Public Disclosure Authorized
Public Disclosure Authorized
Public Disclosure Authorized
Public Disclosure Authorized

Lessons from Innovations

in Primary Health Care in Colombia

phcpi

WORLD BANK GROUP

SaluDerecho
Collaborative Learning Initiative on the Right to Health and Universal Health Coverage

Document prepared by:
Janet Bonilla Torres, Luis Gabriel Bernal Pulido,
Óscar Alberto Bernal Acevedo, Manuela Villar Uribe

Design and layout: Kilka Diseño Gráfico / kilkadg.com

Lessons from Innovations in Primary Health Care in Colombia

The Primary Health Care Performance Initiative (PHCPI) developed from 2015 to December 2022 an important work in measuring the performance and strengthening of Primary Health Care (PHC) in different countries of the world. In Colombia, PHCPI developed in conjunction with the Ministry of Health and Social Protection the country's vital signs profile in PHC

Once the partnership that gave rise to this initiative ended, the World Bank assumed the functions and work of the same in different countries, including Colombia. Part of our activities in the country has been the generation of a community of practice interested in strengthening and disseminating innovative actions of Primary Health Care. The webinar series *Innovative Models of Primary Health Care in Colombia* , promoted from April 2022 to May 2023, contributed to this purpose.

The series addressed central issues of the implementation of Primary Care such as governance, financing, human resources for health, policies, resolution capacity, citizen participation, metal health care, care of the elderly, chronic and communicable diseases, among other topics.

More information

http://www.palabraenfermera.enfermerianavarra.com/blog/2015/01/27/in-blog-que-suena-con-ser-prescrito/

http//www.notiwayuu.com/2018/10/fuerza-de-mujeres-wayuu-cierra-ciclo-de.html

Differentiated health care models are required at the territorial level and an intersectoral view of health for achieving comprehensive care

The speakers of the webinar *Keys to success of Innovative Primary Health Care* models point out that Colombia has an adjusted regulatory framework to implement Primary Health Care. However, various strategies are required to strengthen PHC, among them, breaking the fragmentation of the health system and its disconnection with other relevant social sectors, an agenda of better governance at the local level, rescuing the role of the community health worker, building care networks based on the principle of closeness to the community and not from market impositions, and go out to proactively seek out the population to manage health risks.

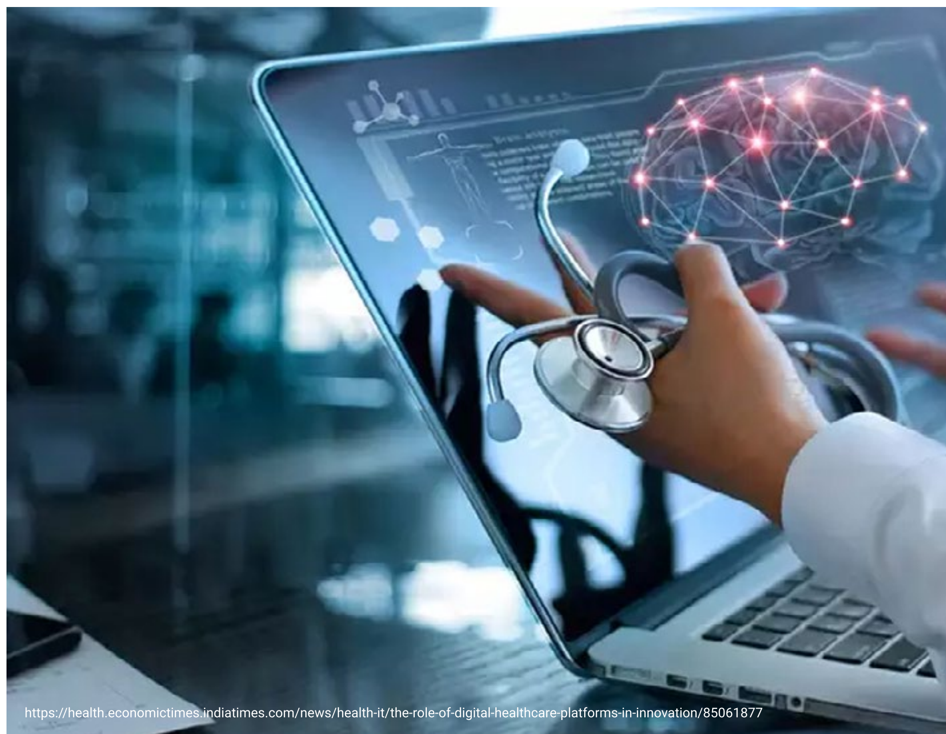
The evolution of medical spending in the country, explained the speakers, has led to primary care becoming practically a marginal expense, with little investment.

