Evaluation of the National Information System on Live Births in Brazil, 2006-2010*

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Abstract

Objective: to analyze attributes and usefulness of the Live Birth Information System (Sinasc), Brazil, 2006-2010. **Methods**: this evaluation was based on the Centers for Disease Control and Prevention Guidelines for Evaluating Public Health Surveillance Systems. **Results**: 21 of the 23 variables analyzed showed completeness above 90.0%. 97.9% of hospital birth variables had complete data; no differences in the proportion of births were found with regard to macroregion and sex when compared to the 2010 census; 82.6% of data was received on time in 2010; the ratio between reported and estimated live births was 89.4% in 2006 and 97.4% in 2010; this system was used to build 22 health monitoring indicators. **Conclusion**: the aspects evaluated and usefulness of Sinasc confirm the quality and importance of the information it provides in serving as input for public policies on maternal and child health.

Key words: Information Systems; Health Information Systems; Birth Certificates; Live Birth; Health Evaluation.

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Introduction

The health information systems provide data that allows monitoring a population's health situation.[1] In Brazil, secondary databases – filled with nationwide data – have been increasingly used in researches. Such interest may be related to the gratuity and speed of access and the quality of such data.[2]

Birth is a vital event and its monitoring may contribute to the knowledge of a population's health level, because it allows the construction of indicators that can support the planning, management and evaluation of policies and actions of health care and surveillance in the area of maternal and child health.[3-5]

In Brazil, the legal base for birth monitoring dates from the 1970s;[6] however, only in the 1990s the National Information System on Live Births (Sinasc) was created.[7] In 1998, this system was already working in all country's municipalities.[3] The Sinasc – the function of which is to collect and process demographic and epidemiological data on the infant, mother, prenatal care and childbirth – is fed by the Live Birth Statement (*DNV*).[8]

Since its implementation, Sinasc uploading is continuous, keeping the newborn population throughout Brazil under surveillance. The system is universal, therefore, collecting the data is a passive action, in other words, professionals assigned on health services or on registry offices are expected to fill the Live Birth Statements (*DNV*). However, for some specific situations in which the *DNV* cannot be issued, it is necessary to perform active search of these records, e.g.: for births that were, for some reason, registered without the issuance of the *DNV*. The system was reformulated in 1999 and 2009.[4,7,8]

The periodic evaluation of a health information system allows verifying if the generated information is useful to direct the public policies, to bring to light the magnitude of events, estimate risks and identify vulnerable groups,[1] as verified on systems' evaluation using data, for example, from the Notification Diseases Information System (Sinan)[9], Population Based Registry of Cancer[10] and from Sinasc.[11-13]

The objective of this study was to analyse attributes and usefulness of the National Information System on Live Births (Sinasc), Brazil, 2006-2010.

Methods

Sinasc's evaluation was conducted using as reference the Updated Guidelines for Evaluating Public Health Surveillance System, published by the Centers for Disease Control (CDC/USA).[1]

The study was divided into two stages. The first stage consisted of describing Sinasc and, in order to dimension its magnitude, the number of live births was raised and the percentage of births by sex and type of delivery was calculated. *Sinasc*'s objectives were described, as well as the steps to information collection, data source and the system's operation, available on documents related to its creation.[3, 6, 7, 8, 14]

In the second stage *Sinasc*'s attributes were

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evaluated: simplicity, flexibility, data quality, acceptability, representativeness, opportunity and stability; and their usefulness as an information system. Some evaluation criteria were adopted to each one of these attributes, as it follows.

The simplicity of a system reflects on its structure and operation convenience.[1] The component elements of the *DNV* flow and responsibilities of each level of government were evaluated. From this evaluation, the attribute was defined as simple or complex, comparing to other systems.[9, 10]

The flexibility was analysed by observing the system adaptation to changes resulting from the information needs or to improve its operational conditions.[1] The *DNV* changes that occurred in 2009 were compared to the ones from 1999, such as the content changes in the number of variables (inclusion/exclusion) in the record files, reformulation of the normative material for filling the *DNV*, as well as the process for implementing these changes. This attribute allowed evaluating if the system was flexible or not to changes, including when comparing to other information systems evaluated in this attribute.[9,10]

