

## Primary care experiences in 25 years of *Journal Ciência & Saúde Coletiva*: a review of the scientific literature

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**Abstract** *The term “basic care” is restricted to a few countries like Brazil. Since the 1978 Alma-Ata Conference, “primary health care” (PHC) has been used to designate care at the first level. The paper summarizes the experiences of evaluation in primary health care, based on the review of the set of manuscripts published by Journal Ciência & Saúde Coletiva. A bibliographic search was made in the SciELO database in the 1996-2020 period. Several descriptors were selected in the spectrum of evaluation and basic care/primary care. The reviewed studies suggest the existence of two analytical periods over the 25 years of the Journal. The first, characterized by the 1996-2010 studies, had the studies of structure/process/results by Donabedian as its predominant theory. The second, from 2011-2020, was Billings’ theories on Ambulatory Care Sensitive Conditions (ACSC) and Starfield’s PHC attributes. The main dimensions presented in the studies refer to evaluations with a quantitative approach and are induced by the policies and public consultations of the Ministry of Health, and instruments referenced by it.*

**Key words** *Health assessment, Primary Health Care, Brazil*

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## Introduction

The Portuguese term “*atenção básica*” or “*atenção básica à saúde*” is used in a few countries like Brazil. In the world, since the 1978 Alma-Ata Conference in Kazakhstan, the term “*atenção primária à saúde*” (“*cuidados primários de saúde*”, in Portugal; “*atención primaria de salud*” in Spanish, and “*primary health care*” in English) is used to designate care at the first level of care, which can be defined, as per Starfield’s<sup>1</sup> definition, as that characterized by four essential attributes: first contact access, longitudinality, coordination of care and comprehensiveness. It also stands out with three other attributes, called derivative attributes, namely, family, community, and cultural competence.

In Brazil, the so-called “*atenção básica em saúde*” has covered, over the decades, any outpatient service provided in health posts and centers. For example, historically, since the 1970s, the IBGE was the first body to systematize an analysis of health establishments nationally without hospitalization (the name given by this body to outpatient health posts and centers) in its administrative survey entitled “Research of Medical-Health Care - AMS”<sup>2</sup>. Brazil stands out on the world stage for offering one of the largest universal public systems in the world, recognized by several authors<sup>3</sup> and PHC-based. The national provision of actions, services, and procedures is developed by a network of primary healthcare facilities (health posts and centers, family health facilities), mostly under municipal responsibility. In this type of service, as of April 2020, 47 thousand health establishments existed in practically all 5,570 municipalities and the Federal District<sup>4</sup>. The relevance and capillarity of this PHC network showed its importance in receiving people with mild flu-like symptoms in the first half of 2020, in the context of the new coronavirus COVID-19<sup>5</sup> pandemic. According to the IBGE<sup>6</sup>, in its PNAD COVID-19, 84.3% of the 24 million Brazilians with flu-like symptoms in May 2020 did not seek health care. Among those who did not look for a health unit and stayed at home, more than 500 thousand received a visit from a family health team professional or community health worker. Thus, PHC has partially expanded the population’s access to care, supporting the operationalization of health surveillance actions for mild cases and their contacts, minimizing the influx of patients to urgent and emergency services, contributing to minimize the collapse of SUS during the pandemic.

In the *Journal Ciência & Saúde Coletiva*, in 1998, Hartz and Pouvourville<sup>7</sup>, then Hartz<sup>8</sup> in 1999, Bodstein<sup>9</sup> and Costa and Pinto<sup>10</sup> in 2002, were the first authors to address, debate and investigate the issue of health assessment experiences (initially as program assessment) and the projection of PHC on the Brazilian public health agenda in 1999 and 2002, respectively. Subsequently, dozens of studies were published by the Journal, describing, analyzing, and evaluating local, regional, and international PHC experiences. Through a literature review, this text aims to reflect on the contributions of these authors and the predominant themes addressed by them in contributing to Brazilian Public Health, without intending to exhaust the debate.

## Methods

We aim to answer the following questions: (i) How did authors of the *Journal Ciência & Saúde Coletiva* approach the theme of health assessment since 1996, starting from the Community Health Workers Program (PACS), the Family Health Program (PSF), for basic care, the Family Health Strategy until reaching PHC?, (ii) Were basic care and primary health care analyzed as synonyms, concepts constructed or under construction in papers on health assessment published by the *Revista Ciência & Saúde Coletiva* in the last 25 years?, (iii) Has the establishment of the National Primary Health Care Secretariat (SAPS) by the Brazilian Ministry of Health in 2019, in light of the previous questions, defined a change in the paradigm for the assessment in health in the last 25 years or is it just a semantic change in the publication of later papers?

The studies analyzed were identified through an integrative literature search to systematize and follow the same methods as Assis et al.<sup>11</sup>.

## Search criteria

We used the database of the *Journal Ciência & Saúde Coletiva* in SciELO as the only source, for the complete period of its issues up to its 25 years, that is, the period from September 1996 to April 2020, considering any of the indices indexed in Portuguese or English, with the search keys “E” or “AND” and the following combinations of Portuguese keywords: “*avaliação e atenção primária*”, “*Atenção Primária à Saúde e avaliação de serviços de saúde*”, “*Atenção Primária à Saúde e qualidade da assistência à saúde*”, “*aval-*

iação da atenção básica”, “serviços básicos de saúde”, “avaliação e cuidados de saúde primários”, “avaliação em Saúde e Saúde da Família”, “Avaliação e Saúde da Família”, “Avaliação e agentes comunitários de saúde”, “Avaliação e Programa de Saúde da Família”.