More information

Colombia must rethink governance in health with more national and local representation

The speakers of *the webinar Role and challenges of governance in innovative PHC models in Colombia* propose to resume discussion scenarios such as the National Council of Social Security in Health and the Territorial Councils of Health, as spaces for consultation between the different actors of the health system. It is necessary to promote a more active participation of citizens, and allocate resources and specific functions for the strengthening of PHC in the country. In terms of governance, the PHC vital signs profile for Colombia highlights that there is confusion or a limited definition of who does what, how, when and where, in relation to the implementation of Primary Care in the country.

More information


https://health.economictimes.indiatimes.com/news/health-it/the-role-of-digital-healthcare-platforms-in-innovation/85061877

PHC must be free, supported by public funding, and include mixed capitation schemes to promote efficiency and equity

The Lancet Report of the Global Health Commission on financing, presented by one of its authors in the webinar *How to innovate in the financing of PHC models in Colombia?* mentions that the great challenge is to define the services classified as PHC, quantify their cost and design the correct financial arrangements to ensure their timely and quality delivery.

The speakers pointed out the need to address the following aspects:

- Evolve the way payment to health insurers is recognized in Colombia. “You can’t continue to pay the same whether or not you do your actions properly.”
- Assign supply subsidies for public health care service providers (called “State Social Enterprises”)-, a per capita for public hospitals and a variable health contribution premium according to risks and health outcomes.
- Review supply conditions in dispersed areas, where complementary financing mechanisms are required to ensure sustainability.
- Design clear and regulated negotiation and payment schemes between insurers and health care service providers.
- Establish incentives in health negotiations since they can play an important role in the quality of services and health outcomes.

More information

The program of interculturality in maternal care of the ESE CXAYU’CE JXUT in the department of Cauca, with a very high participation of the community, reduced maternal mortality to zero in that region

The speakers of the webinar *Innovative experiences of Primary Health Care in Colombia* based on community participation explained how in Cauca and La Guajira, departmental and municipal development plans are harmonized with the life plans and health worldviews of indigenous communities. This webinar also presented the experience of defenders of health rights in indigenous communities in Guatemala.

The actions of the primary care service provider, ESE CXAYU’CE JXUT in Cauca, are implemented with the participation of the community and the families of pregnant women. They start from articulating ancestral practices with western ones around childbirth. There is a syncretism in the processes of health care and public health management. The different voices of the territory speak, agree, define forms of communication, including the indigenous, the Afro-Colombian, the mestizo, and the peasant.

The decisions of the Anas Wayúu Indigenous Health Insurer in La Guajira are made by the indigenous assemblies and councils. This health insurer only has presence in the department of La Guajira by mandate of its traditional authorities, respecting the dynamics of the other indigenous peoples settled in the territory. Participation is guaranteed in a Wayúu normative context and is in accordance with the social and organizational reality. There are differential strategies to manage health risk and respond to the health needs of its affiliated

population, and a mechanism to guarantee the social, cultural permanence and sustainability of indigenous health insurer. They are governed by the country's own health legislation and special indigenous regulations, based on international agreements and treaties.

More information

https://www.freepik.es

Chronic diseases are the collapse of the system, but also the possibility of improving its performance and the quality and life span of people. This involves investment

Latin America will have an average increase of 3.2% in health spending due to the aging of the population and a high prevalence of chronic diseases, explained the international speakers of the webinar *Innovative and cost-effective interventions in Primary Care for Chronic Disease*. However, reducing the burden of disease may influence the decline in projected growth in health expenditures if four risk factors are addressed: tobacco use, hypertension, high glucose levels, and alcohol use.

In the department of Valle del Cauca, noncommunicable chronic diseases are the leading cause of mortality and morbidity. To manage them, different strategies have been implemented. Among them, an application that allows monitoring health risks in real time, identifying social determinants of health, habitat and the environment of individuals and families. With this information,

risk prioritization and immediate intervention are made in the populations that need it.

