

Construction of a logical theoretical model to assess disability care in Primary Health Care services

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THEMATIC ARTICLE

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Abstract *The aim is to propose a theoretical-logical evaluation model for the Attention to Disability dimension in Primary Health Care services. A model was created with 128 indicators divided into five domains: Structure (EST), Prenatal Care (APN), Child Health Care (ASC), Prevention of Disabilities Related to Chronic Conditions (PICC) and Care for People with Disability and the Caregiver (APcDC). Based on the frequency of responses from the application of the Assessment and Monitoring of Primary Care Services (QualiAB) questionnaire in 2739 PHC services in the São Paulo' state, between 2017 and 2018, the existing correlations between the evaluative domains and the dimension by Spearman's correlation coefficient and the level of reliability of responses by Cronbach's alpha (α). The α for the evaluative dimension was 0.956, for the EST domain 0.687, for APN 0.845, ASC 0.872, PICC 0.919 and APcDC 0.916. Significant correlations were found between the evaluative dimension and the domains, and between them, with the exception of the EST domain. The proposed evaluation methodology covers the analysis of the conditions of the physical structure, human resources and work process.*

Keywords *Health Evaluation, Primary Health Care, Health Services, Disabled persons, Models theoretical*

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Introduction

Primary Health Care (PHC) is one of the components of the Care Network for People with Disabilities (CNPwD)¹ and should develop primary prevention actions, in advance of the onset of disability conditions; secondary prevention actions, related to early diagnosis aimed at reducing or recovering from comorbidities that may result in disability and tertiary prevention actions, with comprehensive care for people with disabilities, working together with specialized services in rehabilitation actions^{1,2,3}.

According to the United Nations 70% of all disabilities could be prevented; this means that discussions on health practices regarding disability should begin within the scope of health prevention^{4,5}. According to UNICEF, the main causes of disability in children in Brazil include mothers and children's inadequate nutrition, pre- and perinatal untoward conditions, infectious diseases and accidents^{1,6}.

The proposed objectives for PHC for disability care in the individual's life cycle include promoting the prevention of birth and/or acquired disability in childhood, adolescence or adulthood, stimulating healthy aging and providing a reduction in associated comorbidities, maintaining functionality and improving the quality of life of individuals with disabilities (PwD)^{1,2,6}. To meet these expectations, a range of actions must be included in PHC linked to a "living" care network⁷, with mutual cooperation among all levels of health care agents^{1,2}.

The scope of actions of the PHC is comprehensive and powerful to fulfill its role in the CNPwD in a transversal manner to the complex set of actions under its responsibility. Thus, prenatal care, attention to women's and children's health, encouragement of lifestyle changes, care of chronic conditions, occupational health surveillance and others, make up the set of actions of a disability attention "program". In a nutshell, those initiatives represent the implementation of prevention, early detection and assistance to PwD within the scope of the PHC and its link to intersectoral actions.

The construction of a proposal for a theoretical-logical model for assessing the organizational quality of disability care in PHC begins with the definition of the theory of such care, considered here as a cross-cutting program. According to Shortell and Richardson⁸, programs are characterized as complex processes of organizing practices based on a specific objec-

tive, such as forms of care for specific populations, which involve a network of actions and services. The theoretical model has the character, as the actual name suggests, of a theory about the program, conceptualizing it in its complexity, and the logical model refers to the identification of the expected effects, actions and resources. Thus, such models allow the systematization of the rationality of the set of health practices⁹ and explain the relationship between the different actions necessary to fulfill the purposes of the program, which can thus guide the construction of an evaluation matrix.

Considering the lack of instruments that evaluate actions aimed at prevention, detection and assistance for different conditions related to disability, our work aims to propose a theoretical-logical model and an evaluation matrix for the care offered by the PHC services.

Method

This study is characterized by being an evaluative research, using different methodological strategies: bibliographic research and documentary review to propose the theoretical-logical model; definition of indicators using data selected in a cross-sectional survey; and descriptive and correlation analysis between the domains proposed in the model. This investigation was previously approved by the Research Ethics Committee of the Universidade Estadual Paulista Júlio de Mesquita Filho under Opinion No. 2,425,176 dated December 8, 2017.

In order to build an evaluation model based on the program theory, aggregation of scientific and practical knowledge was required, considering the inputs, program components and short- and long-term results¹⁰. Therefore, in addition to reviewing the scientific literature in the area, it was necessary to assess the current standards and policies, such as the National Policy for the Integration of Persons with Disabilities¹¹, the National Health Policy for Persons with Disabilities¹, the Brazilian Law for Inclusion of Persons with Disabilities - Statute of Persons with Disabilities¹², the Report on the prevalence of disabilities, incapacities and disadvantages⁶, the United Nations Convention on the Rights of Persons with Disabilities¹³, Ordinance No. 304 dated July 2, 1992 on the operation of health services for the care of PwD¹⁴ and Ordinance No. 793 dated April 24, 2012 which instituted the CNPwD.