Although the Portuguese term “avaliação” was not associated with the terms “serviços básicos de saúde”, “atenção primária à saúde e pagamento por desempenho”, “atenção primária à saúde e pesquisa em serviços de saúde”, “atenção primária à saúde e internações por condições sensíveis à atenção básica/primária”, “Programa de Saúde da Família”, “Agente comunitário de saúde”, “agentes comunitários”, we opted to include it in the initial search for a comprehensive reading and capture of all abstracts, taking into account that the program assessment area, with the then PACS and PSF, has been analyzed from a descriptive and epidemiological perspective in the late 1990s/2000s.

We have created an extensive Excel database containing descriptive variables for each of the papers surveyed to carry out the bibliographic search, carried out and analyzed here in two stages and part of the results. We stratified the analysis into two groups, namely, works published until 2010 x works published after 2010. This is because, after 2010, the Journal started to have a monthly periodicity, and we aimed to measure the effect of this change in the publication of papers.

We found a total of 201 papers listed in the database in the first stage, whose abstracts were read. We pre-selected 181 works after removing duplicate texts and applying the inclusion and exclusion criteria. In the first case, we included texts: (i) focusing on health assessment simultaneously with the approach to outpatient/basic/primary care, (ii) approaching Health programs, primary care, basic health care, primary care associated with the assessment of health programs, policies or services. Among the exclusion criteria, we considered: (i) literature review studies, (ii) health assessments, without a focus on basic care/primary care, (iii) duplicate papers, (iv) specific focus on descriptive analyses without association with assessment, (v) non-accessible languages (other than Portuguese, English, Spanish and French).

After analyzing the abstracts, 115 papers were eliminated in the second stage, especially those whose initial keywords were not simultaneously and directly or indirectly related to the object of the systematic review (health assessment and basic/primary care). Therefore, the final sample

of this stage for which the complete reading of the texts was carried out consisted of 65 papers (Table 1).

### Results of the first stage: profile of the universe of papers selected for bibliographic review (N = 181)

A noteworthy critical issue is that, since its first edition in September 1996, the *Journal Ciência & Saúde Coletiva* witnessed a massive growth in the submission of papers, and as a result, its periodicity changed over time. It went from two annual issues between 1996 and 2001 to three annual issues between 2002 and 2006, followed by two issues between 2007 and 2010, until finally becoming a monthly journal, which helps explain why, in the search for this study, a higher number of papers was observed in the post-2010 period. Even so, as we will see below, in proportion to the total number of published texts, 2006 (issue 11.3) and 2020 (issue 25.4) (Graph 1) stand out; 2020 was considered partially, that is, until April. One explanation is that these two years, respectively, reflect the years in which the National Primary Care Policy (PNAB, 1<sup>st</sup> edition) and 2020 were established. This last year is the year following the creation in 2019 of a National Primary Health Care Secretariat (SAPS) within the Ministry of Health and the new federal model for financing Family Health Teams. On the other hand, other special issues of the Journal gathered papers published on the theme of assessment and primary health care, with an emphasis on issues 16.11 (2011) and 22.3 (2017).

We also looked for some pre-defined terms in each of the complete papers (N = 181), to outline an analysis over the 25 years of the presence or absence of each term and, thus, we infer an objective approximation to the history of the publication of the works in the Journal in the context of Brazilian PHC changes, from the establishment of the then PACS and PSF in the 1990s to the role of the Brazilian Association of Collective Health (Abrasco), the transformation of PSF into a “Family Health Strategy”, the National Primary Care Policy (PNAB, 1<sup>st</sup> edition in 2006). Therefore, we chose Portuguese terms “ABRASCO”, “PSF”, “atenção básica”, “ESF (Equipe de Saúde da Família)”, “ESF (Estratégia de Saúde da Família)”, “PNAB”, “APS” for a specific search in the body of each published text. Interestingly, the works published in the period in question used the same abbreviations “ESF” or “eSF” both to designate “Family Health Team” (way of organizing a group

**Table 1.** Literature review on assessment and primary health care: papers eliminated by the abstract and final sample by the inclusion and exclusion criteria. *Journal Ciência & Saúde Coletiva*, 1996-2020.

Key words searched (free translation into English, with the removal of same-meaning word strings)	N° of studies		
	Pre-selected (N)	Eliminated by the abstract (e)	Review by general inclusion criteria (n = N - e)
01. Community health worker, community workers, community health workers/Family Health Program	44	40	4
02. Basic care, Basic health care, Primary health care	55	42	13
03. Primary health care	7	4	3
04. Basic health services/primary health care	4	2	2
05. Basic health services	4	4	0
06. Primary health care and payment for performance	1	0	1
07. Primary health care and research in health services	1	0	1
08. Primary health care and hospitalizations for conditions sensitive to basic/primary care	4	0	4
09. Primary care assessment	4	0	4
10. Performance assessment or assessment of the performance of basic health services	1	0	1
11. Assessment and community health workers/Assessment and Family Health and Program	7	5	2
12. Assessment and primary care	25	12	13
13. Assessment and primary health care/assessment/assessment and primary care	4	0	4
14. Assessment and Family Health/Health Assessment and Family Health	16	7	9
15. Assessment of the quality of care/health care and primary care	4	0	4
Total	181	116	65