The Health Care Model of the insurer Compensar, implemented in Bogotá, Boyacá and some municipalities of Cundinamarca, seeks that the person takes ownership of their self-care and acquires skills to face the challenges of some chronic conditions. The model articulates interdisciplinarity, intersectoriality and innovation in the care of cardiovascular diseases, chronic kidney disease, palliative and pediatric care, among other programs.

In Chocó, one of the five departments where more people die from causes related to hypertension, alliances between academia, community organizations and the government are performing research, intervention and training initiatives in the communities. The pilot program for the promotion of healthy daily practices in physical activity and nutrition in Quibdó seeks to build methodologies aimed at training and empowerment to transform traditional practices on which there is evidence of how unhealthy they are.

More information

https://www.freepik.es/foto-gratis/medico-tiro-medio-hablando-paciente_33752797.htm

Increasing early diagnosis and implementing adequate education and communication strategies are central to the prevention of communicable diseases such as Chagas, HIV or influenza.

The speakers of the webinar *Innovations in the prevention and control of communicable disease from PHC* coincides in the urgency of improving early diagnosis with rapid tests, molecular technology, routine testing, patient search, and in general, elimination of social and care barriers.

The lack of knowledge of the diagnosis by those affected is one of the most difficult problems in the management of Chagas, HIV and other communicable conditions. In Chagas less than 10% of people have been diagnosed and less than 1% have been treated. In Colombia, more than 30% of people affected by HIV have not been diagnosed.

Molecular testing and point-of-care laboratory testing are innovations that made at the first level of care lead to timely diagnosis. Likewise, actions in education, information and communication are relevant. Clear community-oriented messages are needed on the risks of communicable diseases and strategies to prevent and treat them.

In Colombia, there is a worrying decline in immunization coverage for some of the most common communicable diseases, which puts the most vulnerable population groups at greater risk. It is necessary to implement communication strategies that demystify unfounded risks associated with vaccination and innovative and proactive mass immunization campaigns.

More information

PHC policies should prioritize prevention, transsectoriality, participation, strengthening of networks, territorial approach and coordination between levels of care. It is possible to build on what has been built

The department of Caldas has transitioned from Primary Health Care to Primary Social Care. In the webinar *Primary Health Care Policies in Colombia, what innovations are required?* , the health authorities of Caldas explained how their PHC policy intervenes social determinants and involves transsectoral measures and highly resolute teams in what they call “Social Care Centers”, in order to improve the living conditions of the population. The policy has a social observatory, under the principle that the determinants of health are not health, but generate inequality and inequity in health.

It is necessary to evaluate the performance of health care service delivery networks, as a mechanism to make health care more efficient and articulated, and to establish indicators of their performance and monitoring of results, strengthening characteristic elements of these networks, such as relationships, referral and counter-referral mechanisms between health providers at different levels of care, between generalists and specialists, in order to strengthen quality in PHC.

With the Comprehensive Action Territorial Model – MAITE progress was made in the transformation of the reality in the territories of the country, based on a monitoring and management work around the improvement of health conditions and the provision of health services, with the participation and articulated work of territorial actors from many places, ethnicities and beliefs and different sectors, around the common objective of improving the health of the inhabitants, strengthening the technical capacity and role of the territorial health authority, with the accompaniment of the Ministry of Health.

More information

https://www.freepik.es - DCStudio

The PHC practice involves the review of training and the roles of physicians, nurses and pharmacists and even community health workers

A change of focus is required in the Colombian health system towards Primary Health Care, family medicine and health prevention and promotion, explained the speakers in the webinar *How to innovate in the training and performance of human resources for health in PHC?* The current system has an emphasis on healing, is disease-centered, and has incentives to address disease.

To advance in PHC training for doctors, nurses and professionals in the sector, who are willing to join first and second level of care centers in rural areas, and not always in specialized practice, it is necessary to harmonize the efforts of the Ministries of Health and Education, higher education institutions and the community to design and implement health sciences curricula oriented in this direction.

It is necessary to transform the social ideals that make the general practitioner has lost recognition in front of the specialist, and that the work in the first and second level hospitals in rural areas is not valued properly.

The performance of primary health care also implies the revision of the roles of health personnel, decentralizing and transferring responsibilities that have been headed by doctors, to other professionals such as nurses and pharmacists, and even non-professionals such as community health workers, in order to expand and facilitate access to PHC. This requires reaching sectoral agreements and between the different disciplines of health, so that regulatory modifications are made that favor these changes.

