

Attributes of primary care in river health from the perspective of riverine users

Atributos da atenção primária na saúde fluvial pela ótica de usuários ribeirinhos

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ABSTRACT This study aimed to evaluate the attributes of primary care in the River Family Health Strategy from the perspective of riverine users. This is a cross-sectional and quantitative survey, with data collected through the Primary Care Assessment Tool adults reduced version, and participation of 342 people from the communities. The analyzes were performed using the software Statistical Analysis System version 9.4 and the Statistical Package for the Social Sciences version 22. In the results, the best evaluated attribute was coordination-information system (8.95), and the worst was community orientation (2.51). The attributes affiliation, coordination-integration of care, integrality-services available and provided had unsatisfactory results. The best attribute assessments occur in locations where there are fixed health facilities. The study shows important considerations for the assistance arrangement of health teams of the river family, subsidizing public policies for the implementation and implementation of other forms of assistance that reach the most vulnerable populations, as in the riverine context.

KEYWORDS Primary Health Care. Health evaluation. Family Health Strategy. Health policy. Health services. Rural health services.

RESUMO Este estudo teve como objetivo de avaliar os atributos da atenção primária na Estratégia Saúde da Família Fluvial na perspectiva de usuários ribeirinhos. Trata-se de uma pesquisa transversal e quantitativa, com dados coletados por meio do Primary Care Assessment Tool adultos versão reduzida e participação de 342 pessoas das comunidades. As análises foram pelos softwares Statistical Analysis System versão 9.4 e o Statistical Package for the Social Sciences versão 22. Nos resultados, o atributo mais bem avaliado foi coordenação-sistema de informações (8,95), e o pior foi orientação comunitária (2,51). Os atributos afiliação, coordenação-integração dos cuidados, integralidade-serviços disponíveis e prestados tiveram resultados insatisfatórios. As melhores avaliações dos atributos ocorrem em locais em que existem unidades de saúde fixas. O estudo mostra importantes considerações para o arranjo assistencial de equipes saúde da família fluvial, subsidiando políticas públicas para implantação e implementação de outras formas de assistência que alcancem as populações mais vulneráveis como no contexto ribeirinho.

PALAVRAS-CHAVE Atenção Primária à Saúde. Avaliação em saúde. Estratégia Saúde da Família. Política de saúde. Serviços de saúde. Serviços de saúde rural.

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Introduction

Primary Health Care (PHC) expresses the non-specialized outpatient care offered in health units. It works as a gateway to the system¹, characterized by activities of high complexity and low technological density. It goes beyond the limits of the clinic, being presented in different formats depending on the existing contexts in the countries. In addition, like Brazil, PHC includes public health actions².

In Brazil, the term 'primary health care' is used to characterize PHC actions, with family health as the priority strategy for action. The Family Health Strategy (FHS) aims to reorganize primary care following the guidelines of the Unified Health System (SUS), establishing a link between users and service professionals and constant contact with the territory^{3,4}.

An important conceptual framework in PHC was proposed by Bárbara Starfield and comprises essential and derived attributes. The essential attributes are first contact access to health services; the longitudinality of care over time; comprehensiveness, which are the various services offered to supply the biopsychosocial aspects of the health-disease process; and the coordination of care, which presupposes the integration of care. The derived attributes are family orientation, which considers family as a subject of care with potential for care; community orientation, which is the recognition of the needs presented by families according to the geoeconomic and socio-cultural context in which they live; and cultural competence, which presupposes the understanding of users' cultural characteristics to health situations, facilitating the relationship and communication^{1,5}.

With the aim of expanding access and creating models that could reach more difficult regions, the Ministry of Health instituted, through Ordinance n° 2.191, of August 3, 2010, the FHS to assist the

riverine population of the Legal Amazon and Pantanal region in Southern Mato Grosso State. Subsequently, Ordinances n° 2.488, of October 21, 2011, and n° 2.436, of September 21, 2017, brought new criteria for the implementation of the River Family Health (eSFF) and Riverine (eSFR) teams^{4,6}. The municipalities responsible for this population, depending on local specificities, can choose between the two organizational arrangements for family health teams, in addition to those existing for the rest of the Country^{4,6,7}.