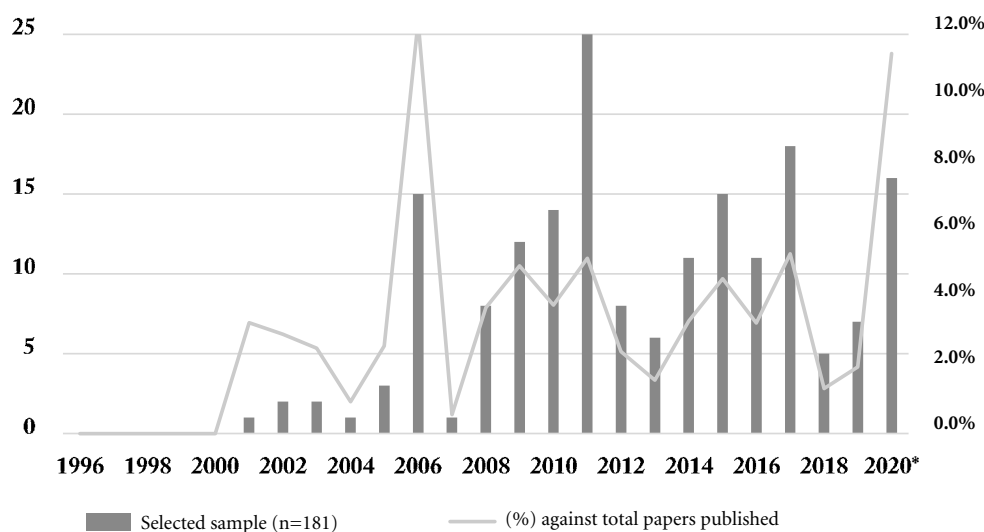
Source: Own elaboration.

of professionals in health units, such as health posts, health centers or family health facilities) and “Family Health Strategy” (as a structuring health care model). The analysis shows the trend of the presence of each of the pre-selected terms, with incipient participation of papers that mention “ABRASCO” as one of the Portuguese references in the themes of “*avaliação*” and “*atenção básica/atenção primária*”. The terms “PSF” and “ESF” (Family Health Strategy) are those that, over time, obtained a more significant number of citations with maximum value in the period 2010-2014, when they then decrease and are overtaken by the term “APS” between 2019 and 2020. With the creation of SAPS/MS in May 2019<sup>12</sup> and the new federal PHC funding model – “Previnde Brasil”<sup>13</sup> –, the use of Portuguese terms “*atenção primária*”, “*atenção primária à saúde*” are expected

to be consolidated and achieve a higher number of citations from 2020 (Graph 2). We highlight that, in 2020, Graph 2 records in the “2019-2020” period only works published until April 2020 (that is, 16 months), a period much shorter than the others used for its elaboration (48 months).

#### Second stage results: the profile of the sample of papers selected for full-text reading (N = 65)

A subset of 65 papers was read in full and classified in the database created according to the variables: institutional affiliation of the first author of the paper, predominant thematic classification, study location, object/unit of analysis, type of sample/census, the period of data collection and source/material used (Chart 1).



**Graph 1.** Distribution of pre-selected papers and proportion of papers against total published. *Journal Ciência & Saúde Coletiva*, 1996-2020 (n = 181).

\*Data up until April 2020.

Source: Own elaboration, based on data collected on the total number of papers at [https://analytics.scielo.org/w/publication/article\\_by\\_publication\\_year](https://analytics.scielo.org/w/publication/article_by_publication_year) and totaling the total number of papers selected within the criteria stipulated by the authors.

Of the total selected papers, 87.9% are works whose first authors have Brazilian institutional affiliations. The states of Rio de Janeiro, São Paulo, Minas Gerais and Rio Grande do Sul stand out, which together account for 53.0% of the total of the texts collected. We also observed that all regions are represented, although the North Region, only barely registers 3.0% of authors in the states of Amazonas and Tocantins. Among foreign countries, Portugal stands out with 9.1% of authors, and this value is higher than 11 Brazilian states individually (Pernambuco, Rio Grande do Norte, Bahia, Maranhão, Paraná, Federal District, Santa Catarina, Ceará, Paraíba, Tocantins, and Amazonas), which reveals the tremendous potential consolidated by the Journal in Portugal in the area of assessment and primary health care.

#### Predominant thematic classification

The full-text reading of the 65 papers selected in the bibliographic sample allowed us to approach the main themes, classifying the texts by their predominant approach in the assessment area (Table 2). Of the total number of works,

when stratified into two groups, noteworthy are the differences registered over the last 25 years in the *Journal Ciência & Saúde Coletiva*.

In the first group of papers published until 2010, they highlight “evaluative research with a comparison of care models (ESF x traditional model; oral health)” and “assessment of the implementation of the PAB, the Family Health, Oral Health teams (including economic/financial assessment)”, which together account for about 50% of the total texts selected for analysis in that period. In the second group, for manuscripts published between 2011 and 2020, the areas “epidemiological studies (with clinical and management indicators, which may include ACSC)” and “evaluative research with users/health professionals/managers (many using the Primary Care Assessment Tool - PCAT)”, together accounted for 60.4% of the total papers published on health assessment and basic care/primary care in the last decade (Table 3).