The 2017 document with Recommendations for the transformation of Medical Education in Colombia is aimed at strengthening medical training oriented towards PHC, as a roadmap to reorient the curricula of academic programs in medicine.

More information

Technology, training, interdisciplinary human resources, and efficient organization for a service centered on the patient and his environment, are central elements to obtain better resolution capacity in the first level of care

The experiences presented in the webinar *Innovations to strengthen resolution capacity at the first level of care in Colombia*, have common elements that shed light on the ways to innovate in health management at the first level of care.

It is possible to make a shift in the conception of PHC from an intramural medical competence to also a comprehensive health management in community settings and in social activities such as recreational practices, in the adoption of self-care habits and in the intervention of social determinants. This is possible if there is an educational and awareness-raising effort towards users, their families and their communities, which begins with contact, identification and accompaniment strategies, to take users to the health system, when necessary, to permanently monitor their medical records, their social activities and link them in a direct way to the management of their own health.

Introducing information technologies as a strategy to manage the health of users is another aspect in which the speakers agree. Interoperable information technologies ensure better data collection on the user's health, characterization, family and social contexts, as well as the medical record. They also allow to individualize the provision of health services, and according to the profile and risk of the patients, define a health care plan and follow-up to health maintenance actions, adherence to treatments, attendance at appointments, among others.

More information

Working with the community, generating bonds of affection and tools measurement, key in innovative mental health projects in Colombia from Primary Health Care

The experiences presented in the webinar *Innovations in mental health from Primary Care in Colombia* share strategies, tools and transformative models that seek to offer vulnerable communities and remote areas the possibility of receiving a timely diagnosis, accessing psychological first aid care, prevention strategies and improvement of well-being, being referred to local and regional health institutions for specialized care when required and receive accompaniment so that the care is effectively carried out.

Mental health care in the Colombian health system is deficient, the speakers explained. There are not enough specialized human resources, nor the time or infrastructure to make diagnoses by specialized professionals, nor to offer the primary care that they demand.

Most people with mental health problems have their initial contact with primary care services or non-specialized care services. It is important to build capacities for diagnosis, treatment and timely referral. However, there are still those who consider that mental health is the exclusive matter of psychologists and psychiatrists, and that it is not up to other health professionals to investigate or perform interventions in this area.

In some cases, it is possible to transfer to non-specialized health personnel, and even community agents, who usually face the emotional situations of their members, a set of knowledge, tools and methodologies that allow an initial diagnosis and management in mental health and generate health care routes, differentiating between those who should be referred to specialized care due to the severity of their condition and those who can manage their mental health problems in the context of the community, in conjunction with the institutional offer of external projects and the structure of health services of the State.

The webinar presented the MhGAP and Global Mental Health Assessment Tool to strengthen mental health diagnosis from PHC, as well as restorative and self-protection practices for victims of the conflict who are at high risk of associated mental illness. In addition, interventions to strengthen coexistence in vulnerable communities, and affective bonds between children and caregivers as a mechanism for protection and promotion of adequate child development.

More information

https//www.civico.com/bogota/noticias/deportes-alternativos-parque-virrey

https://enfermerlatv.es/es/como-mejorar-la-comunicacion-con-el-paciente/

In search of a healthy, happy, independent and inclusive old age, accompanied by visible, trained and not overloaded caregivers

The webinar Innovations in the *primary care* of the elderly presented data from the Ministry of Health and Social Protection of Colombia, which show that between 1985 and 2020, the proportion of older adults in the country went from 6.9% to 13.8%, and is estimated to exceed 16% by 2030. The speakers shared innovative experiences in PHC for the elderly population.

The Aging and Old Age Policy in the Department of Cundinamarca 2019-2029, has four strategies: greater protection, greater participation, greater autonomy and greater happiness. It links in a transversal way the actions of 26 entities of the department seeking the generation of healthy lifestyles, the reduction of violence, training, productivity and the fight against loneliness and abandonment.