In a review of studies aimed at examining PHC assessment in Brazil, it was demonstrated that the majority used the Primary Care Assessment Tool (PCATool) as an instrument and that there is an incipient number of investigations in the North and Center-west regions, which shows that the evaluation in the scope of primary care has been taking place unevenly in the Country⁸.

Studies on PHC, therefore, are important to assess health care arrangement of the river family in the Amazonian context in the north of the Country, in view of the population dispersion, geographical and cultural diversity in these scenarios, as well as the scarcity of studies on this topic and for being part of the National Agenda of Priorities in Health Research in Brazil⁹.

In this perspective, the research question is: what is the evaluation of PHC in the area covered by the River FHS in a medium-sized municipality that uses this assistance arrangement?

It was proposed, as an objective, to evaluate the attributes of PHC in the River FHS from the perspective of riverine users in a municipality in the state of Pará. This study is linked to the doctoral research 'Working Process of River Family Health Strategies and Care Attributes Primary Health' of the Graduate Program in Nursing at the Faculty of Nursing (FEnf) of the State University of Campinas (Unicamp).

Material and methods

This is a cross-sectional research with a quantitative approach, with the eSFF empirical research field in its coverage areas, in the municipality of Santarém – Pará. This type of study corresponds to the judgment of social practices, especially those resulting from social action planned, such as health policies, programs and services¹⁰.

The municipality of Santarém is located in the western region of Pará, northern Brazil, with a population of 304.589 inhabitants in 2019, with a population density of 12,87 inhab./Km²¹¹. It is located in the mesoregion of the lower Amazon, being the polarizing center from the western region of Pará, an area that covers 722.358 Km² and houses 27 municipalities. In total, there are 480 rural communities, of which 268 are located in the regions of rivers and floodplains, and 212 are in the plateau area; the urban area has 48 neighborhoods¹². It has a privileged location, located in the Amazon rainforest and at the confluence of the Amazon and Tapajós rivers.

In the river regions, there is a population of 50.950 inhabitants who use small boats as a means of transport¹². In the districts of the Tapajós and Arapiuns rivers, the eSFFs to be studied are linked. Some communities are about 20 hours away by boat/motorboat from the urban center, going through periods of drought and river flooding.

The health services network in PHC, with regard to family health, of Community Health Workers (CHW) and Basic Health Units (BHU), during the collection period, was composed of: 40 Family Health Teams (eSF), two Basic Fluvial Health Units (UBSF) with three teams, one eSF Quilombola, 22 Strategy teams of CHW and 23 BHU. In the eSF, there are, in total: 45 doctors, 67 nurses, 21 dentists and 629 CHW with 51% coverage¹².

The three eSFF implemented in the municipality were considered. The first team was implemented in 2010, with coverage in the Tapajós River, called Abaré, being the first

vessel in the Country accredited by the Federal Government as River FHS. The designation of 'Abaré' was suggested by the community of the region itself, which, in Tupi, stands for 'The Friend Caregiver'¹³. In 2012, two more teams were deployed, with coverage area in the Arapiuns River, called Abaré II. In the coverage area, there are health units in larger communities for assistance support in periods when river teams are not in the area, eight in Arapiuns and four in Tapajós, composed of a nurse and a nursing technician. Some communities were registered as indigenous in the year 2017. Urgent and emergency removals from communities occur through *ambulanchas* (ambulances adapted to travel in rivers).

The instrument used for data collection was composed of socioeconomic data (age, sex, occupation, place of birth, marital status, education, number of children, people in the household, family income, social participation and whether they receive Bolsa Família), and for specific items related to the PHC attributes that make up the PCATool reduced version for users of health services, which evaluates the essential attributes (access, longitudinality, integrality and coordination) and derivatives (family and community orientation)^{14,15}. This instrument proved to be more suitable for PHC assessment, as it provides subsidies to contribute to the qualification of primary care¹⁶.

Of the PCATool-Brasil items that make up the full version (87 items), 23 were selected due to their conceptual importance for the composition of the reduced version^{15,17}. By assessing the correlation between the scores of the reduced version and the complete version, it was observed that they are positively correlated, indicating that the reduced version of the instrument can safely evaluate the PHC services¹⁵.

A pre-test was carried out with the instrument in the riverside area, in which there is no eSFF, with the need to adapt the words used in the instrument to better understand the participants according to the social, structural and geographical context of the communities

in which they reside. It is emphasized that the use of the telephone was removed from the instrument, since most communities do not have this resource.