Similarly, we found striking differences when we compared the two groups (papers published until 2010 x papers published between 2011 and 2020). In this case, a diversity that shows the con-

**Chart 1.** Literature review performed according to the predominant thematic classification and selected variables. *Journal Ciência & Saúde Coletiva*, 1996-2020 (n = 65).

n	Authors (year)	Study Location	Object/unit of analysis	Sample/census	Data collection period
<b>01. Normative assessment (several references)</b>					
1	Tomasi et al. (2011)	Some states in the Northeast and South regions of Brazil	Care performed in health units	n=26,019 attendances	2008
2	Cardoso et al. (2015)	Municipalities in the northeast of Minas Gerais	Municipalities	n=63 municipalities	2011
3	Neto et al. (2016)	Curitiba (Paraná), Rio de Janeiro (Rio de Janeiro), and Lisbon (Portugal)	Municipalities	n=3 (case series)	2015
4	Salazar et al. (2017)	Municipality of Rio de Janeiro, and Brazil	Family Health Teams	n1=324 (Rio) teams; n2=17,200 (Brazil)	2012
5	Monteiro et al. (2017)	ACeS Amadora, ACeS Almada-Seixal (ARSLVT, Portugal)	Men and Women	n=176,293 people	2016
6	Monteiro et al. (2017)	ACeS Oeste Norte x Regional Administration of Lisbon and Vale do Tejo (ARSLVT), Portugal	Men and Women	n=76,293 people	2016
7	Soranz et al. (2017)	Municipality of Rio de Janeiro, Rio de Janeiro	Men and Women	n ~3 million people	2016
8	Santos and Hugo (2018)	Brazil	Oral Health Teams in the Family Health Strategy	n=18,114 Oral Health teams	2013-2014
9	Monteiro (2020)	Portugal	Men and Women	n=10,220,858 people	2019
10	Pinto and Santos (2020)	Planning Area of the municipality of Rio de Janeiro	Adults 18 years and over	N = 115,280 people	2014-2015
<b>02. Political-institutional analysis</b>					
11	Biscaia and Heleno (2017)	Family Health Units of Marginal, Cascais, Portugal	Family Health Units	case study	2016
12	Reis et al. (2019)	Brazil	Establishment of the Primary Health Care Secretariat in the Ministry of Health	case study	2019
<b>03. Qualitative exploratory analysis (Minayo, 2003)</b>					
13	Nascimento and Nascimento (2005)	Municipality of Jequié, Bahia	Nurses	n=14 nurses	1999-2002
14	Galavote et al. (2011)	Municipality of Vitória, Espírito Santo	Community health workers	n=14 Community health workers	2005-2006
15	Pinheiro et al. (2012)	Municipality of Florianópolis, Santa Catarina	Nurses	n=14 nurses	2010
16	Engstrom et al. (2020)	Municipality of Rio de Janeiro, Rio de Janeiro	Students	n=42 graduates	2016
<b>04. Theory of assessment and implementation of programs (Hartz, 1997; Contandriopoulos et al., 1997)</b>					
17	Bodstein (2002)	Brazil	SUS decentralization process and primary care	case study	2001
18	Albuquerque et al. (2007)	Municipality of Recife, Pernambuco	PHC facilities (n1) and family health facilities (n2)	n1=42; n2=84	2002

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**Chart 1.** Literature review performed according to the predominant thematic classification and selected variables. *Journal Ciência & Saúde Coletiva*, 1996-2020 (n = 65).

n	Authors (year)	Study Location	Object/unit of analysis	Sample/census	Data collection period
19	Rocha and Sá (2011)	Portugal	Family Health Units (USF)	n=11 USF (case series)	2009
<b>05. Matus Government Triangle (Matus, 1972)</b>					
20	Sampaio et al. (2011)	State Health Secretariat of a Northeastern state	State Health Secretariat	case study	2006
<b>06. Theory of Assessment of Impact in Public Policies (Draibe, 2004)</b>					
21	Roncalli and Lima (2008)	Some municipalities in the Northeast Region with a population greater than 100 thousand inhabitants	Children under five years	n=2,144 children	2005
<b>07. Theory of the complexity of health systems: the four existing rationales</b>					
22	Contandriopoulos (2006)	Brazil	Evaluative research, normative assessment, decision-making	case study	2006
<b>08. Assessment Theory and use of the logical model (Hartz, 1997)</b>					
23	Felisberto (2006)	Brazil	Institutionalization of health assessment and primary care	case study	2006
24	Costa et al. (2011)	Municipality of Recife, Pernambuco	Family Health Teams	n=72	2010
<b>09. Descriptive assessment of the local situation (Testa, 1992)</b>					
25	Gomes et al. (2009)	Municipality of Paula Cândido, Minas Gerais	Families not covered by the ESF (1992) and covered by the ESF (2003)	n1 = n2 = 127 families	1992/2003
<b>10. Theory of structure/process/outcome assessment (Donabedian, 1990)</b>					
26	Costa and Pinto (2002)	All Brazilian municipalities	Municipalities by population size	n=5,354 municipalities	2002
27	Machado et al. (2004)	Municipalities and health regions of Minas Gerais	Municipalities and regions of Minas Gerais	N ~ 800 municipalities	2003
28	Facchini et al. (2006)	Municipalities of Alagoas, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Rio Grande do Sul, and Santa Catarina	Municipal health counselors (n1), municipal health secretaries (n2), primary care coordinators (n3)	n1=41, n2=29, n3=32	2005
29	Pereira et al. (2006)	Municipalities of Amapá, Maranhão, Pará e Tocantins	Municipalities with more than 100 thousand inhabitants	n=16 municipalities	2006
30	Caldeira et al. (2010)	Municipality of Montes Claros, Minas Gerais	Children under two years	n=1,200 families, 595 mothers	2006
31	Costa et al. (2011)	Municipality of Teixeiras, Minas Gerais	Children under two years	n=161 mothers	2006
32	Serapioni and Silva (2011)	Regions of the State of Ceará	Family Health Teams, health professionals, managers, health counselors, academics, users	case study + n1=340 users	2010