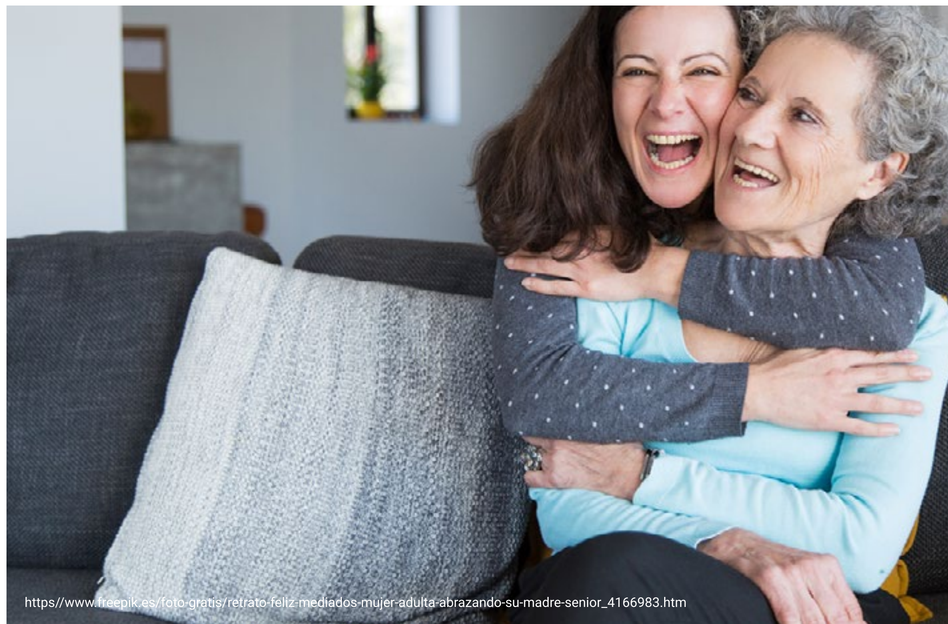
The expert from the Intellectus Memory and Cognition Center of San Ignacio Hospital and Javeriana University in Bogotá, explained that, given the impossibility of offering specialized medical care to the entire elderly population, they have proposed a geriatric care model that emphasizes person-centered care from PHC teams and combines the clinical actions of the hospital with social actions in the context of the family and the community. This approach is based on the ICOPE model and its Integrated Care Manual for Older People,

developed by the World Health Organization in response to the 2015 report on ageing and health.

The Quebec Alzheimer's Plan, as a federal public policy in Canada, is a model for the health care of older people with chronic diseases. It was formulated based on research and learning about the treatment of other diseases such as diabetes and cancer. It is anchored in PHC and patient-centered, not disease-centered, based on multidisciplinary teams led by family physicians and nurses. It is intended to ensure rapid diagnosis, continuous access to personalized, specialized, and pharmacological services, and the building of trust between the patient, the family and the doctor, with community support.

"Caring for caregivers", a social innovation program in health of the National University of Colombia, arises as a response to the findings of the research of the chronic patient care group, in which it was evidenced that caregivers have many unsolved needs, among them, those of self-recognition, to be recognized; accept and adopt their role as caregivers; have social support, emotional, training and rest, among others. This program seeks to provide tools to caregivers to promote their well-being and the development of adaptive skills in the situations they experience in their work, as well as strategies to optimize the care offered by them.

More information


https//www.freepik.es/foto-gratis/retrato-feliz-mediados-mujer-adulta-abrazando-su-madre-senior_4166983.htm

Consult the presentations and videos of the webinars at www.saluderecho.net

Successful experiences

Each webinar allowed to know valuable and innovative experiences that are implemented in different places of the Colombian territory. Here are some, but there are many others.

1

It is feasible to move from theory to practice and deploy Primary Health Care from the primary provider. The Local Hospital Cartagena de Indias is achieving it

The Hospital Cartagena de Indias, a primary health care network, shows that, despite the limitations, it is possible to progress in quality from the health provider with a territorial approach. Through an accurate situational diagnosis and the implementation of infrastructure improvement strategies, technical management tools provided by the Ministry of Health, induction of services and community health workers, this PHC service provider has increased coverage and is offering comprehensive and proactive care to its users. The legitimacy, the financial portfolio and the satisfaction of the users from marginal neighborhoods and insular areas of the city of Cartagena have been recovered. See more

Jorge Eduardo Suárez
Special Agent Controller of the Local Hospital Cartagena de Indias

2

Community participation is at the heart of the Own and Intercultural Indigenous Health System of the Wayúu community in La Guajira

