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DECISION ANALYSIS IN HEALTH COVERAGE

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ABSTRACT

In 2000 the Organization of the United Nations established eight Millennium Development Goals (MDGs). The fourth objective, reducing child mortality, looks specifically for reducing two thirds of the mortality of children under five years old between 1990 and 2015. One of the specific indicators to measure progress towards this goal is the proportion of children under one year old immunized against measles.

In 2001, the United Nations Development Program (UNDP) estimated that over 60% of the population who lived in developing nations is far away or losing ground on achievement of the MDGs in reducing rates of infant mortality. This situation is compounded by the lack of progress in deepening the analysis of the issue, the lack of research and indicators to assess features timely coverage of care and health services.

This article aims to contribute to the selection of the strategy which would improve health coverage in Misiones, using one of the tools of decision theory, the decision matrix.

KEY WORDS: Health; Coverage; Decision Matrix.

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INTRODUCTION

Primary Health Care (PHC) was born with the Declaration of Alma Ata in 1978 as a policy of expanding coverage in order to overcome the crisis spanning health systems, which conceptualize it as an essential health care to everyone. After more than 30 years, the proposed objective has not been achieved in its fullness; there are still limitations on access to health coverage.

At the Millennium Summit in 2000 set the eight Millennium Development Goals (MDGs). The fourth objective, reducing child mortality, looks specifically for reducing two thirds of the mortality of children under five years old between 1990 and 2015. One of the specific indicators to measure progress towards this goal is the proportion of children under one year old immunized against measles. In 2001, the United Nations Development Program (UNDP) estimated that over 60% of the population who lived in developing nations is far away or losing ground on achievement of the MDGs in terms of reducing infant mortality rates.

It is difficult to estimate the extent of social exclusion, by the multiplicity of forms that, for the limited progress in deepening and research the topic, being the date information essential to change processes or decision making, to set strategy or reset it to achieve the objectives.

In this context, this paper aims to contribute to the selection of the strategy that tends to improve the coverage of population health mission using one of the tools of decision theory, the decision matrix.

DEVELOPMENT

Paganini (1998) expressed in his work The coverage of health care in Latin America and the Caribbean, despite the commitment of the World Health Organization (WHO) to achieve "the goal of health for all and responsibility improve coverage, quality and efficiency of health services that offer" [Paganini, 1998, p. 305][(1)], little progress has been made in deepening the concepts of health and to obtain indicators for evaluation. His research brings to this knowledge as the unit of

analysis to most countries in Latin America and the Caribbean. It specifies that the analysis can be fulfilled from various aspects, pointing to the financial coverage, at the base of supply of services, to cover real, and study the results or impact on the health of the population attributable to the action of these services.

The data analysis is performed; on one hand, estimating the population without coverage from the data resulting from specific programs. And, on the other hand, "explores the possible relationships between certain characteristics of the structure and coverage of services and performance indicators or impact." [Paganini, 1998, p. 306][(2).] For the purpose of obtaining the result used as statistical method, the simple correlation analysis between the various indicators.

Concluding that the results can be mentors for the reform processes, and to be taken into account the problems of geographical accessibility, cultural acceptability of services, and lack of minimum health coverage, giving special emphasis to the financial aspects. Similar diagnosis came from the simple correlation analysis where a significant relationship in the expected direction between "levels of coverage achieved and the results obtained, allowing the definition of political support for reform oriented primarily toward the organization and management of services "[Paganini, 1998, p. 310] [(3)] was found, both for the development of programs to achieve effective coverage.

Research by Rosenberg and Andersson (2000) in their work Rethinking social protection in health in Latin America and the Caribbean indicates that the magnitude of the exclusion of social protection in health in Latin America and the Caribbean is considerable nature is due to many variables and there is no single way of analyzing the data.

The measurement can be done from an external point of view (number of persons not covered by social security, disparities in access) and internal indicators, understood as an internal process of care. They conclude that the choice of indicators to be used depends on the country, because the selection is subject to those indicators that represent the characteristics of each population.