The model developed guided the selection of variables for the Primary Care Services Assessment and Monitoring (QualiAB) questionnaire¹⁵ used in a survey conducted in the State of São Paulo between 2017 and 2018. The QualiAB instrument was chosen because it is available online, which allows its application in different contexts and periods. The questionnaire addresses the set of actions carried out in the PHC services and, therefore, contains variables that cover the diversity of actions that make up the constructed theoretical-logical model. The QualiAB instrument includes questions linked to municipal management, local management and different components of health care in PHC – health promotion, prevention and education actions, surveillance and general organization of care, for different groups, such as women, children and adolescents, adults and older adults. These components allow for different analysis segments based on the selection of subsets of indicators, such as initiatives aimed at child health used by Sanine et al.¹⁶, service management by Nunes et al.¹⁷, care of older adults used by Ramos et al.¹⁸ and sexual and reproductive health by Nasser et al.¹⁹. The survey allowed testing the evaluation matrix proposed in this study. The full questionnaire can be accessed at www.abasica.fmb.unesp.br.

The construction of the theoretical-logical model guided the selection of indicators and their categorization into the following domains: “Structure”; “Prenatal Care”; “Child Health Care”; “Prevention of Disabilities in Chronic Diseases and Injuries”; and “Care for People with Disabilities and Caregivers”. The set of domains makes up the dimension *Care for Disabilities in Primary Health Care*.

To test the model internal consistency, the indicators were analyzed from the response database of the survey conducted by QualiAB. Correlation analysis was performed between the domains and in between the domains and the dimension using Spearman’s non-parametric test, in which the Spearman correlation coefficient ranges from -1 to +1, where the closer to the extremes (-1 or 1), the stronger the correlation. Values close to 0 imply weaker or non-existent correlations, with the adoption of 5% significant level. The degree of reliability of the responses was reviewed by estimating Cronbach’s alpha coefficient, which considers a scale from 0 to 1, with the minimum acceptable value being equal to or greater than 0.7.

The data were organized in a spreadsheet using Microsoft Excel® and analyzed using the SPSS, version 20.0®, for Windows.

Results

The proposed theoretical-logical model encompasses a set of guidelines and values that should guide actions in the PHC in connection with disability, proposing a line of care that consists in the promotion and protection of the health of individuals to prevent congenital and/or acquired disabilities and the maintenance of follow-up of PwD in the PHC service in an integrated manner within a health care network. Figure 1 presents the Theoretical Model that includes the institutional context, the planned strategies and the expected effects.

The Logical Model arranges the actions in the service organization to meet the program’s objectives, describing the axis, components, activities and results obtained from the execution of the set of recommended actions, as shown in Figure 2.

The components of the theoretical and logical model (Figures 1 and 2) allowed the selection of 128 variables from the QualiAB instrument and categorizing them into five evaluation domains that, together, define an evaluation model for the *dimension Care of Disability in Primary Health Care Services*.

Table 1 presents the evaluation matrix with the work organization indicators aimed at preventing disability and early diagnosis that make up the domains “Prenatal Care”, “Child Health Care” and “Prevention of Disabilities in Chronic Conditions and Injuries” selected from the QualiAB instrument, in addition to the frequency of positive responses obtained in the survey applied between 2017 and 2018 in the state of São Paulo.

The “Prenatal Care” domain with 24 indicators related to the prevention of disability conditions including early disability identification in the prenatal^{20,21,22}, perinatal and postnatal²⁰ phases in order to ensure access to exams during prenatal care in the first gestational trimester, such as blood count, urine 1, urine culture, rapid proteinuria test, blood typing, indirect Coombs, rubella serology, rapid test for syphilis or serology, rapid test for HIV or serology, serology for toxoplasmosis, fasting blood glucose, ultrasound and in the second and third gestational trimesters, in addition to