Community participation in the Anas Wayuu Indigenous health insurer in La Guajira is at the center of the system and is guaranteed by the general assembly, the highest body of the community, constituted by traditional authorities of the Association of Cabildos and the Sumuwuja Association. Each year the accountability and analysis of the different processes of interest for the management of the communities is carried out. The Community elects the Social Control Board and the Ethnic Cultural Council composed of traditional authorities, traditional doctors and leaders in charge of overseeing that the differential processes are in accordance with the mandate of the traditional authorities. The Assembly elects every two years the Board of Directors, which approves the risk management plan, the budget of the staff, and elects the manager. The institution has an ethnic and cultural coordination, led by a Wayúu doctor. Her team includes traditional doctors, palabreros, social workers and bilingual guides.

To ensure access and continuity of care, bilingual short-term houses are available where individuals and their families can live temporarily while receiving the required health care in a health service delivery center. There are sentinel teams that have vehicles, conditioned to the territory that can reach the desert and areas with other vegetation and topography, which carry bilingual human resources and nursing assistants, responsible for monitoring cases of pathologies of interest in public health, as well as the transfer of pregnant women so that they can complete their antenatal care process, childbirth and postpartum care, in safe conditions at the institutional level. See more

Beda Margarita Suarez Aguilar
Insurer Manager - EPS Indígena Anas Wayúu-Department of La Guajira

3

Childbirth ceased to be a traumatic experience to become a beautiful experience with the Interculturality Program in Maternal Care

The strategy of Interculturality in Maternal Care in the municipalities of Toribio and Jambaló in Cauca of the ESE CXAYU'CEJXUT was created from the identification of institutional barriers and also, in consideration of the limitations

of pregnant women to access health services from western medicine. There was mistrust and a different worldview. It was also born out of the need to reduce maternal and perinatal deaths. There was tension due to unsafe delivery and fear of attending hospital institutions by pregnant women. Six lines make up the strategy:

1. Training of health personnel on the articulation that should exist between western medicine and ancestral medicine.
2. Sensitization to all the personnel of the health institution about the importance of respect for the knowledge of both parts.
3. Conversations and sharing of knowledge with leaders, midwives and ancestral knowledge of the territory.
4. Conversations with pregnant women, women of childbearing age and mothers.
5. Design of an intercultural childbirth care manual with a birth care plan.
6. Adequacy of the infrastructure of maternal services, the delivery room, a short-term house or maternal house (temporary housing near the hospital) with an intercultural approach, designed together with community referents, and at the same time adjusted to the normativity that regulate the minimum safety conditions for the provision of health services in Colombia.

In conversations with women, families and midwives, we talk about what a home birth is like, how are the baths with medicinal plants, in what position women prefer to have childbirth to feel more comfortable and live that experience in a freer, calmer, and more respected way. We have been seeing the evolution of the strategy. Childbirth ceased to be a traumatic experience to become a beautiful experience. This articulation allows to reduce the maternal and perinatal risk and the establishment of agreements to offer a safe delivery, to the extent that biosecurity recommendations and good clinical practices are adopted for antenatal care and delivery and postpartum care at the institutional level. In addition, the spaces and conditions of service provision are adapted to customs and practices that are relevant to the community, and that do not interfere with the normal development of the health care processes, nor do they represent a risk for the pregnant women and their children, but contribute to making this a meaningful and memorable experience for families. See more

Beatriz Bohórquez Salinas
Manager of ESE CXAYU'CE JXUT –
Hospitals of Toribío and Jambaló–Department of Cauca

4

In the pilot of the Chagas care model carried out in Soatá (Boyacá), the diagnosis of positive cases increased by 1100% and the timely initiation of treatment by 63%

This pilot experience, carried out in partnership between the DNDi and the Secretariat of Health of the Department of Boyacá included the design of health care routes together with the project partners, a monitoring and evaluation plan, and an information, education and communication plan for the community. In the case of Colombia, the design of the health care route is aligned with the priorities of the Ministry of Health and the recommendations of PAHO and WHO.

In the pilot, 2000 people were diagnosed over 32 months. This meant a 220% increase in access to diagnosis. The number of positive cases detected increased by 1,100% from baseline. The time from medical assessment to diagnosis definition was reduced by 64%, and between diagnosis and initiation of treatment by 63%.