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**Chart 1.** Literature review performed according to the predominant thematic classification and selected variables. *Journal Ciência & Saúde Coletiva*, 1996-2020 (n = 65).

n	Authors (year)	Study Location	Object/unit of analysis	Sample/census	Data collection period
33	Portela and Ribeiro (2011)	Brazilian municipalities with more than 100 thousand inhabitants	Municipalities	n=185 municipalities	2007
34	Mendes et al. (2012)	Municipality of Recife, Pernambuco	Users (n1), doctors (n2), and nurses (n3)	n1=1,180, n2=61, n3=56	2009
35	Bulgareli et al. (2014)	Municipality of Marília, São Paulo	PHC facilities (n1) and Family Health facilities (n2)	n1=6 UBS, n2=11 USF	2007-2009
<b>11. Theory of Clinical Management in Primary Health Care (Wagner, 2012)</b>					
36	Janett and Yeracaris (2020)	United States	Use of electronic medical records in primary health care	case study	2019
<b>12. Theory on access and use of health services (Andersen, 1995)</b>					
37	Bousquat et al. (2012)	Municipality of Santo André, São Paulo	Men and Women	n=175 people	2011
<b>13. Epidemiological Theory, aggregate-ecological studies and population-based studies (Medronho et al., 2009)</b>					
38	d'Ávila Viana et al. (2006)	All municipalities of the State of São Paulo	Municipalities	n=62 municipalities	2005
39	Szwarcwald et al. (2006)	Some municipalities of the State of Rio de Janeiro with more than 100 thousand inhabitants	Adults 18 years and over and mothers of children under two years	n=1,970 people	2005
40	Ribeiro et al. (2010)	Municipality of Teresópolis, Rio de Janeiro	Children under five years	n=594 responsible for the children	2005
41	Busato et al. (2011)	Municipality of Curitiba, Paraná	Dental surgeons	n=191 dentists	2006
<b>14. Theory of the attributes of Primary Health Care (PHC) (Starfield, 2002)</b>					
42	Elias et al. (2006)	All the municipalities of the State of São Paulo	Users (n1), health professionals (n2), and managers (n3)	n1=1,117, n2=600(?), n3=343 (?)	2005
43	Ibañez et al. (2006)	Municipalities of São Paulo with more than 100 thousand inhabitants	Users (n1) and health professionals (n2)	n1=2,923; n2=167 health professionals	2005
44	Alves Leão and Caldeira (2011)	Municipality of Montes Claros, Minas Gerais	Children under two years	n=350 mothers	2009
45	Reis et al. (2013)	Municipality of São Luís, Maranhão	Users (n1), health professionals (n2), and managers (n3)	n1=882, n2=80, n3=30	2010-2011
46	Alencar et al. (2014)	Municipality of São Luís, Maranhão	Users (n1), health professionals (n2), and managers (n3)	n1=883, n2=80, n3=32	2010-2011
47	Marques et al. (2014)	Municipality of São Francisco, Minas Gerais	Children under five years in a quilombola community	n=76 families	2011
48	Araújo et al. (2014)	Municipality of Macaíba, Rio Grande do Norte	Older adults	n=100	2012
49	Mesquita Filho et al. (2014)	Municipality of Pouso Alegre, Minas Gerais	Children under two years	n=419 children caregivers	2009

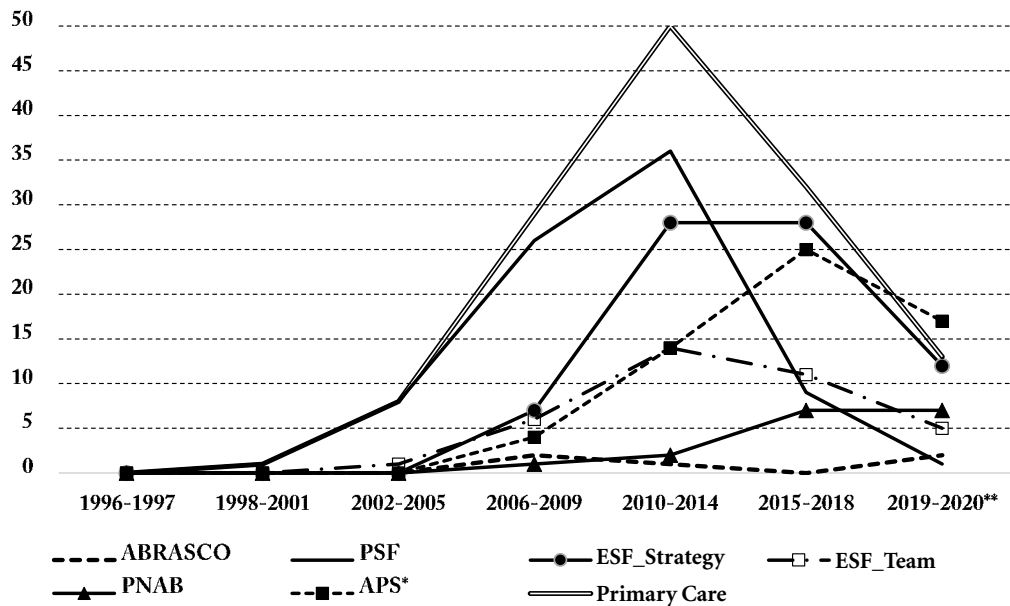
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**Chart 1.** Literature review performed according to the predominant thematic classification and selected variables. *Journal Ciência & Saúde Coletiva*, 1996-2020 (n = 65).

