Health System and Markers of Health in Uruguay

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ABSTRACT

We describe the implementation of a new National Health System in 2007 in Uruguay, South America, to improve the health for all the Uruguayan population and improve the markers of health. A health system for the private and public hospitals was set up under the strict control of the Ministry of Public Health. We identified 15 critical health problems unresolved, which were also considered important factors to improve and we control their improvement during the next years. The Integrated National Health System incorporated high-cost technology such as cardiac surgery, medication of high-cost chemotherapy, treatments for the burned, and programs of organ transplants completely subsidized by the health system.

Keywords: Health markers, Health system, Infant mortality, Maternal mortality, National sanitary goals.

Donald School Journal of Ultrasound in Obstetrics and Gynecology (2020): 10.5005/jp-journals-10009-1627

The Integrated Health System was created in Uruguay in 2007. This health reform has wholly integrated all the population—National Integrated System of Health (SNIS)—allowing a 85% coverage by the National Health System.

Previous to the implementation of this abovementioned single Integrated Health System, some problems that had existed before 2007 in all institutions (private and public) were identified:

- Inequity of benefits in the different medical centers, which depended on the user's capacity of payment
- Public sector with huge weaknesses of assistance
- Recurrent shutting of private medical centers resulting in dismissals of medical and nonmedical staff
- Delays of payments to providers
- Uncertainty of management in health sector along the country

There was identified a lack of health plan oriented or determined toward sanitary objectives or to modify the health system in favor of the population. Special weaknesses were also identified regarding the control of medical centers (public or private) by the Ministry of Public Health. Nor was there an area of health economics that made comprehensive decisions for all health services in the country according to the health properties of society.

OBJECTIVES TO IMPROVE THE INTEGRATED HEALTH SYSTEM

- Rationalize structures all over the country—sanitary map
- Increase work on the first level of assistance—networks rationalizing appointments with specialists (NETS)
- Continuity of assistance to the user within the health system
- A digital computer system of the medical records of population
- Improve the rectory and control of sanitary policies of the Public Health Ministry
- Participation and communication of health policies to the population by means of education programs in preventive medicine
- Quality control in national health and creation of operating strategies of public and private medicine within the country

NATIONAL SANITARY GOALS

- Achieve to improve the health situation of the population
- Decrease inequities in health rights

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How to cite this article: Bianchi A. Health System and Markers of Health in Uruguay. *Donald School J Ultrasound Obstet Gynecol* 2020;14(1):70–75.

Source of support: Public Health Ministry, Montevideo, Uruguay

Conflict of interest: None

- Improve the quality of the health assistance processes
- Generate the necessary conditions for people to have a positive experience in terms of assistance

STRATEGIC OBJECTIVES

- Favor healthy lifestyles as well as decrease risk factors by means of education campaigns of the society
- Decrease the burden of morbimortality of the population
- Improve health access and assistance facilitating controls, decreasing time of appointments and surgeries, increasing the implementation of community centers of primary medicine, improving the transferring of patients, the creation of a bus with primary medical assistance and pregnancy controls able to circulate daily through marginal areas where people have difficulties in accessing centers of assistance
- Constitute an institutional culture upon quality and safety of health assistance
- Implement a centralized system based on the sanitary necessities of people

Implementing this new Health Integrated System for public and private centers under the strict control of the Public Health Ministry allowed to identify 15 critical health problems^{1–3} yet unresolved, which were also considered important factors to improve health in the population:

- Pregnancy in the adolescent not wanted
- Premature and low-weight pregnancy
- High index of C-section
- Syphilis and HIV vertical transmission

- Development alterations in first infancy
- Critical nutritional problems in first infancy
- Morbimortality due to nontransmitted diseases such as cardiovascular, chronic respiratory diseases, and diabetes
- Morbimortality due to cancer
- Morbimortality due to HIV-AIDS
- Suicidal incidence and mental health problems
- Lesions and death due to accidents at work or on roads
- Gender and generational violence
- Difficulty of access for the disable and assistance of the vulnerable elderly
- Problematic consumption of alcohol and psychoactive substances
- Leak persistence in the quality of sanitary assistance

The implementation of these public policies allowed us to improve our health indicators (Figs 1 to 5).

Expenses figures

The national health insurance multiplied by 5 the public funds destined to health coverage and by 3 the expenses for public hospitals.