The data quality reflected the completeness and the validity of records in the system.[1] *Sinasc* recommends filling all the fields on the *DNV*, however there is not a blockade of data entry if any of the fields is blank. In this study, the following variables were considered for quality analysis:

a) place of occurrence – place, administrative branch of the establishment (municipal, state, federal, private), municipality and Federative Unit where the childbirth took place;

b) mother – age, marital status, schooling, occupation, municipality and Federative Unit of residence;

c) pregnancy and childbirth – previous pregnancies (children, live births and stillbirths), pregnancy duration (in weeks), type of pregnancy, type of childbirth and number of prenatal care visits; and

d) newborn identification – year of birth, sex, ethnicity/skin color, Apgar score (1 minute and 5 minutes after birth), birth weight and congenital anomaly detection.

Since there are no evaluation parameters of data completeness for *Sinasc*, this study estimated as a standard reference of this quality, the (i) median of completeness of all variables at 90% – if the data filled were equal or above that proportion, it was considered adequate completeness[9] and, consequently, inadequate if completeness was bellow it – and an (ii) exclusion percentage of up to 5%.

The acceptability was defined as the measure of people's and institutions' interest in conducting the system and participating of it, having the completeness of registered information[1] as one of the parameters from the percentage calculation, adapted from Souza et al.[9], that represents the relation between the sum of the percentage of completeness (excluding ignored and blank fields) and the number of variables. Data from the hospital childbirths were considered for this calculation. The variables included were those collected during the childbirth and initial assistance to the newborn: type of pregnancy, type of childbirth, gestational age, sex, ethnicity/skin color (newborn), Apgar score 1 minute and 5 minutes after birth, birth weight and congenital anomaly detection. This attribute, evaluated for Brazil and its geographic macroregions, was considered acceptable if the indicator presented completeness above 90%.

The representativeness of a system refers to its ability to accurately describe the occurrence of a health event over time and its distribution by place and person.[1] A comparison between data on live births by sex, region and federative unit of residence of the mother, collected by 2010 *Sinasc* and the Demographic Census was performed. The year of 2010 was chosen for being a year with information available on the entire

population derived from the Census and, therefore, could be compared to the population registered on Sinasc, a continuous collection system. In this comparison, deaths of children under 1 year of age were excluded, according to the Mortality Information System (*SIM*), because the Census considers all living people on the reference date of the demographic survey.[15] Using the Pearson Chi-square test (χ^2), the *Sinasc*'s representativeness was considered acceptable when the region or Federative Unit presented statistical differences with 5% significance level.

The opportunity reflects the speed among all the steps of attainment of a surveillance system in public health.[1] This attribute was evaluated from the information volume received from municipalities and federative units, considering the month of birth and of the first data entry in the national system. The parameter of this evaluation was defined by the value of 80% of the expected (agreed) volume data to be received up to 60 days after the end of the month of birth occurrence, as provided in the Ordinance of the Ministry of Health, MS/SVS No. 116 dated February 11, 2009;[16] thereby, this attribute was analysed only for the year of 2010 in this study.

Stability refers to the system's ability to collect, manage and provide data properly and operates them as needed.[1] Current documents, technical standards, legislation and official publications of the Ministry of Health and the Presidency of the Republic were evaluated during the study. The system was considered stable when the documents necessary for its continued operation were presented. To the recognition of *Sinasc*'s stability, it was also considered their capacity to enlist events – or coverage – estimated by the ratio between live births reported in the system and estimated by demographic projections of *IBGE*, as the suggested indicator by the Inter-Network Information on Health (Ripsa):[5] when the ratio was close to 100, it would indicate a coincidence between the frequencies obtained from both sources; above, it would indicate underestimation of demographic projections; and below this parameter, underreporting of the system.[5]

To evaluate the *Sinasc*'s usefulness, the fulfilment of the proposed objective was assessed, namely, providing information on the live births characteristics and its ability to contribute to the definition of specific health indicators.[1] A search for documents, technical standards, legislation and official publications of the

Ministry of Health was performed for the purpose of checking *Sinasc*'s usage as a data source for these indicators' construction[5,17-19] and to verify the potential of the system data usage on technical publications from the Ministry of Health.[20-24]

The study used the Sinasc database (available on SUS IT Department [Datasus] website, of the Ministry of Health)[25] and, for population data, census information from 2010 and the estimation of live birth provided by the Brazilian Institute of Geography and Statistics (*IBGE*).[10] Tabwin and Microsoft Office® Excel 2007 software were used in the data analysis and processing.