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Analyze the structure of the systems and their implications for the exclusion, concluding that due to the proliferation of sub-economies of scale are lost, and always has been a trend towards vertical integration in the first three subsystems, which perform their functions, but not related. The issue of exclusion should be taken to the political agenda; the debate should be given broad citizen participation.

Hamilton (2001) in their work Exclusion of Social Protection in Health in Argentina: Three Methodological Approaches directs his study to identify the scope of the exclusion in Argentina in terms of volume of the affected population. It uses three methodological approaches: coverage (population without health insurance coverage), accessibility (financial, geographical and cultural) and structure (low total supply of medical services and beds), processes (percentage of deliveries performed by personnel not trained and dropout vaccines before the first year) and results of health systems (gap in infant mortality, under-5 mortality and maternal mortality).

The above conclusion to which arrives the research is the multiplicity of options to analyze exclusion. Considers that the most appropriate indicator is the gap vaccination less than 1 year old, the availability of information, but noting that not all variables that are considered viable today, they will be in the future at all times should be considered more convenient.

The article Decision Analysis in Mental Health, Conte (2006) states that one of the remaining tasks to be developed in the coming years is the transformation of mental health services and the professionalization of management tools. Studies of decision analysis in health care grew exponentially but not evident in the actual processes of making and less on mental health. The methodologies used are simple statistics, so that information about mental illness is limited. It is therefore necessary "use of tools and methodologies to operate beyond this diversity" [Conte, 2006, p. 27] (4)

The decision analysis arises in the context of the Second World War, where scientists contacted the people who were responsible for solving operational problems and then came the application of scientific method to practical problems of making decisions. The theory of rational decisions, as the vision of Herbert Simon is known, Nobel laureate in economics in 1978, states

that a person in an organization chooses each action that meets the proposed objective, according to sequences and routines. There are decisions that are repetitive (clinical guidelines and protocols), which act as guiding behavioral programs for those who assume the responsibility to decide, but if decisions are not repetitive (a coverage plan or the creation of a clinical service) require an analysis detailed consequences. It should be noted that the term decision includes such situations, and the concept of repetitive decisions procedures.

A point of concern to man is to know what will happen in the future, and is the decision theory that incorporates these aspects, anticipating situations and their consequences.

Mental health decisions are spacious and most of those decisions are based on professional knowledge or heuristics. Conte then arises: what would be significant to account for the behavior of providers and patients? The choice lies with the indication of care, because "they are repetitive in nature and procedural decisions, informed by the provider to patient, taken pursuant to diagnosis, type of treatment provided and another set of data." [Conte, 2006, p. 31][(5)] This service is a circuit that originates in the primary care level, where the patient is referred to mental health service which is evaluated by an acceptor, continuing the caring requesting an appointment to the lender or moving to the inpatient unit. Since then the provider leads the therapeutic process. The indications are recorded in the information system and it tracks and analyzes. Regarding the analysis of the data, taken as uncertain variable competition to the benefit of the patient indicated.

"The expected results is to attend to be derived by the acceptor (S2, N1), and do not attend a new query when your problem is solved on admission (S1 N2)" [Conte, 2006, p. 32] [(6)] Specifies that the alternative S2 has a probability of 0.96 against 0.04 of S1. The result (S2, N1) is 0.25 which indicates that a patient does not concur derivative treatment there is no difference between the value which the variable N in the alternative S1, for both situations it may be inferred 0.02 that the decision on admission is inefficient. Now it be considered when

> The patient was referred by the acceptor to outpatient treatment and attends at least once with the designated provider. It is considered as an alternative, on one hand, the recitation (S3) and, on the other hand, its opposite (S4). As in the previous case the expected results are that the patient attends when it is recited (S3, N1) and not to do when you are instructed otherwise (S4, N2). Analyzing the matrix, the alternative S3 presents a probability of 0.98 against 0.01 of S4. The observed result is significant in (S3, N1) = 0.92 for patients attending recited thereof. [Conte, 2006, p. 32] (7)

Even with the higher result is due to analyze the frequency distribution of the likelihood of treatment completion. It notes that while there is a low result "(S3, N1) = 0.06 when the professional and the patient suggested recitation not met, the frequency distribution shows that disruption of the therapeutic process occurs in the absence of 0.73 patient. "[Conte, 2006, p. 33] (8) This becomes an important figure in setting coverage plans. Only 0.50 of patients reaching an admission continues in the fifth service. There is a probability of less than 0.10 for a patient to continue concurring recited after thirty performances.