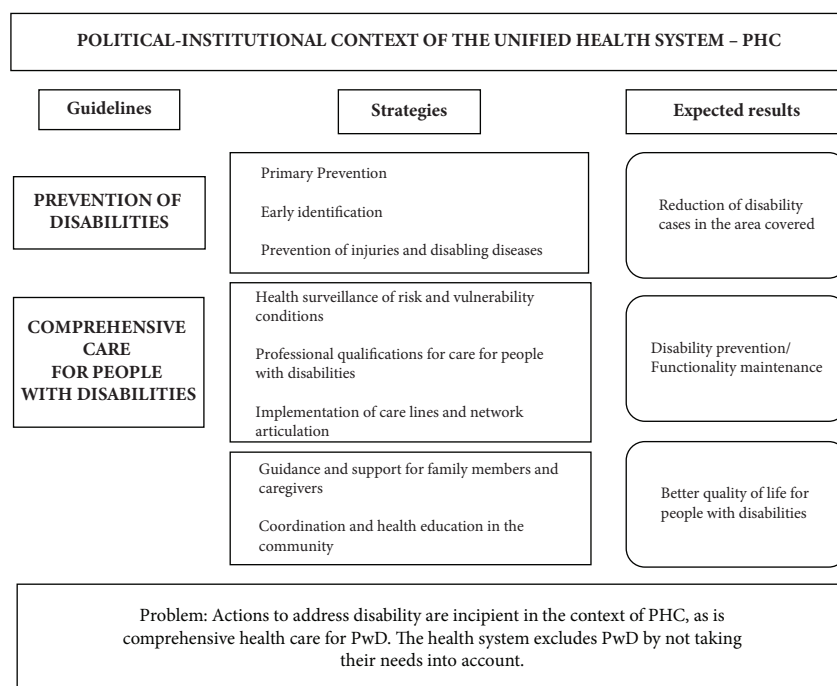


Figure 1. Theoretical Model to Evaluation Disability Care in Primary Health Care.

Source: The authors.

the aforementioned exams, vaginal secretion bacterioscopy²⁰⁻³¹. “Prenatal Care” also includes the provision of exam to assess cardiovascular risk²¹, provision of vaccines ensuring the prophylaxis of diseases that may cause disability conditions³².

Still, as part of pregnant women care, differentiated care is valued in situations of adolescence pregnancy, with a view at promoting adolescents’ responsible and healthy sexual and reproductive behavior^{20,21}. Regarding Sexually Transmitted Infections, the prevention of congenital syphilis, reduction of syphilis and HIV vertical transmission (considering the continued high incidence of cases and the active search for diagnosis and treatment of pregnant women’s sexual partners with syphilis³³, in addition to the recommended treatment for diseases that have a relevant impact on public health (such as rheumatic fever and syphilis)³⁴.

It also includes an approach to health care for pregnant women to prevent fetal and newborn disabilities originating during the labor period as well as actions related to the organization of the work process, periodic updates and

training, in view of the needs of the service and the team to improve practices²⁰, besides collecting feeding information recording systems that can qualify management and perinatal clinical history, complications and emergencies that require hospital evaluation^{20,21}.

The “Child Health Care” domain, with 32 indicators, consists of several actions and procedures to qualify early childhood care, such as actions to prevent conditions that may cause disabilities in newborns^{35,36} and childcare³⁶, with indicators that cover care for child growth and development, identification of risk and vulnerability conditions, and prevention and early diagnosis of disabilities, provision of vaccines in order to insure prophylaxis of conditions that may lead to disability; in addition we ought to consider the valorization of participatory strategies³⁸, such as the development of programs articulated with resources from the community and periodic updates and training, in view of the service requirements and the improvement of the team practices^{1,36}.

PHC encompasses a broad set of actions to prevent disability acquired after birth, whether