The analysis of *Sinasc* data included information publicly available in aggregated form, accessible through the electronic site of the Datasus/Ministry of Health without identification of live births or implication on any harm to the them as the resolution of the National Health Council (CNS) No. 466, dated December 12, 2012.

Results

From 2006 to 2010, there were 14,514,533 live births registries in Brazil: being 7,437,664 (51.0%) males, 14,172,782 (98.0%) of hospitals childbirths and 49.2% of those, from caesarean sections.

The Live Birth Statement (*DNV*) has been developed with the collaboration of a specific Technical Committee and adopted by the Ministry of Health as a single instrument as a source of Sinasc data. The *DNV* follows instructions appropriated to the place of birth conditions, and can be filled by (i) reporting units – hospitals where the childbirth took place or where the first care after it was offered, (ii) individual notifiers – health professional or traditional midwife who attended homebirths or, by (iii) registry offices, subject to authorization granted by the State Justice of Internal Affairs. When the childbirth occurs without a healthcare professional assistance, in locations where families are enrolled in the Family Health Strategy (*ESF*) or in the Program of Community Health Agents (*PACS*), the *DNV* must be issued by a professional belonging to the staff or unit where the mother is registered.

DNV's flow happens as follows: the first copy of the document is sent to the local Municipal Health Department data processing organ, to be typed and filed; the duplicate is taken by the family or by a registrar at the registry's office for the issuance of the birth certificate; and the third copy (i) is filed at the health care unit where the

childbirth happened, or (ii) is taken by the family to the health care unit responsible for the first care when the childbirth did not happen within hospital care, to medical records on file (Figure 1).
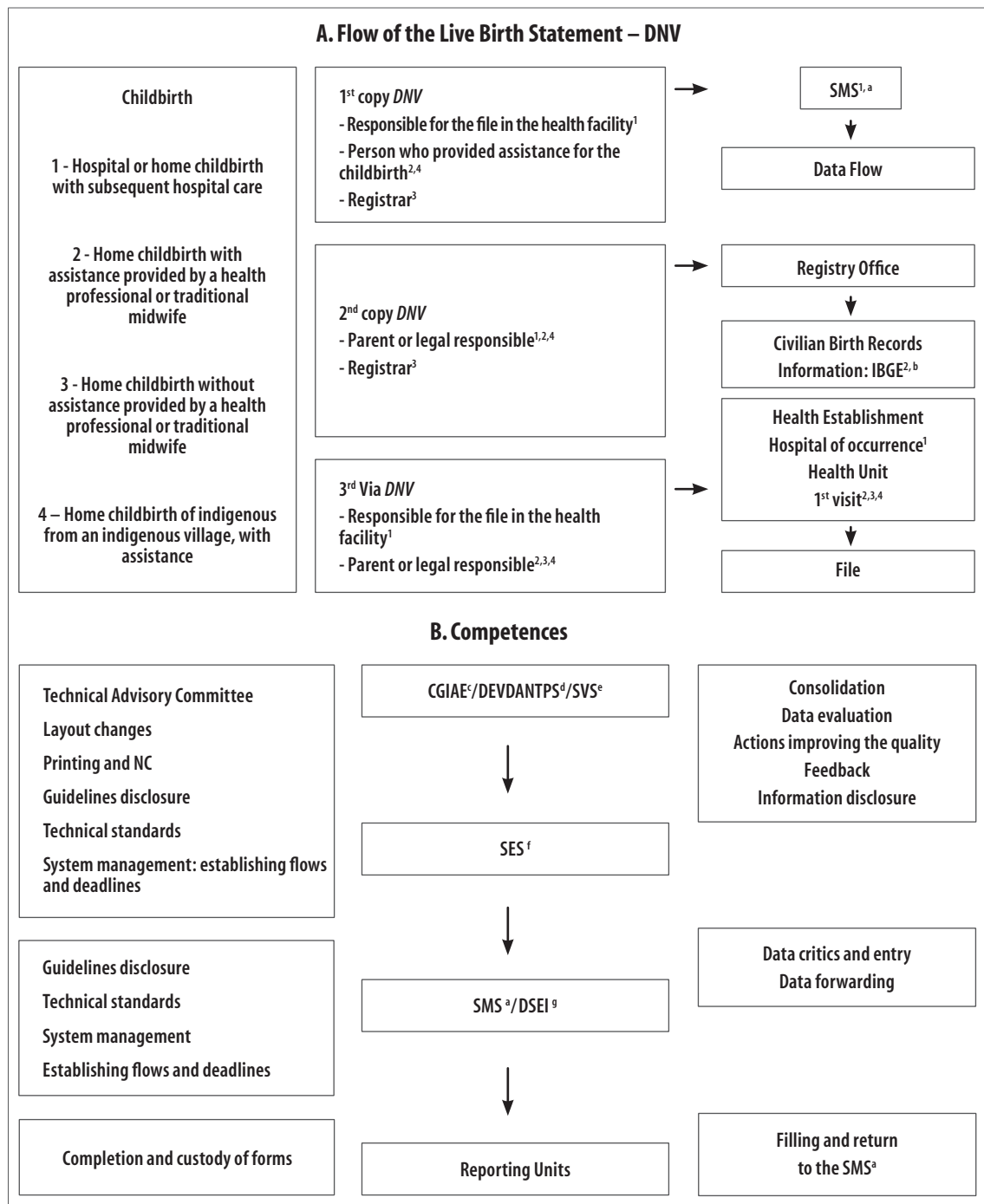
There is a strict control of data flow in the system at all levels of management. Since the files distribution process, there are some singularities concerning the notification. Regardless of the place of birth, expertise in maternal and child healthcare is necessary for filling the *DNV* clinical variables (Figure 1), which is why *Sinasc* was evaluated as a complex system.