Arriving at the conclusions: the analysis of decisions in Mental Health provides a methodology to implement a long career in academia, "was made possible by analyzing only a decision to evaluate the results of the behavior of providers and patients, allowing establish a model for real-time assistance and contrast with expectations. "[Conte, 2006, p. 34](9) This methodology allows you to create alternative scenarios and stresses that "feasible a generation of data for better management of services through decision analysis, uncertainty quantification and modeling of processes." [Conte, 2006, p. 34] (10)

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Methodology

- Uninsured population in Argentina: Statistical data for each of the provinces is used to determine the population of Argentina with and without coverage, the vaccination coverage in children under one year old and delivery care by trained personnel, following the scheme used by Paganini Table 1- Percentage of population covered services and estimating the population without coverage, Latin America and the Caribbean "[Paganini, 1998, p. 307] (11). The data in columns: percentage of population covered, from the work of Hamilton "Table 7. Argentina - Percentage of vaccine coverage in children under 1 year old per province. 2000. "[Hamilton, 2001, p. 19](12) whose source is the Immunization Division of the National Ministry of Health. The uninsured

population is obtained by subtracting from 100 the percentage of coverage given to each of the data in columns, which multiplied by the number of population of each province can get the number of people without coverage and it allows to view the status of coverage in Argentina and Misiones to monitor the situation in this context.

General approach to decision theory

The human being, to know itself, has "an information processing, the neurons in the nervous system, and as heuristic tools its extraordinary powers of imagination, memory and learning." [Pavesi, 2001, p. 19] (13) But these tools are insufficient to observe the variety of elements to be considered when deciding. It has always worked through abstraction, building models, for which knowledge develops and a conclusion is obtained. In real life, decision and action are integrated in the same individual; it is difficult for the human being to separate them.

The empirical model starts with the decider who makes decisions, who processes an information system, with inputs, which once processed is transformed into outputs, which are governed by a program (set of orders which performs a transformation). "The decision theory deals with the programs and not with transformations." [Pavesi, 2001, p. 22](14) Programs that govern the decider are highly complex, unstable, and dependent on circumstances and context. This area is where decision theory is structured and has efficient methods for systematic preferences.

Data Description

- Indicators of Coverage: It allows the location in the national context of health coverage in Argentina and Misiones in particular. Indicators which will be used: oral polio vaccination (Sabin), tuberculosis with BCG vaccination, MMR vaccination (measles) virus Quad Vaccination (tetanus), all in children under one year old for the year 2000, and Delivery care by trained personnel for year 2000.
- Decision Matrix: It is a tool to formalize the decision process that helps to sort the acting elements that constitute the end point of the process.

For the purposes of their implementation, the elements of the decision will be identified.

- Objective: Select an action strategy, through implementation, tends to improve the coverage of population health mission.
- Alternatives: were selected following the design methodology applied by Hamilton in his work Exclusion of social protection in health in Argentina: three methodological approaches. Where three areas of study were defined: coverage, accessibility and structure, processes and outcomes. In the realization of this decision analysis, it will be used the axis accessibility.

Accessibility refers to "the ease with which health services can be obtained from the population equitably in relation to barriers of different kinds." [Hamilton, 2001, p. 4][(15)]. This approach aims to analyze some of the constraints in health systems, to which three alternatives will be defined:

S_1: Affordability, which is conceptualized as "the direct role of public health spending." [Hamilton, 2001, p. 4][(16)] It presents a proven redistributive impact, so it is hoped that increased public spending greater accessibility of the poor to health services.