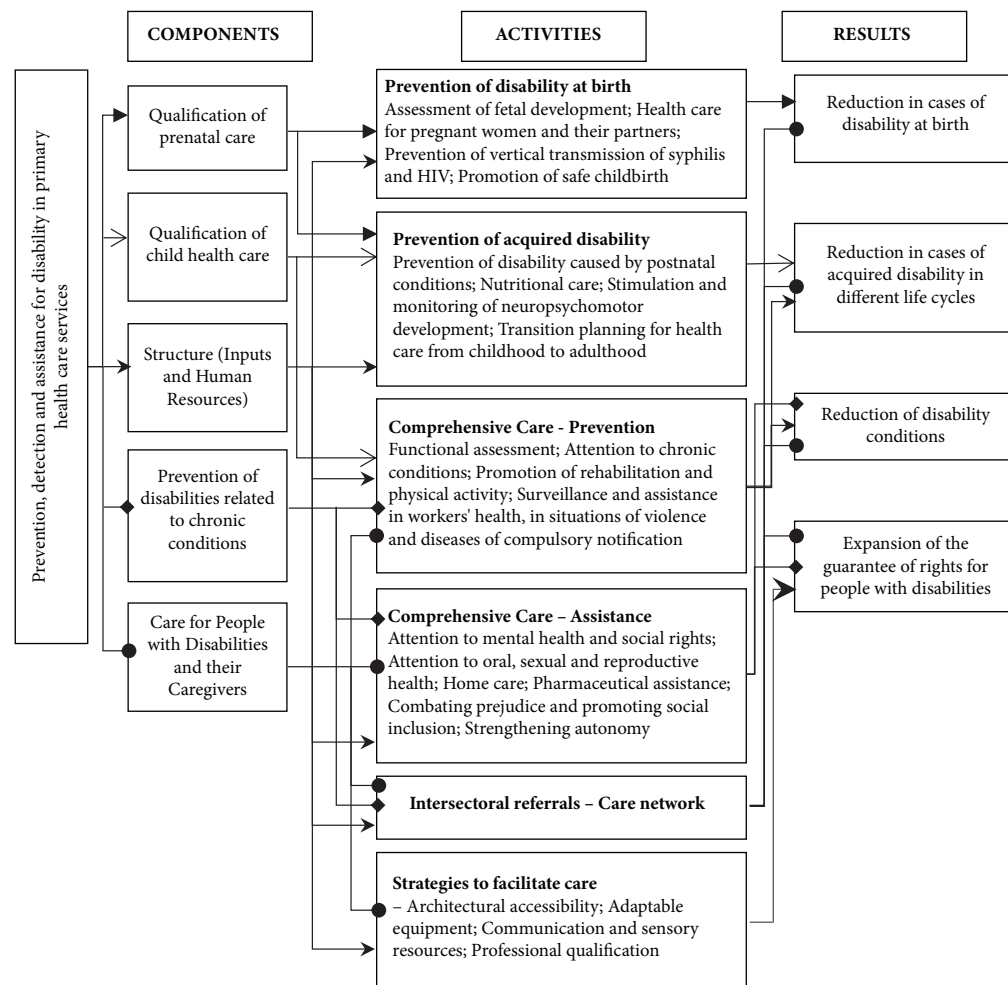


Figure 2. Logical Model of Disability Care in Primary Health Care.

Source: The authors.

in children, adults or older adults. Therefore, in addition to the primary prevention of disability, services should work to prevent secondary conditions that may lead to disability or reduced autonomy and functionality^{1,24,39-45}.

The “Prevention of Disabilities in Chronic Diseases and Injuries” domain includes 32 indicators related to the detection of health problems at an early stage for timely diagnosis and treatment, such as in the case of chronic non-communicable diseases^{39,42,45}, work accidents⁴¹, dementia⁴⁴, accidents^{39,43}, traumas⁴³ and other notifiable diseases³⁹. In addition to access to rehabilitation, the service must ensure users’ adherence to rehabilitation and case control in the territory^{45,44,43}. Such actions provide individual and collective care and can be carried

out in conjunction with other sectors of society. Therefore, continuing education through periodic updates and training to improve practices is also important^{1,6,38}.

The work organization indicators aimed at comprehensive care for PwD comprise the domains “Structure” and “Care for People with Disabilities and Caregivers” and are presented in Table 2.

The “Structure” domain is composed of 17 indicators related to the inputs and human resources necessary for the development of actions to prevent disabilities and provide adequate care to PwD in PHC services, with a view to making services accessible, through compliance with architectural standards, offering less complex clinical and surgical procedures

Table 1. Evaluation matrix and frequency obtained for the domains with a focus on disability prevention and early diagnosis by domain of the dimension Care of Disability in Primary Health Care Services according to the QualiAB 2017/2018 survey in 2739 PHC services in the State of São Paulo.

Indicators	(%)
“Prenatal Care” Domain	
Early identification for the start of prenatal care	79.8
Average proportion of pregnant women who start prenatal care in their first pregnancy trimester	74.1
Recording of prenatal care in medical records, Pregnancy Card and Perinatal Form	92.1
Health visits during prenatal care and in the last month of pregnancy	83.9
Identification of high-risk pregnant women	93.6
Referral of high-risk pregnant women to a reference service and maintenance of follow-up at the basic health unit	61.7
Special care for pregnant women aged 10 to 19	37.5
Laboratory tests requested in the first trimester of pregnancy to identify complications that may cause prematurity, developmental changes or fetal death	10.8
Laboratory tests requested in the second and/or third trimester of pregnancy to identify complications that may cause prematurity, developmental changes or fetal death	3.0
Electrocardiogram performed at the unit	47.3
DTaP vaccine (diphtheria, tetanus and acellular pertussis) administered	77.3
Benzathine penicillin (<i>Benzetacil</i>) administered at the unit	71.8
Prevention of vertical transmission of syphilis	76.5
Prevention of vertical transmission of HIV	77.1
Treatment of syphilis for pregnant women and their partners with benzathine penicillin at the basic health unit	74.3
Guidance for partner(s) to come for evaluation and counseling in cases suggestive of sexually transmitted diseases	83.9
Prevention of anemia and changes in nutritional status during pregnancy	75.4
Indication of the use of medications with lesser effects on the fetus during pregnancy	81.2
Assessment of the risks of smoking and the use of alcoholic beverages and other drugs during pregnancy	86.6
Assessment of working conditions for pregnant women	58.4
Assessment of birth complications in immediate postpartum care	79.6
Guidance on breastfeeding and iron supplementation in immediate postpartum care	62.8
Guidance for pregnant women on breastfeeding and support for women who will not be able to breastfeed	89.3
Training and/or ongoing education for professionals at the basic health unit on women’s health carried out in the last year	71.7
“Child Health Care” Domain	
Birth conditions of the newborn and guidelines on basic care in the immediate postpartum period	87.1
Guidelines for newborn care (vaccination, exams, others) in the immediate postpartum period	89.0
Scheduling the newborn’s first health appointment at the unit	70.3
Guidance on newborn heel prick, ear and eye tests	87.5
Application of the BCG vaccine	56.0
Application of the Polio vaccine/oral polio vaccine/OPV and Inactivated Polio vaccine/inactivated polio vaccine/IPV	76.6
Administration of the Pentavalent vaccine (DTP + Hib + HB)	78.4
Application of the DTP vaccine (Triple Bacterial)	78.1