With regard to the system's flexibility, the *DNV* used during the study period (2006-2010) was established in 1999 and altered in 2009, both in its contents and in its presentation. When comparing both models, it was observed that 14 fields were included, three were excluded and five were altered. For example, in 2009, 'father's age' variable was included in the new *DNV* which is now composed of eight blocks, 52 fields and 63 variables. In 2010, its distribution to the federative units began, accompanied by adjustments in the interface of data entry program and by review of instructional material – dictionary of variables, reasons why the system was considered flexible to change when necessary.

23 *DNV* variables were evaluated. In the assessment of filling completeness – a median of 99.6% – 13 (52.0%) variables were above this value, being considered adequate. Only the variables 'stillbirth' (85.8%) and 'occupation' (82.5%) presented completeness below 90.0%. Concerning data amount with ignored information, with the exception of 'marital status' (1.5%) and 'congenital anomaly detection' (2.5%), all the other variables held a percentage of ignored information below 1%. The median of ignored data was below 0.1%, and 8 (35.0%) variables were above this parameter, considering the filling as adequate (Table 1). The data was considered of good quality.

The data completeness rate on hospital childbirths in Brazil was 97.9%. Only the Northeast region was below this index (96.7%). The other regions remained at the same level or above it (Table 2). Therefore, the system was considered acceptable.

No statistical differences were found between live births proportions of both sexes in any of the five Brazilian macroregions (p> 0.05) and of the 27 federative unites (> 0.05) when comparing the *Sinasc* data with the 2010 Census information. *Sinasc* was considered a representative system (data not presented).

A. Flow of the Live Birth Statement – DNV

Childbirth

1 - Hospital or home childbirth with subsequent hospital care

2 - Home childbirth with assistance provided by a health professional or traditional midwife

3 - Home childbirth without assistance provided by a health professional or traditional midwife

4 – Home childbirth of indigenous from an indigenous village, with assistance

1st copy *DNV*
- **Responsible for the file in the health facility[1]**
- **Person who provided assistance for the childbirth[2,4]**
- **Registrar[3]**

2nd copy *DNV*
- **Parent or legal responsible[1,2,4]**
- **Registrar[3]**

3rd Via *DNV*
- **Responsible for the file in the health facility[1]**
- **Parent or legal responsible[2,3,4]**

SMS[1, a]

Data Flow

Registry Office

Civilian Birth Records Information: IBGE[2, b]

Health Establishment Hospital of occurrence[1] Health Unit 1st visit[2,3,4]