Table 1 shows the disparity of health spending per capita between the provinces of Argentina. Chaco province is the lowest index has 35.7 USD / inhabitant, and Tierra del Fuego $ 637 / inhabitant, the highest one. Missions gives an account health expenditure per capita of 91.9 $ / inhabitant, which when is compared to the national average 152.7 U.S. dollars / person, is located well below the average.

S_2: Geographic accessibility. It is considered as a concept of access to health, elaborated by the UNDP, based on the "percentage of the population that collects local health services, with a maximum of one hour's walk or travel in transportation local. "[Hamilton, 2001, p. 5][(17)]

Table 1. Misiones. Health Expenditures per capita

Provinces	Population[(1)]	Health Expenditures per capita[(2)]
Autonomous City of Buenos Aires	2,776,138	381.6
Buenos Aires	13,827,203	99.6
Catamarca	334,568	165.7
Córdoba	984,446	322.2
Corrientes	413,237	216.2
Chaco	3,066,801	35.7
Chubut	930,991	147.4
Entre Ríos	1,158,147	181.4
Formosa	486,559	198.9
Jujuy	611,888	166.2
La Pampa	299,294	284.5
La Rioja	289,983	262.3
Mendoza	1,579,651	118.1
Misiones	**965,522**	**91.9**
Neuquén	474,155	516.5
Río Negro	552,822	227.8
Salta	1,079,051	167.3
San Juan	620,023	164.6
San Luis	367,933	164.1
Santa Cruz	196,958	613.3
Santa Fe	3,000,701	109.8
Santiago del Estero	804,457	195.4
Tierra del Fuego	101,079	637.4
Tucumán	1,338,523	120.8
Total	**36,260,130**	**152.7**

[(1)] According to National Census of Population and Housing. Year 2001.
[(2)] Ministry of Economy of the Nation. National Directorate of Coordination Attorney with the provinces. Year 2004. According to Price Index Combined, base 2004 = 1

Source: Calculated using data from the National Census of Population, Households and Housing 2001, Argentina 2008 Basic Indicators, Ministry of Economy of the Nation and of the Economic Commission for Latin America and the Caribbean, 2001

Rural population in Misiones amounted to 29.4% (283,849 people on a total of 965,522), according to the Population Census 2001.

S_3: Cultural accessibility. "It refers to the habits and practices of individuals regarding care and self-care and the limitations they impose on access to services." [Hamilton, 2001, p. 5][(18)]. As is the case of the ethnic groups, in Misiones the existing Mbyá Guarani indigenous population, according

to the Complementary Survey of Indigenous Peoples (ECPI) 2008 amounts to 4083 (88.5% is rural), considering relative importance of total Misiones population, it appears that participation does not reach 0.5%; reason to support the non-implementation of this alternative.

- Natural States: Referring to the levels or degrees possible occurrence, in the above described framework, we have:

  N1: per capita health expenditure.

  N2: Improved quality of life.

- Probability: The levels of uncontrollable variables.
- Per capita health expenditures: In September 2007 Misiones passed the Health Act 4348. The Financing Chapter specifies that the annual budget of the Ministry of Public Health shall be not less than ten percent annual General Budget of the Province, a percentage that will increase in the annual one percent at least until a floor Fifteen percent of the annual general budget of the Province. In 2010 health spending had an impact on the provincial budget by 11.7%; in 2011, financial year which is running, it provides a relative share of 12.2% of total outlays. This implies that an increase in funding for health expenditure, gradually health expenditure per capita will increase.

  A: Increases in health expenditures per capita. This case involves the highest probability of the matter, 90%. p2 = 0.90

  Ă: Health spending per capita does not increase. In this case it is estimated a probability of 10%. p1 = 0.10

- Improved quality of life: In this aspect will not be taken the rural population as a variable itself but shall constitute the approach of health services to rural areas. Also, it will be incorporated as a variable the population that has unsatisfied basic needs (UBN), which represents the deprivation of at least one of the indicators that represents (overcrowding, housing, sanitary conditions, school attendance, ability to cope).