continued

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Indicators	(%)
“Child Health Care” Domain	
Application of the Triple Viral vaccine (Measles, Mumps and Rubella - MMR)	78.3
Application of the Tetra Viral vaccine (Measles, Mumps, Rubella and Chickenpox)	76.5
Application of the Meningococcal C vaccine	77.5
Application of the 10-valent Pneumococcal vaccine	75.9
Vaccination in institutions for children such as schools and daycare centers	66.9
Scheduled calendar of health visits for children up to 2 years old, in addition to occasional unscheduled appointments	52.7
Parents' groups	20.2
Evaluation of children's growth and neuropsychomotor development of the child	81.0
Evaluation and nutritional child guidance (breastfeeding, introduction of foods, others)	92.0
Identification of child development disorders (genetic, biological, socio-familial)	75.5
Guidelines for preventing domestic accidents to protect children's health	57.2
Evaluation of visual acuity in institutions for children such as schools and daycare centers	38.9
Evaluation of hearing acuity in institutions for children such as schools and daycare centers	16.3
Guidelines for neuropsychomotor stimuli in institutions for children such as schools and daycare centers	13.8
Actions for social inclusion and combating prejudice in institutions for children such as schools and daycare centers	13.9
Actions for preventing domestic accidents in institutions for children such as schools and daycare centers	21.7
Absence of cases of congenital syphilis in the last three years	47.4
Use of a care protocol for detecting violence against children and adolescents	28.9
Identification of physical and psychological symptoms/complaints to detect violence against children and adolescents	76.7
Raising awareness and training staff to identify cases of violence against children and adolescents	34.5
Monitoring of child labor (under 16 years of age) as an alert situation - sentinel event	8.8
Meetings with CRAS on child health care	39.1
Referral to a milk bank or access to modified milk if necessary (HIV, others)	55.0
Training and/or ongoing education on Child Health carried out in the previous year	55.0
Domain “Prevention of Disabilities in Chronic Diseases and Injuries”	
Dressing of acute and chronic ulcers	94.7
Activities in conjunction with the epidemiological and/or health surveillance team in the community in cases of diseases or conditions requiring compulsory notification	73.8
Registration of patients with chronic non-communicable diseases differentiated risk	43.7
Guidelines for preventing work-related accidents and diseases	33.8
Compulsory notification of work-related conditions.	44.2
Active search for patients with chronic non-communicable diseases who are not adhering to treatment	68.8
Eye fundus examination for patients with type II diabetes mellitus	63.3
Control, assessment and guidance on foot care for patients with type II diabetes mellitus	67.2
Eye fundus examination for patients with high blood pressure	62.3
Actions for men's health with a focus on cardiovascular risk	65.1

continued

Table 1. Evaluation matrix and frequency obtained for the domains with a focus on disability prevention and early diagnosis by domain of the dimension Care of Disability in Primary Health Care Services according to the QualiAB 2017/2018 survey in 2739 PHC services in the State of São Paulo.

Indicators	(%)
Domain "Prevention of Disabilities in Chronic Diseases and Injuries"	
Evaluation of the mental health of older adults (depressive conditions, dementia and others)	69.0
Evaluation of the functional capacity of the elderly (Activities of Daily Living and Instrumental Activities)	51.1
Actions for preventing falls in older adults	64.0
Encouragement and guidance on physical activity and physical exercise for older adults	72.2
Investigation of family and social support for older adults	56.3
Guidance on the Rights of the Elderly	41.5
Diagnosis of new cases of leprosy	52.7
Monitoring of leprosy cases	34.3
Control of the number of leprosy cases under monitoring	41.7
Dispensing of leprosy medication	78.9
Supervised treatment at the Unit or at home for leprosy	20.6
Active search for intra-household contacts in leprosy cases	34.0
Active search for those who have missed leprosy treatment	54.5
Educational actions in the family and community about leprosy	64.5
Active search in cases of disease or condition requiring compulsory notification with indication of control of contacts and/or the environment	88.0
Mandatory notification of leprosy cases	69.3
Investigation and control of comorbidities associated with alcohol dependence	39.4
Investigation and control of comorbidities associated with drug abuse	37.9
Training and/or continuing education on mental health carried out during the previous year	48.8
Training and/or continuing education on older adults health carried out in the previous year	40.9
Team training on diseases or conditions requiring compulsory notification	63.2
Team training to care for leprosy cases	45.2

Source: QualiAB System, 2018.

and educational actions for disease prevention and health promotion, conditions for care in emergency situations, guarantee of oral health care^{23,24}, Team Mobility resources²⁵, data recording made in health units²⁶ and finally that the team is complete and has the support of the Expanded Family Health and Basic Health-care Centers (NASF-AB) or a multidisciplinary team for the ongoing education of the team in the basic units²⁷.