WHO goal: public expense greater than 6% GDP, pocket expense less than 20% GDP

COMPUTER REGISTERS OF ELECTRONIC CLINICAL RECORDS

The clinical record (CR) is part of the assistance process. They are of user's property and under the custody of the health provider.

The quality of patient assistance is assessed by CR audits of Public Health Ministry (qualitative and quantitative).

The importance of access of micromanagement indicators of assistance processes is substantive toward quality accreditation.

The knowledge of quality indicators by users encourages a healthy competence among public and private services.⁴

In 2019, 26 million of registers were achieved in health system platforms.

Good practice policies work successfully on the first line of assistance

Maternities of excellence are the objective of all health centers.

Fig. 1: Infant mortality rate and its evolution. Contribution of health policies

Fig. 3: Evaluation of the advances of the system integration

Fig. 2: Maternal mortality. The conditions of each health center were set up under a systematical evaluation of all health providers along the country. First evaluation of all integral system of the country in 2017

Year	Absolute figures	Direct obstetric causes		Indirect obstetric causes
		Abortion	Others	
2008	7	0	6	1
2009	16	0	13	3
2010	7	0	3	4
2011	4	0	3	1
2012	5	2	2	1
2013	9	1	6	2
2014	9	0	7	2
2015	11	0	7	4
2016	8	1	2	5
2017	8	2	2	2
2018	6	0	4	2

Computing Agency of Public Health Ministry

Assess the assistance costs of all health providers (public and private) in order to evaluate quality of benefits over which all citizens have rights and pay taxes.

There is a control of rectory of health system reform that regulates the way that private centers work and the amount of users in each center. It also regulates the sanitary lines, national objectives, and goals within each center every year.^{5,6}

Also controlling:

Georeferencing. Coverage of emergency and urgency services
Professional enablement and registration of qualifications

The perinatal computer system (SIP-PLUS) is the network system that we use in all the country to have the data of all the maternities and allows us to monitoring the maternal, perinatal morbidity and mortality.

- Death certificate
- Integral vaccination certificate

Fig. 4: Evaluation in 2018 of advances of each line of action in each strategic objective (in percentage)

1. Unwanted pregnancy in teenagers		2. Premature birth and low birth weight			3. High cesarean rate		
Evolution of the percentage of teenage pregnancy (Uruguay 2015 - 2018)		Evolution of the percentage of prematurity and low birth weight (2015- 2018)			Evolution of the percentage of cesarean delivery (2015 - 2018)		
Year	%	Year	% of Prematurity	% low birth weight	Year	% Cesarean	Percentage of low-risk cesarean
2015	5.3	2015	9.11	7.66	2015	43	16.4%
2016	4.2	2016	9.16	7.76	2016	42	15.9%
2017	12.7	2017	9.45	8.10	2017	44	15.9%
2018	11.5	2018	9.17	7.61	2018	44	15.9%

- Mapping of neonatal and maternity uci (Sanit Map)
- Audit of severe premature babies
- Transfer MM!
- Guidelines: prevention of premature delivery and immediate attention of premature newborn
- Derivation unit and link implementation (UDE)

Derivation unit and link implementation
Incorporate into Care Goal 2

Contd...

Contd...

Incidence of suicide and mental health problems				Injuries and deaths due to road and work accidents					Gender and generation violence	
Suicide rate (2015 - 2018)				Injured and injury rate and mortality rate due to traffic accidents Uruguay, (2015- 2018)					<ul style="list-style-type: none"> • Re-profiling of the Reference Teams in domestic violence with a Generational view • 100% of SNIS providers have ERVD • 89.3% of providers with approved care protocol • Clinical manual validation • Health care for women who experience partner violence or sexual violence • Study on the link and women victims of femicide • Protocols for situations of abuse and sexual abuse of children and adolescents (2017-2019) 	
Year	Male	Female	Total		2015	2016	2017	2018		
2015	30.41	7.37	18.55	Injured number	29.610	26.821	27.324	25.595		
2016	32.72	9.08	20.54	Rate/100.000 hab	868,6	783,5	795,7	745,1		
2017	32.76	7.44	19.70	Mortality rate 100,000 hab UNASEV)	14.6	12.8	13.5	15.1		
2018	32.10	9.13	20.25