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Bringing health services to rural people

Decentralization Program Management for Primary Health Care

The health management model defined in the Health Act, is prone to gradual decentralization, permanent and total of health care of the state health subsector to the APS, that requires participation in the management of health services in the municipalities, joint institutional guidelines with the Province and community involvement in health care. Similarly, Article 22 of the Budget Act for Fiscal Year 2008 Provincial Public Administration, 4397, authorizes the Provincial Executive to allocate the sum of a weight per capita per month in order to ensure the APS thereof, which shall reflected in the improvement of health indicators.

It is upon this foundation in January 2008 by Decree 71/08 was approved Decentralization Program Management for the APS, the model form Municipal Project for Strengthening PHC and the model agreement for Decentralization Management which subscribe to the Province with the municipality. On the same date was approved by Decree 97/08, the restructuring of the health zones and program areas under the Ministry of Public Health, being divided into six areas: Capital, South, Central Parana, Uruguay Center, Northern Paraná and Northeast.

Is in this legal framework where can be said that through the decentralization of program management for the APS will produce the approach of health service to the rural population.

G: Bringing health services to rural people. In this case is estimated a probability of 80%. q1 = 0.80

Ĝ: Do not approach health services to rural people, with a probability of 20%. q2 = 0.20

- Unsatisfied basic needs: The percentage of the population of Misiones, with UBN had reached 27.1%, according to data arising from the 2001 Census, which corresponded to 260,271 people in households with UBN on a total of 960,002, more than the Country total, which reached 17.7%. In this respect it is estimated the following probability.

UBN ↓: Decreases the unmet basic needs. Z1 = 0.60

UBN↑: Increase unmet basic needs. z2 = 0.40

Results

- **Total population without coverage in Argentina:** The total population of Argentina reached to 36,260,130 people, according to Census 2001, by 2010 was 40,117,016 people. The estimate of the uninsured population is made under the premise that selected coverage indicators can provide this information indirectly.

This context based on the five indicators used and the purpose of developing a profile of the level of coverage, following the methodology used by Paganini, there are three different profiles. Table 2 shows that:

a) In a first profile, if it is considered the percentage of vaccine coverage, there are provinces that: have more than 90% coverage: Jujuy, Mendoza, Neuquen, Salta, San Luis, Santa Cruz and Tierra del Fuego. Overcome 80% coverage: Buenos Aires, Corrientes, Chubut, Formosa, La Pampa, La Rioja, Black River, Santiago de Estero and Tucumán.

Considering the percentage coverage of delivery care by trained personnel, there are provinces that: have more than 90% coverage: City of Buenos Aires, Buenos Aires, Cordoba, Corrientes, Chaco, Chubut, Entre Rios, Jujuy, La Pampa , La Rioja, Mendoza, Misiones, Neuquén, Rio Black, Salta, San Juan, San Luis, Santa Cruz, Santa Fe, Santiago del Estero, Tierra del Fuego and Tucumán. Overcome 80% coverage: Formosa.

b) A second profile: is characterized by the magnitude (high or low) of Coverage: In this instance there is a high coverage of delivery care (97.5% country) and MMR (91.38% country), unlike polio coverage (87.99% nationwide), viral Quad (82.53% country) and BCG (71.23% country) where coverage is lower.

c) A third profile, which is characterized by low coverage rates for selected indicators: Only one indicator is at that level, the coverage of BCG, being the provinces of La Rioja (39.51%) and Cordoba (47.59%) the most representative.

- **Uninsured population in Misiones:** Data observing missions.

a) In a first profile is considered the percentage of vaccine coverage, there are provinces that: Overcome 90% coverage, none of the vaccines considered above this level. Over 80% coverage:

polio vaccine (82.89%) and four viral (80.22%).

Considering the percentage coverage of delivery care by trained personnel: overcome 90% coverage (97%).

b) A second profile is characterized by the magnitude (high or low) of Coverage: There is a high coverage of delivery care (97%) and a decrease in MMR (68.84%).

c) A third profile is characterized by low coverage rates for selected indicators. There are two indicators is at that level, coverage of the MMR vaccine, and BCG 68.84%, 68.89%.