Finally, the domain "Care for People with Disabilities and Caregivers", with 23 indicators, includes prevention actions (integrating the secondary and tertiary levels) and the specificities of care for PwD. In addition to actions that foster health protection, specific assistance to individuals with disabilities in all their life,

functional assessment and associated comorbidities integrate a more specific overview on the topic. Measures to identify the abusive use of alcohol and other drugs are contemplated given the increased occurrence of disability risk in this population. The same occurs in the approach to violence, because when it comes to this population the invisibility of this phenomenon is even greater^{4,5,16,46,47}. It is also important to encourage and develop programs articulated with resources from the community that fosters the inclusion and quality of life of people with disabilities⁴.

The health of caregivers, who are responsible for others on a daily basis and often experience stressful situations that lead to health problems, should also be the object of care by

Table 2. Evaluative matrix and frequency obtained for the domains focusing on comprehensive care for people with disabilities by domain of the dimension Care for Disabilities in Primary Health Care Services according to the 2017/2018 QualiAB survey in 2,739 PHC services in the State of São Paulo.

Indicators	(%)
“Structure” Domain	
Structural access to the service for people with disabilities	77.0
Bathrooms adapted for patients with disabilities (PwD)	67.6
Dressing room	89.5
Vaccination room	81.2
Vaccination performance	80.6
Room for educational activities and groups	51.3
Dental office and dental equipment	77.8
Wheelchairs	92.7
Equipment for urgent and emergency care, such as emergency cart and oxygen cylinder	40.7
Access to an ambulance for patient transportation, when necessary	87.5
Vehicle for use by the Unit	37.8
Access to information systems for database feeding	86.7
Presence of a family doctor or general practitioner and nurse on the health team	85.4
Presence of a dentist on the health team	65.2
Presence of a dentist’s assistant or dental hygiene technician on the health team	63.7
Presence of a nursing assistant OR nursing technician on the health team	98.0
Technical support provided by a NASF-AB and/or multidisciplinary team	69.0
“Care for People with Disabilities and Caregivers” Domain	
Recording of home care actions in medical records for bedridden individuals	79.0
Diagnosis and referral of individuals with disabilities to other levels of care	80.2
Home procedures (such as vaccination, changing of indwelling urinary catheters, dressings, etc.) for bedridden individuals	84.2
Changing of indwelling urinary catheters	77.2
Dental care, when possible at the Unit for individuals with disabilities	58.0
Regular home visits with the support of a multidisciplinary team for individuals with disabilities	51.2
Regular home visits with a doctor and/or nurse for individuals with disabilities	69.2
Home dental care for bedridden individuals and provision of dental care for bedridden patients	24.5
Oral hygiene guidelines for bedridden individuals	64.8
Guidance on the social rights of individuals with disabilities	45.9
Monitoring and attention to the use of alcohol and other drugs by individuals with disabilities	33.4
Actions for the sexual and reproductive health of people with disabilities	35.9
Surveillance and attention in cases of violence against people with disabilities	41.4
Detection, support and monitoring for situations of violence against people with disabilities	35.8
Coordination with the health network and institutions (schools, special schools, among others) in relation to people with disabilities	43.0
Discussion of specific cases with the health network (CRAS, Health Council, CREAS, others) on care for bedridden patients	59.8

continued

Table 2. Evaluative matrix and frequency obtained for the domains focusing on comprehensive care for people with disabilities by domain of the dimension Care for Disabilities in Primary Health Care Services according to the 2017/2018 QualiAB survey in 2,739 PHC services in the State of São Paulo.

Indicators	(%)
“Care for People with Disabilities and Caregivers” Domain	
Assessment and monitoring of the health of caregivers of older adults and/or bedridden people (stress and others)	39.2
Support group for caregivers of elderly and/or bedridden patients	7.8
Actions for older adults caregivers and/or bedridden patients with a focus on general guidelines on daily care needs	79.0
Actions for older adults caregivers and/or bedridden people with a focus on guidelines on preventing and identifying situations of violence	52.2
Guidance for caregivers of patients with disabilities	77.9
Technical support for the activities of caregivers of older adults and/or bedridden patients, if necessary	59.6
Training of the team on care for patients with disabilities	36.5

Source: QualiAB System, 2018.

services, both in terms of the care they provide to these people and the implications for the quality of care they provide to PwD. In this sense, the domain encompasses actions to protect the health of caregivers and guidance on the network of services available for support and mutual collaboration actions at all levels of health care, also with a view at improving the quality of care they provide, whether they are family members or hired caregivers^{4,5,16, 46,47}.

