions and authority of the Regulatory Agency of Cancer in Peru. In 2006, INEN received the designation of “Decentralized Public Agency” with consolidation in 2007 as a public executing agency for the health sector with administrative and financial autonomy, in charge of the development of public policies and the national leadership of cancer prevention and control in coordination with the Ministry of Health (MINSa). (Law 28748 and Supreme Decree 001-2007) (30,31).

In April 2006 the General Law for the Prevention and Control of Consumption Risks of Tobacco (Law 28705) was enacted, which was essential to implement measures for promotion about and prevention of exposure to tobacco smoke, and the subsequent important initiative to decrease the number of new smokers by ENDES (2012) (32, 33).

In 2007, the National Plan for Strengthening the Prevention and Control of Cancer in Peru was approved (34). The Concerted Health Plan was approved in 2007 with the priority of decreasing mortality from cervical cancer, breast, prostate, lung and stomach cancer (35). The Comprehensive Health Insurance Plan that gives financing conditions for the treatment of cervical cancer, breast, colon, stomach and prostate, with coverage and limited access was approved in 2009.

Cancer in Peru: Comprehensive Health Insurance (SIS)

Peru, with approximately 30 million inhabitants, is engaged in the process of health reform (30). The public sector serves 95% of the population with the remaining 5% accessing private health care. Of the 95% public sector service, 75% of

is financed by the National Government through the Ministry of Health (MINSA), public executing agencies, regional and local governments. The remaining 20% is provided by Social Health Insurance (ESSALUD), which serves to fund public employees of the Ministry of Work (37).

Universal Health Insurance commenced in 1997, initially through a subsidized programme called Free School Insurance (SEG), which covered schoolchildren enrolled in public schools nationwide (38). A further subsidized programme covering pregnant women and children under five years old (Maternal and Child Insurance) commenced between 1998–2000. Both programmes were merged in 2002 to establish the Comprehensive Health Insurance programme (SIS), with the creation of a decentralized public executing agency with an independent administration and financing to protect the health of Peruvians without health insurance, prioritizing those vulnerable because of poverty (38). Also, in 2002, law 27656 established the Intangible Health Solidarity Fund (FISSAL) as a legal entity under private law, attached to the Ministry of Health to promote access to quality health services to marginalized populations through the complete financing activities of SIS (39).

Between 2000 and 2011 the number of new cancer patients increased from 7,746 to 10,497. With the decentralization of cancer services and migration of more affluent patients from INEN to private oncology services, a greater proportion of patients referred to INEN were of lower incomes. Accordingly, in 2009, the Law Assurance in Health Act (law 29344) established that all residents in the country must be affiliated with one of the three existing insurance regimens: subsidized, semi-contributory and contributory (40). Further, in 2009, the Plan of Universal Health Insurance was approved giving financing conditions for the treatment of cervical, breast, colon, stomach and prostate cancers, with limited access coverage, but allowing joint action towards universal cancer coverage between SIS and INEN. The Law 325-2012/MINSA (April 2012), determined that the list of high-cost diseases would be financed by FISSAL (20).

Thus for the provision of cancer treatment since 2012, Comprehensive Health Insurance has provided coverage through the Intangible Health Solidarity Fund (FISSAL) to finance services associated with the seven types cancer that represent the greatest burden of disease and the treatment of high-cost diseases, with a model of intangible and specialized public funding.

Cancer in Peru: INEN and Plan Esperanza

The strategy and budget for the Cancer Prevention and

Control Plan for Peru was implemented in 2011 for ten regions based upon demographic, epidemiologic and “readiness” criteria (3), through the assignment of 28 million nuevo soles to INEN (13). The initial focus was on cancers of the cervix, breast, lung, stomach and prostate. The budget was increased to 75 million nuevo soles for 2012, with the programme becoming the pilot for Plan Esperanza (28).

In this regard between 2011 and 2012, with the technical support from INEN across the 25 regions, over 7,000 establishments in the country have the opportunity to budget and allocate resources for cancer prevention and health promotion, as well as for early detection of the five most common cancers: stomach, breast, cervix, prostate and lung, with outstanding implementation and execution (28).