From the point of view of our analysis we conclude that the percentages of the population with the lowest coverage corresponds to 68.84% MMR, BCG accompanied by 68.89%. In comparison with the national average correspond to 91.38% for MMR, and 71.23% for BCG, it is observed that is well below the national average.

- **Decision on health**: The National Ministry of Health develops continuous activities of application of vaccines to meet the National Immunization Schedule for the first two years of life, and achieve the National Goal of Vaccination, which is set at "95% coverage for the third dose of vaccine and Sabin Vaccine Quad, BCG within 7 days and triple vaccination. "[Ministry of Health, 2009, p. 1] (19)

Table 2. Argentina. Population with health coverage and estimate a percentage of the population without coverage

		% of population covered(2)					Total of population uncovered				
Provincias	Population	Polio (sabin)	BCG (tuberculosis)	MMR measles	Quad Viral (tetanus)	Care delivery	Polio (sabin)	BCG (tuberculosis)	MMR measles	Quad viral (tetanus)	Care delivery
Autonomous City of Buenos Aires	2,776,138	78.05	76.68	100	69.31	99.4	609,362	647,395	0	851,997	16,657
Buenos Aires	13,827,203	93.3	73.82	94.63	89.06	98.6	926,423	3,619,962	742,521	1,512,696	193,581
Catamarca	334,568	84.85	66.47	82.77	78.52	60.9	50,687	112,181	57,646	71,865	130,816
Córdoba	984,446	80.95	47.59	77.59	69.54	98.6	187,537	515,948	220,614	299,862	13,782
Corrientes	413,237	83.30	63.6	95.08	84.73	98.3	69,011	150,418	20,331	63,101	7,025
Chaco	3,066,801	82.35	79.92	86.04	65.39	93.9	541,290	615,814	428,125	1,061,420	187,075
Chubut	930,991	93,93	85.32	93.28	87.43	99.6	56,511	136,669	62,563	117,026	3,724
Entre Ríos	1,158,147	77.13	56.77	70.69	82.78	99.7	264,868	500,667	339,453	199,433	3,474
Formosa	486,559	90.05	73.47	92.8	86.6	87	48,413	129,084	35,032	65,199	63,253
Jujuy	611,888	93.98	92.32	100	82.72	96.8	36,836	46,993	0	105,734	19,580
La Pampa	299,294	93.03	75.56	86,47	94.67	98.7	20,861	73,147	40,494	15,952	3,891
La Rioja	289,983	96.67	39.51	100	82.7	99.9	9,656	175,411	0	50,167	290
Mendoza	1,579,651	91.15	80.88	92.81	90.44	98.4	139,799	302,029	113,577	151,015	25,274
Misiones	965522	82,99	68.89	68.84	80.22	97	164,235	300,374	300,857	190,980	28,966
Neuquén	474,155	99,38	86.6	96.54	98.61	99.4	2,940	63,537	16,406	6,591	2,845
Río Negro	552,822	83,65	67.23	93.4	80.2	99.2	90,386	181,160	36,486	109,459	4,423

Salta	1,079,051	92.83	83.35	93.94	91.19	92.2	77,368	179,662	65,390	95,064	84,166
San Juan	620,023	72.8	70.77	82.56	64.55	99.2	168,646	181,233	108,132	219,798	4,960
San Luis	367,933	100	85.22	100	99.01	99.7	0	54,380	0	3,643	1,104
Santa Cruz	196,958	99.85	87.22	90.67	95.27	99.9	295	25,171	18,376	9,316	197
Santa Fe	3,000,701	78.97	59.12	81.72	70.94	98.6	631,047	1,226,687	548,528	872,004	42,010
Santiago del Estero	804,457	95,39	54.93	100	80.62	92.4	37,085	362,569	0	155,904	61,139
Tierra del Fuego	101,079	100.00	80.55	100	95.74	100	0	19,660	0	4,306	0
Tucumán	1,338,523	89.62	95.26	100	88.34	98,2	138,939	63,446	0	156,072	24,093
Total País	36,260,130	87.99	71.23	91.38	82.53	97.5	4,354,842	10,432,039	3,125,623	6,334,645	90,6503

(1) National Census of Population and Housing 2001.
(2) Percent of Immunization Coverage under 1 year by Province, 2000. Hamilton, Gabriela. (2001). Exclusion of social protection in health in Argentina: Three methodological approaches. 2001, p. 19.