The internal consistency of the evaluation matrix using Cronbach's alpha for the dimension *Care for Disabilities in Primary Health Care Services* was $\alpha = 0.956$, for the domain “Structure” $\alpha = 0.687$, for “Prenatal Care” $\alpha = 0.845$, “Child Health Care” $\alpha = 0.872$, “Prevention of Disabilities in Chronic Diseases and Injuries” $\alpha = 0.919$ and finally, “Care for People with Disabilities and Caregivers” was $\alpha = 0.916$.

The correlation analysis between the domains and within the domains in relation to the dimension allows us to review whether one domain positively influences or not the result of the other and the general dimension. In Table 3, we observe that there were significant ($p < 0.05$), positive and strong correlations between the dimension *Care for Disabilities in Primary Health Care Services* and the domains “Child Health Care”, “Prevention of Disabilities in Chronic Diseases and Injuries” and “Care for People with Disabilities and Caregivers”; there were significant positive and moderate correlations with the domain “Prenatal Care” and positive and weak correlations with “Structure”. The

latter presented significant positive but very weak correlations with all the other domains.

The domains “Prevention of Disabilities in Chronic Diseases and Injuries” and “Care for People with Disabilities and Caregivers” yielded significant positive and intense correlations between them. The domain “Prenatal Care” had significant positive but moderate correlations with the following domains: “Child Health Care”, “Prevention of Disabilities in Chronic Diseases and Injuries”, “Care for People with Disabilities and Caregivers”. “Child Health Care” had also significant positive but moderate correlations with “Prevention of Disabilities in Chronic Diseases and Injuries” and “Care for People with Disabilities and Caregivers”.

Table 3. Correlations between the Disability Care Dimension in Primary Health Care services and five evaluation domains in 2017/2018, 2739 assessed in the State of São Paulo.

DOMAIN	Structure		Pre-natal		Child Health		Prevention of Disability		PwD Care		Dimension	
	r	p	r	p	r	p	r	p	r	p	r	p
Structure	-	-	.338	<0.001	.365	<0.001	.315	<0.001	.344	<0.001	.541	<0.001
Prenatal			-	-	.688	<0.001	.553	<0.001	.539	<0.001	.759	<0.001
Child Health					-	-	.588	<0.001	.585	<0.001	.817	<0.001
Prevention of Disability							-	-	.818	<0.001	.887	<0.001
PwD Care									-	-	.875	<0.001
Dimension											-	-

Caption:

Structure: Structure Domain

Prenatal: Prenatal Care Domain

Child Health: Child Health Care Domain

Disability Prevention: Disability Prevention Domain in Chronic Diseases and Injuries

PwD Care: Care for People with Disabilities and Caregivers Domain

Dimension: Disability Care Dimension in Primary Health Care Services

Discussion

Our work results increase the visibility on the importance of disability care in PHC services in order to capacitate the health system and to strengthen the Care Network for People with Disabilities, as a complex and transversal dimension of PHC actions.

Many of the actions carried out in the PHC are not considered as valued measures related to the primary or secondary prevention of disabilities. In this connection, the proposed evaluation model can lead to greater recognition of the PHC as a fundamental component of a service network that fosters prevention, health and assistance for patients with disabilities.

Despite the growth of policies regarding the provision of services and organization of the health system to meet the PwD health demands, we can say that there is no well-defined and established program in the PHC that establishes the scope of actions to prevent disability, early detection strategies and maintenance of follow-up of the individuals with disability for the comprehensive protection of their health. Thus, there are no protocols in the health services network and there is no adequate or sufficient recognition of the topic being an object of health work. The large gap between the recommended policies and their practical application in the services daily routine, in the human rights, in the referral flows and the lack of accountability for patient care can generate impacts on the health conditions of the individual and the family.

The documents reviewed allowed us to develop a “program theory”, that is, a set of guidelines and values that should help the PHC actions related to disability and that have been synthesized in the proposed model, with the incorporation of inputs, program components, and short and long-term results¹⁴.

The theoretical model presented indicates three main results: the reduction of cases of disability in the areas covered by the PHC service, the prevention of incapacity and maintenance of functionality and a better quality of life for people with disabilities. To achieve these results, several strategies are necessary; they are presented in the logical model, which actions most directly relevant to the PHC services can be evaluated through the selected quality indicators (Table 1).

The main results of the logical model are the protection of the individual's health, whether a child, adult, older adult or PwD. In order to provide care to disability, the domains that seek to prevent disability and provide assistance to PwD were defined. Comprehensive care for PwD is interdependent on the articulation of an intersectoral network and articulation with the community; thus, the leading role of PHC, given its role in prevention actions and in the articulation of initiatives with the health care network, gains importance.