n	Authors (year)	Study Location	Object/unit of analysis	Sample/census	Data collection period
50	Quaresma and Stein (2015)	Municipality of Palmas, Tocantins	Children and adolescents 12-18 years	n=469 children and adolescents	2013
51	Harzheim et al. (2016)	Municipality of do Rio de Janeiro, Rio de Janeiro	Adults ≥ 18 years, and responsible for children < 12 years	n1=3,530 and n2=3,145	2014
52	Pinto et al. (2017)	District of Rocinha, Municipality of Rio de Janeiro, Rio de Janeiro	Adults ≥ 18 years, and responsible for children < 12 years	n1=433 and n2=369	2014
53	Sellera et al. (2020)	Brazil	Institutionalization of health assessment and primary care	case study	2019
<b>15. Theory of Billings (1990), on Ambulatory Care Sensitive Conditions (ACSC)</b>					
54	Barbara Rehem and Egry (2011)	Municipalities of the State of São Paulo	Men and Women	n ~ 400 thousand hospitalizations/year	2000-2007
55	Pitilin et al. (2015)	Municipalities of Guarapuava, Paraná	Women	n=429 hospitalizations	2013
56	Avelino et al. (2015)	Municipality of Alfenas, Minas Gerais	Men and Women	n=2,200 hospitalizations	2008-2012
57	Costa et al. (2016)	Municipality of Porto Alegre, Rio Grande do Sul	Men and Women	total of hospitalizations not specified	1998-2012
58	Gonçalves et al. (2016)	Municipalities of the Northeast	Men and Women	n=181,152 hospitalizations	2012-2015
59	Magalhães and Morais Neto (2017)	Health Districts of the Municipality of Goiânia, Goiás.	Men and Women	n=502,908 hospitalizations	2008-2013
60	Morimoto and Costa (2017)	Municipality of São Leopoldo, Rio Grande do Sul.	Men and Women	n=10 thousand hospitalizations/year	2003-2012
61	Pinto and Giovanella (2018)	Brazil (capitals and inland regions), other selected capitals	Men and Women	n=187 million hospitalizations	2001-2016
62	Pinto Junior et al. (2018)	Bahia	Children under five years	n=810,831 hospitalizations	2000-2012
63	Pinto et al. (2019)	Brazil, Brasília, São Paulo, Rio de Janeiro, Belo Horizonte, Porto Alegre, Curitiba, and Florianópolis.	Men and Women	n ~ 20 million hospitalizations	2009-2018
64	Lôbo et al. (2019)	Municipalities of the State of São Paulo	Children under one year	n=851,713 hospitalizations	2008-2014
65	Rocha et al. (2020)	Brazil and Portugal	Men and Women	n1=11.6 million (Brazil); n2=1 million (Portugal)	2019

Source: Prepared by the authors, based on the full-text reading of the papers.



**Graph 2.** Distribution of researched papers without duplicates according to selected specific key words. *Journal Ciência & Saúde Coletiva*, 1996-2020 (n = 181).

\*Key word "APS" was also found considering the associated words "cuidados primários de saúde" (Portuguese) and "primary health care" (English). \*\*Data up until April 2020.

Source: Own elaboration.

**Table 2.** Literature review on assessment and primary health care according to the predominant thematic classification. *Journal Ciência & Saúde Coletiva*, 1996-2020 (n = 65).

Predominant thematic classification	Up to 2010		2011-2020		Total	
	n° of papers	%	n° of papers	%	n° of papers	%
01. Epidemiological studies (with clinical and management indicators, which may include ACSCs)	1	5.6	17	36.2	18	27.7
02. Evaluative research with users/health professionals/managers (many using the PCATool instrument)	3	16.7	12	25.5	15	23.1
03. Evaluative research with the comparison of care models (ESF x traditional model; oral health)	4	22.2	4	8.5	8	12.3
04. Evaluative research on specific actions/programs or procedures performed in PHC	3	16.7	5	10.6	8	12.3
05. Conceptual or institutional discussion	1	5.6	2	4.3	3	4.6
06. Evaluative research with case studies	0	0.0	4	8.5	4	6.2
07. Assessment of the PAB implementation, the Family Health, Oral Health teams (including economic/financial assessment)	5	27.8	1	2.1	6	9.2
08. Exploratory research on PHC work processes	1	5.6	2	4.3	3	4.6
Total	18	100.0	47	100.0	65	100.0

Source: Own elaboration.

ceptual and theoretical richness considered by *Journal Ciência & Saúde Coletiva* for its readers over the past 25 years.