Source: Calculated using data from the National Population and Housing 2001 and Hamilton, Gabriela 2001

By incorporating the necessary information required to process the array, it should be consider, first, the value is set to optimal situation for the variables involved is 95%, in line with the targets set in a national level. Second, the value is set to minimum position for intervening variables is 68.8%. Estimate coincides with the lowest percentage of immunization coverage in Misiones, the MMR vaccine, and BCG 68.84%, 68.89%.

The resulting decision, expressed through the expected value will be extended to the four indicators analyzed.

- **Analysis of the results obtained:** In the present case is a sectioned decision matrix, each of the alternatives is not affected by a controllable variable, in turn, does not affect the other course of action, are independent. An alternative is for a universe and the other for another. In Table 3 are expressed results in the decision matrix, as well for the alternative:

S1: affordability, the expected value obtained was 92.38% and

S2: geographic accessibility, the expected value was 81.37%.

The expected value states that the result is selected S1.

Table 3. Decision Matrix. Health Coverage. Selection

States / alternatives	O¹						VE
	N_1 Per capita Health Spending		N_2 Improved Quality Of Life				
	Ā	A	G NBI ▼	G NBI ▲	Ĝ NBI ▼	Ĝ NBI ▲	
	$p_1 = 0{,}10$	$p_2 = 0{,}90$	$q_1 = 0{,}80$ $z_1 = 0{,}60$ 0,48	$q_1 = 0{,}80$ $z_2 = 0{,}40$ 0,32	$q_2 = 0{,}20$ $z_1 = 0{,}60$ 0,12	$q_2 = 0{,}20$ $z_2 = 0{,}40$ 0,08	$\sum p = 1$ $\sum q = 1$ $\sum z = 1$
S_1	R_{11}	R_{12}					VE_1
Affordability	0,688	0,95					**0,9238**
S_2			R_{21}	R_{22}	R_{23}	R_{24}	VE_2
Geographical Accesibility			0,95	0,688	0,688	0,688	**0,8137**

Ā : It does not increase the per capita spending
A : Increases the per capita expenditure
G : Bringing health services to rural
Ĝ : Do not approach health services to rural
NBI ▼ Decreases the unmet basic needs
NBI ▲ Increases the basic needs unmet

Source: Authors'

In this sense the action, as public health policy to establish would be:

- Check that the participation of health sector expenditure in the provincial budget represents at least the floor of Law, 15% of the total budget, at the time of preparation of each budget.
- Set a target in the medium term, reaching the national average per capita expenditure on health (from 91.9 to 152.7 $ / cap.).
- Define strategies to achieve long-term objective, levels similar to those Argentine provinces that have a high per capita health expenditure (Tierra del Fuego $ 637 / person.).
- Develop indicators to measure the evaluation result of the action (95% coverage for each variable considered and reach the national average per capita expenditure on health).
- Develop specific indicators to measure the degree of progress and realization of each action performed. What will make adjustments as required by the situations that arise.
- Reflect in the medium term improvement in selected indicators under study.

CONCLUSIONS

The magnitude of the exclusion of social protection in health in Misiones is considerable, 57.8% of the missionary did not cover a charity to 2001, percent higher than the level present country of 48.1 %.

In this context the contribution is introduced as a management tool for the selection of strategies in the field of health, decision matrix, which allow you to select among the alternatives under analysis which would achieve that through its execution, an improvement in health coverage. While developing a decision matrix is a difficult task because it involves knowledge of the subject, the definition of the strategies to be considered, the uncertainty of the variables that influence, we know that "elusive and rebellious worlds of strategy and policy, decision theory does not ensure success, but reduces the chance of failure. "[Bonatti, 2009, p. 62] [(20)]

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