Primary prevention of disability consists of a set of actions that aim to promote improvements in the population's living conditions through social and health policies, promoting

a reduction in the incidence of new cases. It involves universal prevention for the benefit of the entire population as well as at-risk populations with efforts and measures that prevent the occurrence of preventable disability conditions. The domains “Prenatal Care” and “Child Health Care” have as their central objective the prevention of disability, meeting one of the guidelines of the proposed theoretical model. These are areas of traditional focus in the PHC services and should also be seen from the perspective of disability care and should include genetic counseling, immunization programs, identification of pregnant women and newborns at risk, and improvement in prenatal, perinatal and postnatal health care^{37,48,49}.

The prevention of secondary disability, which is directly addressed in the “Prevention of Disabilities in Chronic Diseases and Injuries” domain, considers that there has already been exposure to adverse conditions that may result in loss or reduction of functional capacity. The objective of health practices is to reduce and/or eliminate the duration or severity of these conditions also in order to minimize the occurrence of complications, such as in cases of chronic communicable diseases (such as AIDS or leprosy) and non-communicable diseases (diabetes, hypertension), traumatic events and injuries caused by violence, occupational and traffic accidents and burns, which may result in spinal cord injury, amputations and traumatic brain injury, musculoskeletal, autoimmune and infectious diseases^{1,48-52}.

Surveillance actions and the recording of health information are public health tools that provide prevention and care. Actions such as recording health surveillance information, health issues reports, health education initiatives, partnerships with other sectors and the call-up of individuals considered to be at risk stand out.

Comprehensive care for people with disabilities, as a guideline of the theoretical model which is addressed in the domain “Care for People with Disabilities and Caregivers”, fundamentally encompasses tertiary prevention, which consists of cases in which the disability condition is already present and investments are made to minimize the damages with view at providing greater autonomy to the patient. Care for a chronic condition, in this case, must be supported by rehabilitation, surgical interventions (when necessary) and promotion of social inclusion^{48,49}.

Disability acquired in productive adult life consists of the loss of physiological, psychological or anatomical structures or functions that cause functional deficit, requiring adaptations in all aspects of the individual's life, such as medications use, orthoses, prostheses and the way patients perform their activities and others⁵⁰. It is worth noting that disability is recognized as a factor that increases the chance of other untoward events occurring, such as a fourfold greater risk of developing diabetes, threefold greater risk of suicide, a higher prevalence of overweight and obesity, and a two or four greater propensity to alcohol and other drugs misuse⁵³.

The Statute of Persons with Disabilities¹² and the Care Network for Persons with Disabilities² define and ratify the relevance of providing care to PwD at home, ensuring the singularity of care, with a focus on gradual functional autonomy for self-care, carrying out actions to promote health, prevention, treatment of diseases and rehabilitation provided at home, with ensured continuity of care and integrated into health care networks^{54,55}. Therefore, for the provision of care to PwD, quality indicators are also important regarding the actions carried out at home and for the caregiver, who often loses his/her individuality when faced with a disability event affecting a family member or a household member⁵⁶.

The “Structure” domain enables the execution of all the actions recommended above, and several studies refer to the lack of structure in the services to assist PwD⁵⁷. Architectural barriers are still situations experienced by PwD in buildings constructed and/or renovated without articulation with social movement and accessibility policies.

Cronbach's alpha coefficient estimated the reliability of the internal consistency of the evaluative dimension and the domains on disability care in PHC. All indicators in the questionnaire used the same measurement scale (binary system), and the alpha coefficient was calculated from the variance of the individual items and the covariances between the items⁵⁸. There is no consensus among researchers about the interpretation of reliability based on the value of this coefficient. Therefore, a survey instrument that obtains an alpha greater than or equal to 0.70 is considered satisfactory.

The reliability analysis of the dimension *Care for Disabilities in Primary Health Care Services* and the domains “Prenatal Care”, “Child

Health Care”, “Prevention of Disabilities in Injuries and Chronic Diseases” and “Care for People with Disabilities and Caregivers” obtained a coefficient greater than 0.7 with the exception of the domain “Structure”, which may demonstrate the need to improve the structure indicators of the evaluation model. The correlation analysis between the domains demonstrates that each domain positively influences the other, that is, the higher the frequency of responses in one domain, the higher the frequency with the other; this trend also occurs, but to a lesser extent, in the domain related to structure and with the analysis of response reliability which is lower for the domain “Structure”, and has good internal consistency for all other domains and for the evaluative dimension.

The evaluation model proposed and applied here is not exhaustive of the investigated topic’s possibilities, but its results provide information on actions already performed in the PHC services. Modeling is not a prerequisite for conducting the evaluation, but it underpins the normative and ethical values that support the judgment made by the indicators, in addition to being a strategy that guides planning actions, especially when dealing with cross-cutting objects and no structured programs.

It is worth mentioning that the evaluation proposal presented can and should be validated by different strategies and reapplied, seeking to achieve greater specificity and the capacity to contribute to the implementation of changes; this is an area for future research. In addition, we can consider as possible developments the construction of an instrument with greater specificity, with the topic indicators including not only the actions that the services perform, but also their impact on the living conditions and on the health system.

Contributions

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