In the first group, papers published until 2010, the “Donabedian structure/process/result assessment theory<sup>14</sup>”, represented the most prominent category, with 29.4% of the manuscripts. In the group of texts published from 2011 to 2020, Billings’ theory<sup>15</sup> on Ambulatory Care-Sensitive Conditions (ACSC) and Starfield’s theory of PHC attributes<sup>16</sup> each represented 18.5% of the total works, followed by “normative assessments” and “structure/process/results assessment theory”, also tied at 15.4% (Table 3).

From a methodological viewpoint, most studies considered a predominantly quantitative approach. Two lines of production were noted between the periods analyzed, before and after 2010, that is, the widespread assessment types were more present in the first years of publication of the Journal.

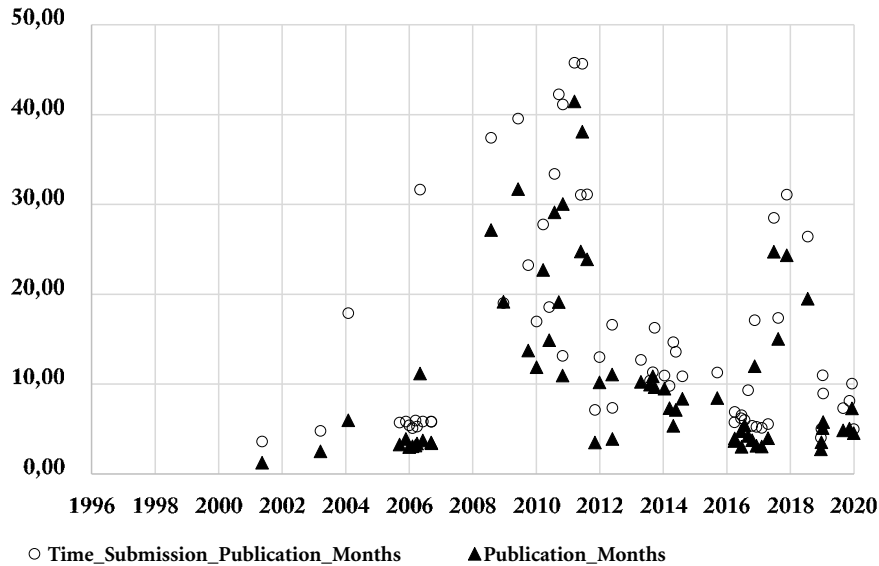
The subsequent period had a high concentration of papers that, on the one hand, emphasized the use of primary care indicators related to Ambulatory Care Sensitive Conditions (ACSC). We must remember that the Ministry of Health launched a public consultation that later became an Ordinance<sup>17</sup> with the Brazilian list of ambulatory care sensitive conditions<sup>18</sup>. Its use and dissemination in Brazil are facilitated by decades of existence of the Hospital Information System (SIH-SUS), which monthly collects data on hospitalizations in the Unified Health System (SUS) and makes them available as microdata not identified by name on the SUS Informatics Department’s website (DATASUS).

On the other hand, the use of the PHC attributes assessment instrument originally proposed by Shi and Starfield<sup>19</sup> and statistically validated in Brazil by Starfield (who was at ENSP/Fiocruz in 2002 to launch her seminal book) and a group of researchers from UFRGS<sup>20</sup> also contributed

**Table 3.** Bibliographic review on assessment and primary health care according to the predominant theory addressed in the text. *Journal Ciência & Saúde Coletiva*, 1996-2020 (n = 65).

Predominant theory in the papers	Up to 2010		2011-2020		Total	
	n° of papers	%	n° of papers	%	n° of papers	%
01. Normative assessment (several references cited in Chart 1)	0	0.0	10	20.8	10	15.4
02. Political-institutional analysis <sup>12,24</sup>	0	0.0	2	4.2	2	3.1
03. Qualitative exploratory analysis <sup>25</sup>	1	5.9	3	6.3	4	6.2
04. Theory of assessment and implementation of programs <sup>26,27</sup>	2	11.8	1	2.1	3	4.6
05. Matus Government Triangle <sup>28</sup>	0	0.0	1	2.1	1	1.5
06. Theory of Assessment of Impact in Public Policies <sup>29</sup>	1	5.9	0	0.0	1	1.5
07. Theory of the complexity of health systems: the four existing rationales <sup>30</sup>	1	5.9	0	0.0	1	1.5
08. Assessment Theory and use of logical model <sup>26</sup>	1	5.9	1	2.1	2	3.1
09. Descriptive assessment of the local situation <sup>31</sup>	1	5.9	0	0.0	1	1.5
10. Theory of structure/process/outcome assessment <sup>14</sup>	5	29.4	5	10.4	10	15.4
11. Theory of Clinical Management in Primary Health Care <sup>32</sup>	0	0.0	1	2.1	1	1.5
12. Theory on access and use of health services <sup>33</sup>	0	0.0	1	2.1	1	1.5
13. Theory of Billings <sup>15</sup> , on Ambulatory Care Sensitive Conditions (ACSC)	0	0.0	12	25.0	12	18.5
14. Theory of the attributes of Primary Health Care (PHC) <sup>16</sup>	2	11.8	10	20.8	12	18.5
15. Epidemiological Theory, aggregate-ecological studies, and population-based studies <sup>34</sup>	3	17.6	1	2.1	4	6.2
Total	17	100.0	48	100.0	65	100.0

Source: Own elaboration.