File

B. Competences

Technical Advisory Committee

Layout changes

Printing and NC

Guidelines disclosure

Technical standards

System management: establishing flows and deadlines

Guidelines disclosure

Technical standards

System management

Establishing flows and deadlines

Completion and custody of forms

CGIAE[c]/DEVDANTPS[d]/SVS[e]

SES [f]

SMS [a]/DSEI [g]

Reporting Units

Consolidation Data evaluation Actions improving the quality Feedback Information disclosure

Data critics and entry Data forwarding

Filling and return to the SMS[a]

a) Municipal Health Department
b) IBGE: Brazilian Institute of Geography and Statistics
c) CGIAE: General Coordination of Epidemiological Information and Analysis
d) DEVDANTPS: Department of Noncommunicable Disease and Injuries Surveillance and Health Promotion
e) SVS: Secretariat of Health Surveillance
f) SES: State Health Departament
g) DSEI: Special Indigenous Health Districts

Figure 1 – Flow of the Statement of Live Birth (*DNV*) description and National Information System on Live Births (*Sinasc*) competences. Brazil

Table 1 – Percentage of completeness and ignored data of selected variables from the National Information System on Live Births (Sinasc). Brazil, 2006 to 2010

Variable	Completeness (%)	Ignored (%)
Birth weight	100.0	0.3
Place of occurrence	100.0	0.0
Sex	100.0	0,0
Age	100.0	0.0
Municipality of occurrence	100.0	–
Federative Unit of occurrence	100.0	–
Municipality of residence	100.0	–
Federative Unit of residence	100.0	–
Year of Birth	100.0	–
Type of pregnancy	99.9	0.0
Type of childbirth	99.9	0.0
Gestation period (in weeks)	99.6	0.4
Number of prenatal visits	99.5	0.8
Marital status	99.4	2.7
Schooling	98.7	0.9
Administrative sphere	98.3	–
Congenital anomaly detection	97.5	1.5
Apgar score 1 minute after birth	95.1	0.0
Apgar score 5 minutes after birth	94.9	0.0
Ethnicity/Skin Color	94.3	–
Children born alive	92.3	–
Stillbirth children	85.8	–
Occupation	82.5	0.1

In view of the expected 80% – agreed –, the amount of data received on *Sinasc* was 82.2% in 2010. These are the system opportunity percentage variations presented monthly: 77.4% (January), 80.1% (February), 83.5% (March), 84.6% (April), 82.7% (May), 83.7% (June), 78.4% (July), 78.4 % (August), 81.8% (September), 81.8% (October), 86.6 (November) and 90.1% (December). However, considering 2010 as a whole (the year analysed), Sinasc proved to be opportune in receiving data.

In addition to the current Ordinances, others related to *Sinasc* were published during the study period, indicating their sustainability and stability in fulfilling the functions intended for the period (Figure 2). The system coverage ratio in relation to the data by collected *IBGE* Census was 89.4% (2006), 90.3% (2007), 94.5% (2008), 95.4% (2009) and 97.4% (2010). The system was concluded to be stable.

To analyse the births evolution during the study period, the Inter-Agency Health Information Network – *Ripsa*

– used the Sinasc in the construction of 19 indicators, in its two editions, divided into four categories:

1) Demographics indicators — total fertility rate; specific fertility rate; and crude birth rate.
2) Mortality indicators — infant mortality rate; early neonatal mortality rate; late neonatal mortality rate; post neonatal mortality rate; perinatal mortality rate; mortality rate in children under five years of age; maternal mortality rate; and mortality rate by conditions originated from the perinatal period.
3) Morbidity indicators and risk factors – live births proportion by maternal age; and proportion of low-weight live births.
4) Coverage indicators – coverage of prenatal care; proportion of hospital childbirths; proportion of caesarean childbirths; proportion of caesarean childbirths at *SUS*; ratio between the reported and estimated live births; and vaccination coverage.