Based upon performance, Supreme Decree No. 009-2012 declared comprehensive cancer care and improved access to cancer services in Peru to be in the national interest and approved the National Plan for Comprehensive Cancer Care and Improving Access to Cancer Services in Peru, called the “Plan Esperanza”. The Ministry of Health (MINSA) and INEN shared the designated authority for the plan for the entire population of Peru. Comprehensive Health Insurance covers comprehensive cancer care, palliative care and complementary support for 12 million poor and vulnerable Peruvians and for the decentralization of cancer control services to reduce gaps in geographic and economic access in the most remote regions (6, 16).

Plan Esperanza is a national plan for the prevention and control of cancer that considers the social health determinants of health, epidemiology and risk factors, cancer biology and molecular genetics, treatment and sociocultural phenomena with defined processes for ease of implementation, measurement, evaluation and control. Reducing the time of public policy dissemination and increasing capacity for decentralized delivery of a greater range of services for comprehensive prevention and control of cancer in a contextually-appropriate manner are core elements of the plan. Interventions include free access to basic and/or specialized prevention for the whole population; equitable access to comprehensive cancer care, palliative care and complementary support; protecting the poor and vulnerable with full health coverage; promoting patient-focused quality services; technical development and knowledge transfer through policy, research and specialized teaching; shared and informed decision-making with patients; responsible participation of civil society to encourage the commitment of the whole society to promote health and wellbeing; an effective model of comprehensive health care with a focus on primary health care and universal

oncological coverage vested in equity, respect for human dignity and the right to health, wellbeing and quality of life (6).

The health intervention strategies of Plan Esperanza can be explained through:

- ▶ **Cross-sectoral public health promotion.** The promotion of healthy habits in individuals, families, schools and workplaces through diffusion campaigns directed at raising public health awareness and engagement, strengthening leadership and performance in all sectors, promotion of hygiene and sanitary measures related to the prevention and control of cancer, raising awareness and strengthening control of environmental hazards, regulations relating to food, air and water safety, and promoting healthy working conditions (6, 7).
- ▶ **Preventive and population health.** The development of activities linked to early detection of cancer through a system of specialized primary care, improving clinical skills of medical staff, developing partnerships with other providers to supplement existing specialized services and further raising of awareness of cancer care for all stages of the disease. Health services are organized by level of care with strengthening of the supply of oncology services (surgery, chemotherapy, radiation therapy, diagnostic support and related services) and support systems for referrals according to the degree of complexity (6, 7).
- ▶ **Health professional care, competence and quality services.** The organization of health services, including treatment, by level of care according to skills and competency through the development of oncology services at primary and community levels, standards for professional service delivery, clinical practice guidelines for major cancers and appropriate mechanisms for peer consultation, case-conferencing and specialist referral (6, 7).
- ▶ **System performance and budget management.** The implementation of processes to establish resources for cancer care in the regions and to generate estimates for the treatment of resource-intensive (“high cost”) cancers in the SIS – the Intangible Health Solidarity Fund (FISSAL) through which transfer instruments can be demanded (volume, rates, payment mechanisms by level of resolution, resolved diagnostics, etc.). System performance measures of clinical audit and service form the basis for conditional transfer of resources according

to performance, operational efficiencies and effectiveness (6, 7).

- ▶ **Appropriate centralization and decentralization of cancer control.** Specialized regional institutes are being developed to provide skilled care and services within the region/community of residence with the recognition that highly specialized treatments and quaternary services will be provided at INEN. Education and research to maintain a high level of specialized skills through continuous scientific exchanges of good practice in cancer care will also be developed according to appropriate centralization and decentralization/regional development (6, 7).