**Graph 3.** Distribution of time for submission, approval, and publication of papers on assessment and primary health care. *Journal Ciência & Saúde Coletiva*, 1996-2020 (n = 65).

Source: Own elaboration.

to the publication of papers in *Journal Ciência & Saúde Coletiva*. This instrument was endorsed by the Brazilian Ministry of Health, which published in 2010 the Manual of the so-called set of instruments “PCATool-Brasil”<sup>21</sup>. This Manual can be considered a watershed for Health Assessment and Primary Care, as it enabled the national capillarization of an evaluative research methodology, considering the experience of users, managers, and health service professionals. We can also highlight a Brazilian version of this instrument validated for Oral Health, both for users and dentists<sup>22,23</sup>.

The assessment of clinical and epidemiological performance indicators is more present in the international studies published by the Journal, as are the normative assessments, particularly in the case of Portugal, with all the legal framework of its National Health System (SNS).

### Time for submission, approval, and publication of papers

One of the indicators used to measure the quality of a scientific journal based on the Web of Science (WoS) is the publication time of the works submitted. We measured the time (in months), including the paper’s period of approval, to answer this question. We built two variables, namely, the time between submission and publication of the paper, and time between approval and publication of the paper.

The data show a considerable drop in both indicators over the last 25 years, in 2011, when the *Journal Ciência & Saúde Coletiva* started to be published monthly. However, we still found some papers that took over 12 months between the time of submission and publication and between the time of approval and publication (Graph 3).

## Final Considerations

In the 1996-2020 period, concerning papers published in the *Journal Ciência & Saúde Coletiva*, most authors did not conceptually distinguish Portuguese terms “*atenção básica*” from “*atenção primária à saúde*”. That is, resuming one of our initial questions, most authors considered these two terms synonyms, at least until 2015. However, in this paper, we defined primary health care in Brazil as that which is provided exclusively by the Family Health Teams (eSF), as these are the health professionals with a mission to develop the Starfield’s attributes enunciated since the first version of the National Primary Care Policy (PNAB) in 2006<sup>35</sup>, and which were radicalized as the new federal financing model enunciated in 2019 that provided for the individual monitoring and assessment of each eSF, considering the individual as the unit of analysis. For the first time in the history of Brazilian public health, the clinical and epidemiological data collected from each person started to be recorded to generate population-based indicators, and the Ministry of Health started to transfer part of the fund-to-fund financial resources to the municipalities with capitation criteria<sup>36</sup>.

As for the other initial question we asked, the establishment of the of Primary Health Care Secretariat (SAPS) – initially spearheaded by a family doctor – within the scope of the Ministry of Health in 2019, our study points out that a higher number of authors from the Journal begins to concentrate a greater use of the Portuguese term “*atenção primária à saúde*” at the expense of “*atenção básica à saúde*”. The last special thematic issue of *Journal Ciência & Saúde Coletiva*, of April 2020, already shows this development and the trend of the number of papers published in this direction in the last five years.

Sample limits are a recurring issue that influences results. Several authors point to possible biases regarding the fact that there is a sample of volunteers or collaborators who wished to participate<sup>37</sup> and did not adequately represent the population of each study. Regarding these aspects, household sample surveys are still negligible in Brazil and especially developed by the Brazilian Institute of Geography and Statistics

(IBGE), which since the 1980s includes modules that allow evaluating the performance of Brazilian health services, either in special supplements or in specific surveys, such as the National Health Surveys (PNS). The most recent innovation in this regard was the inclusion of a Module that allows the assessment of PHC in Brazil, regions, and states, with a probabilistic home sample. We refer to PNS-2019 with the set of questions from PCATool – short version for adult users, which was included in the data collection instrument<sup>38</sup>. In this sense, a recommendation is to do what several countries in the world already do, such as the United Kingdom and Canada, which regularly include a set of questions that allow the assessment of their health services, including in the scope of PHC<sup>39,40</sup>, in their household surveys (the Health and Lifestyle Survey and the Canadian Community Health Survey, respectively).

On the 25<sup>th</sup> anniversary of the *Journal Ciência & Saúde Coletiva*, it is evident that the inductive role of the Ministry of Health in the definition of public policies/consultations and assessment instruments was strongly associated with the publication of papers in the period studied here. In 2020, the publication of the new Manual of the set of instruments that make up PCATool-Brazil by the Ministry of Health<sup>41</sup> should induce a new wave of studies and research with the use of this instrument, expanding the initial scope of the assessment of primary health care services for population-based household assessments, inaugurated by the IBGE in its National Health Survey (PNS-2019). In this direction, considering a statistical-epidemiological approach, the future of PHC assessment may move towards population-based indicators (via electronic medical records) and monitoring of each Family Health Team in the country, using an identification number (CPF) and unprecedented monthly management of “duplicate records”, linked to the part of the PHC federal transfers to the municipalities, defined by the Ministry of Health in 2019. Following this path, perhaps Brazil will be able to calculate, in PHC, intermediate and final indicators from the clinical and epidemiological perspective, just as has been done in PHC in Portugal, Spain, and the United Kingdom for over 10 years.

### **Collaborations**

LF Pinto developed research on assessment and primary health care, generating as part of this, the elaboration of the paper, as part of his post-doctoral internship at the Institute of Hygiene and Tropical Medicine (IHMT), of the Universidade Nova de Lisboa, Portugal. ZMA Hartz critically reviewed the text and approved it.

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