Table 2 – Percentage of data completeness of the National Information System on Live Birth (Sinasc). Brazil and macroregions, 2006-2010

Variables	North	Northeast	Southeast	South	Midwest	Brazil
Type of pregnancy	99.93	99.88	99.94	99.97	99.87	99.92
Type of Childbirth	99.91	99.83	99.88	99.96	99.82	99.87
Gestational age	99.68	99.31	98.90	99.89	99.52	99.28
Sex	99.98	99.97	99.98	99.99	99.99	99.98
Ethnicity/skin color (newborn)	99.31	92.41	93.27	99.80	90.58	94.27
Apgar score 1 minute after birth	97.82	92.14	97.07	99.25	98.90	96.11
Apgar score 5 minutes after birth	97.26	91.40	97.13	99.27	98.94	95.85
Birth weight	100.00	99.99	99.64	100.00	100.00	99.86
Congenital anomaly detection	97.99	95.24	95.28	99.59	93.90	96.00
Completeness Percentage	99.10	96.69	97.90	99.75	97.95	97.90

The Pact for Life and Management used the *Sinasc* system for elaborating two indicators: proportion of live births to mothers with four or more prenatal care visits; and tetravalent vaccine coverage in children under 1 year of age. The Programme of Surveillance Actions in Health (*PAVS*) used the *Sinasc* in one indicator: collection of Live Birth Statements.

The *Sinasc* proved itself useful for monitoring general conditions that subsidize the planning of maternal and child care – for example, in the description of the childbirth profile. The book *Saúde Brasil* (Health Brazil), in its 2006-2010 editions (except for 2008), presented specific chapters on live birth-related subjects. Here too, the system served its purpose and is considered useful on what it is proposed.

Discussion

In the period studied, the *Sinasc* system was considered complex in its operation, yet flexible to change when necessary. Besides being rated as of adequate quality, the system proved to be acceptable considering the completeness of the variables of births in hospitals, and also representative when its data were compared with the 2010 Census records. Similarly, the data reception has proved itself opportune, stable and able to meet the goal set for it: support the planning of maternal and child care.

Sinasc was considered complex in its operation when compared to other systems.[9,10] The apparently excessive strictness in the fulfilment of the record distribution flow, due to the legal implications involved, did not represent a downside and may also have contributed positively to the evaluation of the studied attributes. Furthermore, the heterogeneity of professionals responsible for the fulfilment of the Live Birth Statement – *DNV* –[8] and specificity of the data included in the document led the Ministry of Health to recommend its filling to be conducted by previously trained staff.[8,14] In a maternity hospital in Rio de Janeiro-RJ, in 2004, there was 50% agreement between *DNV* data and respective data records in the newborn and postpartum medical records, suggesting a need for continuous training of the professionals involved.[11]

Despite the operational complexity, the system was evaluated as flexible to the changes observed in the period. This complexity was also observed in a study that evaluated Brazil's national surveillance system on leptospirosis in 2007.[9] The continuity in evaluating Sinasc is considered highly important, in order to observe the data quality after changes, especially those started in 2010. In 2011, with the gradual replacement of the DNV, 58% of births have been informed by the new instrument.[25]

The findings of this assessment indicate: the *Sinasc* data showed high completeness and low percentage of ignored information during the study period, being the system considered of good quality. Its information has improved over time, as pointed in an evaluative study of the *DNV* variables

Legislation	Topic
BRAZIL. Ministry of Health, Secretariat of Health Surveillance Ordinance No. 116 of February 11, 2009	**Regulates the collection of data, flow and frequency of sending information on deaths and live births for health information systems under the management of the Secretariat of Health Surveillance of the Ministry of Health.**
BRAZIL. Ministry of Health, Minister's Office Ordinance No. 2,277, of October 20, 2004	**Authorizes the transfer from the National Health Fund to the State Health Funds for implementation of new information systems of mortality and live births, and other measures.**
BRAZIL. Ministry of Health, Secretariat of Health Surveillance Ordinance No. 16 of April 23, 2009	**Establishes Technical Committee Advisor of the Sinasc[a], with the purpose of advising the technical area of CGIAE/DASIS[b], formulation of national guidelines in the area of information on live births as well as systematic reviews consistent with the current health policy.**
BRAZIL. Ministry of Health, Secretariat of Health Surveillance Ordinance No. 9 of March 1, 2009	**Establishes Technical Advisory Committee of the Sinasca, defines the guidelines and the committee assignments and other measures.**
BRAZIL. Ministry of Health, Minister's Office Ordinance No. 1,929, of October 9, 2003	**Defines the Secretariat of Health Surveillance and IT Department of SUS functions regarding the SIM[c], Sinasc[a] and Sinan[d]**
BRAZIL. Ministry of Health, Secretariat of Health Surveillance Ordinance No. 20 of October 9, 2009	**Regulates the data collection routines, flow and frequency of information on deaths.**
BRAZIL. Ministry of Health, National Health Foundation (FUNASA) Ordinance No. 15 of 23 January 2002	**Constituted a receiving commission of Live Birth and Death Statements, purchased through the trading mode Regulatory Standards 38/2001.**
BRAZIL. Presidency of the Republic Decree No. 4,726, 2003	**Approved the regimental structure and statement chart of commissioned positions and gratified functions of the Ministry of Health and other measures.**