Cancer in Peru: Plan Esperanza and ICCC-5 (5th International Cancer Control Congress)

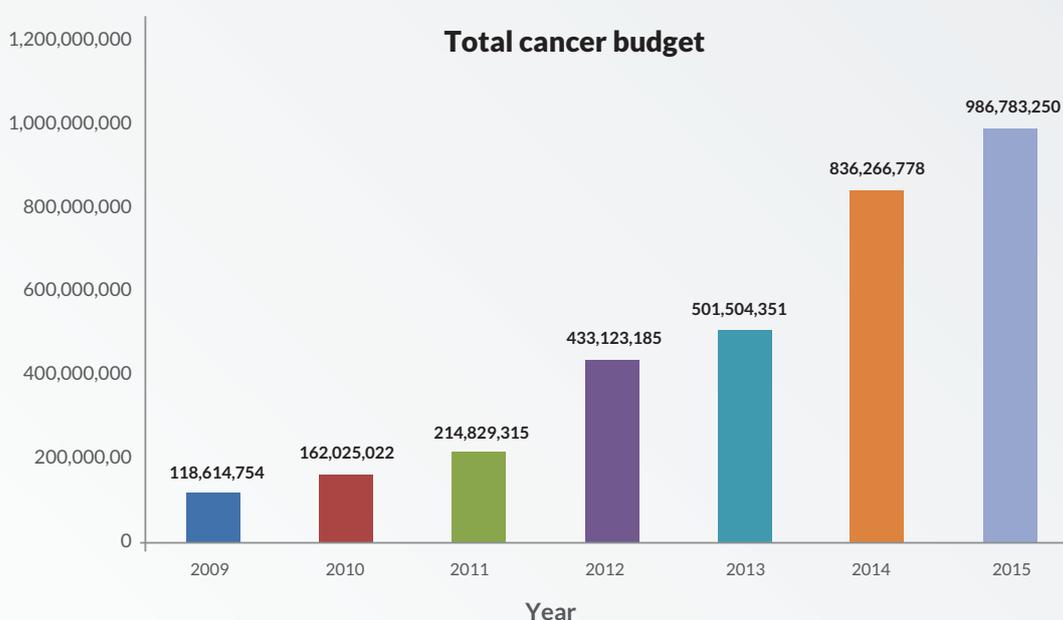
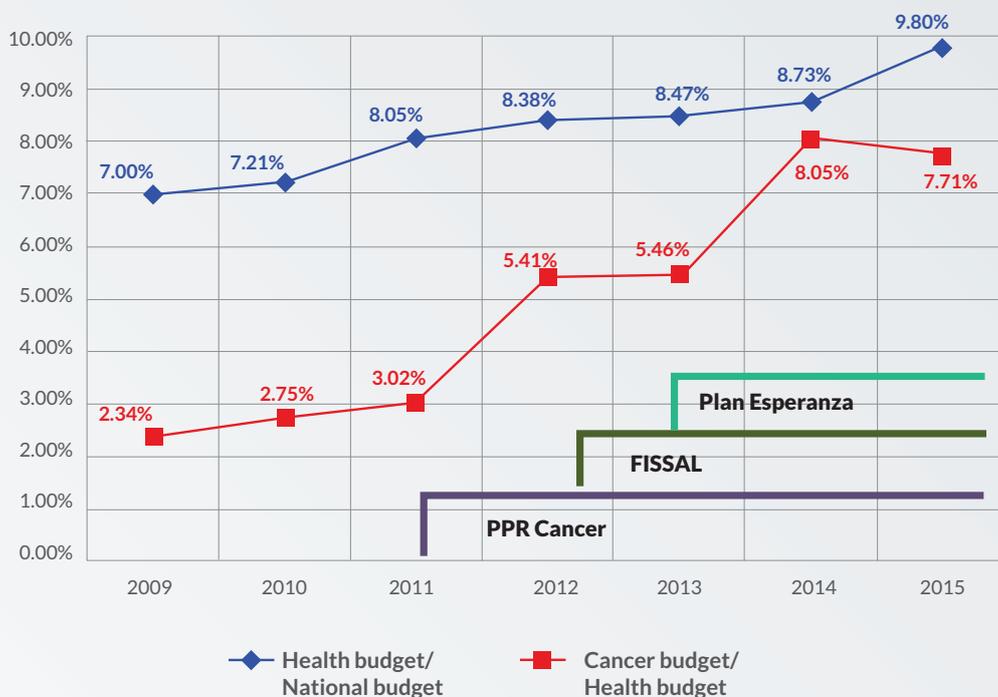
The International Cancer Control Congress Association (ICCCA), has worked for a decade to create awareness of the need for countries to develop national plans for effective cancer control through scientific and social dialogue that enables the exchange of experiences, capacity building, participation and collaboration among organizations, institutions and civil society, development of cooperative partnerships for regional and international collaboration, and knowledge transfer related to the prevention and control of cancer.