4. Vertical transmission of syphilis and HIV			5. Alterations of early childhood development		6. Critical nutritional problems in early childhood	
Evolution of the vertical transmission of syphilis and HIV (2015 - 2018)			<ul style="list-style-type: none"> • Preparation of a risk score (CNVy SIP) • National Development Surveillance Guide (GNVD) • Incorporation of the application of the GNVD at 4 months, 18 months and 4 years in Goal 1 • Development Attention Units (SERENAR) • Polymaltose iron was added to PIAS 		<ul style="list-style-type: none"> • Creation of the "National Honorary Coordinating Council for Policies aimed at combating overweight and obesity" • Update of the Breastfeeding Standard Development Attention Units • Guide of preparations 6 to 12. months • Training in: Guide for the prevention of iron deficiency in pregnant and breastfeeding and under 2 years. • BPA re-accreditation in quality in maternity hospitals • Monitoring of the Code of Marketing of Breast Milk Substitutes NETCODE 	
Year	%	% HIV+				
2015	1.8	1.8				
2016	1.5	1.5				
2017	1.1	1.9				

Contd...

Contd...

Year	Male		Female		Total	
	Abs Free	Rate	Abs Free	Rate	Abs Free	Rate
2011	136	8.25	53	3.00	189	5.54
2012	139	8.40	47	2.65	186	5.43
2013	123	7.40	51	2.87	174	5.06
2014	125	7.48	50	2.80	175	5.07
2015	130	7.75	40	2.23	170	4.90
2016	119	7.07	53	2.95	172	4.94
2017	104	6.25	53	3.05	161	4.63

Difficulties of access in people with disabilities and care for vulnerable older adults	Problematic consumption of alcohol and psychoactive substances	Persistence of gaps in the quality of health care
<ul style="list-style-type: none"> Analysis of situation of access conditions Census of tools and rehabilitation benefits for the development of national rehabilitation network Coordination for the design of a rehabilitation network (private public supplement for children and adults) Group integration of interinstitutional group to specify a model of the unique disability assessment/certification 	<ul style="list-style-type: none"> Rational prescription of medications Working group to prevent problematic alcohol consumption Regulation of the cannabis market Campaign of means to work on the perception of low consumption risk 	<ul style="list-style-type: none"> PIAS update Networks and promotion of complementary agreements to overcome fragmentation and overlap Relevance Evaluation Board Recognition of Good Practices in PNA and Maternity. Implementation in palliative care in providers Incorporation of new information in "AT YOUR SERVICE" Advances in HCEN and HCEO More participation and involvement of users through existing organizations

Fig. 5: Evaluation in 2019 facing the 15 critical problems. Evaluation of government expenses in the Integrated Health System-SNIS

- TB national register
- New system of service enablement

HEALTH WORKERS

They have represented (2018) the 6.8% of the total working force with a decrease in precariousness and underemployment, a drop of 32% in multi-employment in 2008 and a drop of 27% in 2018.

HIGH-COST TECHNOLOGY INCORPORATION COMPLETELY SUBSIDIZED BY THE HEALTH SYSTEM

Through a National Fund—Institutes of Highly Specialized Medicine (IMAE)—the ministry subsidizes high-technology procedures as well as high-cost procedures such as neonatal cardiac surgery, adult surgery, treatments for the burned, programs of organ transplants, specialized and high-cost medication, and treatments such as chemotherapy.

From 2015 up to date, new technologies and medication have been incorporated to the health fund—IMAE:

- Surgical treatment of refractory epilepsies
- Implementation of a pilot plan for cardiac defibrillators implants on primary prevention
- Incorporation of surgical treatments of aorta aneurisms
- Financing congenital retinoblastoma
- Incorporation of new chemotherapy treatments and new diseases coverage
- Policies for coverage of infertility treatment by the government
- Free incorporation for all providers of screening since the first trimester of pregnancy for all the population⁷⁻⁹

This health system has wholly implemented social strategies in the community aligned to decrease nontransmitted diseases based on prevention, avoidance of tobacco consumption, nutrition, social vaccination programs were set up, prevention of pregnancy diseases and pathologies through increasing prenatal controls, and screening since the first trimester of pregnancy.¹⁰⁻¹³

This system has allowed a better sanitary control of the society with a qualified and equitable assistance of the population, therefore improving the health indicators of our country: better access to health, better coverage and quality of assistance, as well as more quality of the expense.¹⁴⁻¹⁶

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