a) Sinasc: National Information System on Live Births

b) CGIAE/DASIS: General Coordination of Epidemiological Information and Analysis/ Department of Health Situation Analysis

c) SIM: Mortality Information System

d) Sinan: Notification Diseases Information

Figure 2 – Current legislation of National Information System on Live Birth. Brazil, 2006-2010

completeness for residents in the state of Pernambuco, over the period 1996-2005.[12] However, another study evaluating the completeness of *Sinasc* variables, held between 2000 and 2009, focusing on the states of the Brazilian Northeast region, found differences in completeness between the states: for the ethnicity/skin color variable, for example, the system showed a higher percentage of incompleteness (20.5%) in 2009 in the state of Sergipe. Nevertheless, its authors considered the completeness of DNV throughout the Northeast region as good to excellent.[26]

An evaluation on the completeness of *Sinasc* data conducted in Campinas-SP, in 2009, pointed out that the completeness percentage of variables ranged from 99.8 to 100%.[27] This data corroborate with those found for Brazil, highlighting the importance of studies in specific geographical areas since there can be regional differences in the quality of the data.

For Costa and Frias,[12] problems such as ignored variables in monitoring systems are the result of a number of deficiencies, from the lack of information on medical records to the lack of certain information by the women's companions; not to mention the blank variables, possible reflection of the lack of care and importance given to complete the *DNV* by the responsible staff.

Positive findings for the 'data quality' attribute reflected in the results of the 'acceptability' attribute. The completeness percentage reached 97.9% for the country. However, the selection of variables used among those that could have had data observed and measured at the childbirth moment would justify a completeness percentage closer to 100%. Therefore, these results should be seen with caution, because there is a possibility of discrepancies between hospital records and *Sinasc* data, as noted on a reliability study conducted in hospitals of Rio de Janeiro-RJ, in 2004.[11]

The system's implementation may interfere with the results of the studied attributes, including the acceptability. *Sinasc*'s implementation in 132 municipalities of Minas Gerais State, in 2010, did not occur properly in most of these locations. This conclusion is based on the lack of a qualified professional, unsatisfactory collection and completion of *DNV*, data sub-utilization and poor dissemination of information.[13]

The system was considered representative, when compared to the proportions of live births — by sex, federative unit and macroregions — with the 2010 Demographic Census data. Since 1998, there was an improvement in *Sinasc*'s coverage reaching at least 90% of registered children on registry offices. It is noteworthy that during this period, *Sinasc* already had more than a decade of implementation in all Brazilian municipalities.[3]

The system proved to be opportune concerning data reception. The monitoring of this system attribute must be maintained, since this evaluation was performed on data from 2010, the first year after the publication of Ordinance No. 116/2009.[16] *Sinasc* was also considered stable, thanks to the legislation that gives it sustainability. The very obligation of the issuance of Live Birth Statements to the Civilian Birth Record[8] may have interfered positively in the results found for the attributes of acceptability, representativeness, opportunity and stability. Furthermore, the results of this evaluation showed the potential of *Sinasc* information and its usefulness in Public Health context as a source of data for the development of health indicators.[2,5,17-19,28]

As limitations of this research, there is the lack of comparative parameters for some of the attributes evaluated. This happened because the parameters considered for this study were used for evaluating information systems[9,10] with distinct characteristics, restricting comparisons with this study.

Periodic evaluations of the information systems must be integrate into the routine of the health surveillance systems. Quality information is essential for the health situation analysis and taking evidence-based decisions.[5] In this study, the evaluated attributes and the National Information System on Live Births — *Sinasc* — ratify the quality and the importance generated by it to subsidy public policies for maternal and child health.

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