Peru hosted ICCC-5 in November 2013, providing an international stage to present the Peruvian experience of the Plan for Comprehensive Cancer Care “Plan Esperanza” – a model of multisectoral intervention strengthening organizational capacity for prevention, early detection, specialized treatment and care, and cancer research as priority for all Peruvians including the most vulnerable populations.

ICCC-5 was the platform for promotion and exposure of this public policy initiative for other countries and for the exchange of experiences regarding the effective mobilization of society and the promotion of changes in public health policies, including Universal Health Coverage and cross-sectoral integration, preventive, early detection, treatment, education and research for benefit of comprehensive cancer control for the South/Latin American region with particular emphasis on the co-responsibility of government and society for the health, wellbeing, treatment and care of the population across the continuum of cancer (42).

These developments have commenced in Peru and South America through the commitment of governments

Figure 1: Variation in the public health budget and public budgeting for cancer care, 2009–2015



Source: Database of execution of public budget. December 2014

(UNASUR), through the Network of National Cancer Institutes (RINC), and through the contributions of organizations and groups united in cancer control, including the Pan American Health Organization of WHO and the American Cancer Society (26).

The success of this public policy requires societal support and the commitment of the Peruvian government to population health and cancer control. The presence and commitment of the First Lady, Mrs Nadine Heredia, who was nominated in 2014 as “Leader and Social Mobilizer for

Regional Prevention and Control of Cancer” (UNASUR) is illustrative of the leadership required to enhance cancer control efforts, including the challenge of women’s cancer (26, 27).

ICCC–5 propelled Peru and Plan Esperanza into regional and international forums, including the United Nations, wherein the main achievements of this strategic health policy, benefitting particularly the most vulnerable in our society populations, have been presented (42).

Conclusions

Through the commitment of the National Institute for Neoplastic Diseases (INEN) and the Ministries of Health and Finance (of the National Government of Peru), population-based cancer control has been assigned public policy and financial priority according to evidence for beneficial cancer control interventions, the implementation of systems for monitoring and evaluation of outcomes and the integration of social, health and fiscal goals. Through decentralization, regional capacity enhancement has developed through INEN, IREN North and IREN South (2010), the subsequent operationalization of 35 units in ten regions of Peru by 2015, and the intent to have 204 operational units in 25 regions of the country, including operational units in metropolitan hospitals in Lima.

In line with this expansion, the health budget has increased from 7% of the national public health budget (2009) to 9.8% (2015) (Table 1). The cancer control budget has increased from 2.34% of the health budget (2009) to 8.05% (2014) and 7.71% in 2015, a three-fold increase reflecting political will at the highest level to address cancer in the population. In this process new stakeholders have become involved regionally and innovative agencies (SIS/FISSAL) have become active partners nationwide (28).

In summary, Peru’s success can be attributed to the following factors:

- 1. Active and visible political support at the highest level in the national government.
- 2. Mobilization of “all of society” in their fight against cancer prioritized high on the national agenda.
- 3. Deployment of a pluralistic and equitable comprehensive population-based national cancer control plan supported by protected and committed public funding targeting the most vulnerable population.
- 4. Scientific technical exchange with international experts in the design and implementation of the plan.
- 5. Establishing an evidence-based and outcomes-focused, population-centered plan with identified short, medium and long-term key performance indicators for

ongoing monitoring and evaluation.

- 6. Organizational support and technical management by INEN, through provision of permanent and specialized due diligence and decentralized clinical management services across the country. ●

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