The keys to the success of the PHC program were the training of professional and technical health personnel, the better availability of technologies required for diagnosis in local laboratories and for treatment of the disease, and the accompaniment of patients from the first medical appointment until the end of the treatment. See more

Manuel Alfonso Medina Camargo
Coordinator of the Vector-Borne Diseases Control Program of the Secretariat of Health of Boyacá

5

With the Community Health Workers of the Divino Niño Hospital Center in Tumaco, coverage, effectiveness, quality of care and health indicators of the population were improved.

Based on a PHC model focused on access to the territory with the support of multidisciplinary teams that include community health workers supervised by medical and nursing professionals, progress was made in coverage, access, prevention and reduction of the disease.

The managers were trained in (i) the technical and operational guidelines of the Comprehensive Route for the Health Promotion and Health Maintenance in Colombia, and in (ii) the performance of some basic tests such as general screenings, cardio vascular screenings, HIV, syphilis, hepatitis screenings, deworming campaigns and vaccination for COVID 19. Some achievements were:

- More cases detected and at earlier time. 90% of increase in screening for prevalent diseases
- The number of child growth and development assessments improved by up to 45% per year
- Provision of health care services for women of childbearing age increased by 100%
- Increased identification of malaria cases
- Articulation with leaders of community action boards and community councils
- The dental team was strengthened and the oral health coverage grew

See more

Carolina Farinango
Manager of the Centro Hospital Divino Niño de Tumaco – ESE

6

The "Health Walkers" of MiRed Barranquilla take users to the health system through ambulatory PHC and high technology for risk identification and management

Caminantes is not only a program of the institution that provides health services "MiRed Barranquilla", but a city network model, implemented, and agreed upon with the District of Barranquilla, to facilitate health activities.

The program identifies risk factors, locates users, manages them, defines housing risks, environmental risks and individual risks. It also carries out education, prevention and direct intervention in the community settings.

With a risk management approach, each Walker, who in practice are community health workers, is in charge of a number of families according

to their profile. They carry out epidemiological surveillance, facilitate the identification of diseases and epidemiological contention in cases of outbreaks of infections. Every day they travel through the community equipped with maps of the area and different communication and typing mechanisms and with biometrics equipment to achieve a better diagnosis of the population visited. See more

Rómulo Rodado
Operator Manager of the Public Hospital Network "MiRed Barranquilla IPS"

7

"Seeds of Attachment": psychosocial care for caregivers to promote healthy bonds and strengthen parenting teams for children affected by conflict

What is done in *Seeds of Attachment* is to provide tools to mothers, fathers, grandmothers, uncles, and all the main caregivers, that allow them to process their life experiences, have a better understanding on the child development process and how adversities related to conflict affect this process. It is sought that the main caregivers become a reliable source of emotional and physical protection for children.

There is national and international evidence that shows how potentially traumatic experiences directly affect a child's mental health, the mental health of the caregivers, and represent a double risk because caregivers' mental health is what provides emotional resources, so that a secure affective bond is generated. This makes violence and displacement have a double impact on children's development, through the physiological mechanisms of stress. See more

Arturo Harker
Director of the Imagina Universidad de los Andes Research Center

8

Mental health care for the Venezuelan migrant population, based on the stabilization of the central nervous system, better interpersonal relationships, community integration and restorative self-protection

The "Aseyuu" Project, developed by the Dunna Corporation, seeks to create a mental health care route that allows delivery of services to a particularly vulnerable migrant population, who have very limited access to basic health care services and no access to mental health services. This works as a funnel to reduce the number of people who really need specialized mental health care.

A population characterization was made and a hypothesis was formulated according to which about 10 percent of the population needs specialized mental health care, while the remaining 90 percent can be offered mental health care from local PHC services and through individual and community building strategies and interventions. The interventions included a module of self-protection of well-being, based on body-mind practices, which is the central axis to gestate physiological changes and seeks the regulation of the central nervous system. This module includes activities such as yoga and dance.

In the Aseyuu Project, it was found that less than 10% of the 420 participants required specialized mental health care. Only 8% of adults and 9% of children needed medication, psychiatric follow-up, and higher-cost interventions from the state. Biometric measurements were also performed to assess changes in the central nervous system attributable to the interventions, with promising results. See more

Natalia Quiñones
Co-founder and research director of
Dunna Corporation Creative Alternatives for Peace