Users over 18 years old, living in communities in the coverage area for at least one year, registered in the strategies were included. Users who moved out of the community less than a year ago, even in the area covered by the teams, and users from communities that called themselves indigenous were excluded.

The sample of users for the application of the PCATool instrument was defined according to the number of families from non-indigenous communities in the coverage area (intentional sample represented by family), since the focus of the FHS is the family approach.

The calculation of the sample was performed considering the methodology for estimating a proportion in a population of finite size¹⁸. A *p* proportion equal to 0.50 was considered, a population composed of 1.377 families in the three teams, with a sampling error of 5% and a significance level of 5%. As a result, the sample size obtained was 301 users/families, with 342 being collected, divided proportionally according to the number of families in each team, with Abaré I at *n*: 141 participants; Abaré II team 1, *n*: 93; and for team 2, *n*: 108.

Data collection was performed during the monitoring of trips from river units to the areas. The field team was composed of three trained interviewers (two nurses and a nursing technician). In total, three trips were made with the teams, the collection being made only in communities considered non-indigenous. To reach the sample of users in each area, there was a need for three more trips to communities in the Tapajós and Arapiuns regions. The study was carried out from October 2017 to May 2018.

In the instrument, the possible answers for each of the items are: 'certainly yes' (value=4); 'probably yes' (value=3); 'probably not' (value=2); 'certainly not' (value='1); and 'I don't know/I don't remember' (value=9). The

essential score is measured by the sum of the degree of affiliation plus the average scores of each of the components of the essential attributes divided by the number of components. The general score is measured by the sum of the average scores of the components of the essential attributes plus those that belong to the derived attributes plus degree of affiliation divided by the total number of components¹⁴.

The scores for each of the attributes or their components are calculated by the simple arithmetic average of the response values of the items that make up each attribute transformed into a scale from 0 to 10, using the formula: $(\text{Score obtained} - 1) \times 10/3$. Values equal to or greater than 6.6 are considered high, being equivalent to the value three or more (≥ 3) on the Likert scale, while values less than 6.6 were considered low¹⁴.

The answers were organized in Microsoft Excel® for Windows software, and for the analysis, the Statistical Analysis System (SAS) version 9.4 and the Statistical Package for the Social Sciences (SPSS) version 22 were used. Double typing was carried out to check the results. For the analysis, the values of items C11 and D15 of Pcatool-Brazil were reversed to: value 4=1, value 3=2, value 2=3 and value 1=4, because the higher the value assigned, the lower the orientation for PHC.

Qualitative variables were described using frequencies and percentages; and quantitative variables, using the average, standard deviation and minimum and maximum values.

The research was approved by the Unicamp's Research Ethics Committee under opinion n° 2.079.984, of May 24, 2017. Participants were identified by codes to guarantee confidentiality.

Results

342 users of the River FHS in the municipality of Santarém – Pará were interviewed. The socioeconomic profile of the participants is shown in *table 1*.

Table 1. Socioeconomic profile of the 342 users interviewed from areas of the River Family Health Strategies, Santarém, PA, Brazil, 2018

Variables	N	%
Sex		
Female	272	79.53
Male	70	20.47
Age (years)		
18-24	29	8.47
25-29	38	11.11
30-34	31	9.06
35-39	66	19.2
40-44	32	9.35
45-49	29	8.47
50-54	26	7.60
55-59	26	7.60
≥ 60	74	21.63
Marital Status		
Married	151	44.15
Divorced	1	0.29
Single	55	16.08
Common-law marriage	122	35.67
Widower	13	3.80
Schooling		
Illiterate	17	4.97
Literate	21	6.14
Incomplete Elementary School	117	34.21
Complete Elementary School	42	12.28
Incomplete High School	41	11.99
Complete High School	90	26.32
Incomplete Higher Education	4	1.17
Complete Higher Education	10	2.92
Work situation		
Retired	71	20.76
Do lar	76	22.22
Formal job	19	5.56
Informal job	12	3.51
Farmer	130	38.01
Fisherman	34	9.94
Family income (in minimum wages*)		
0 + 1	223	65.20
1 + 2	84	24.56
2 + 3	29	8.48
3 + 4	6	1.75

Source: Own elaboration.

*Minimum wage value on Apr. 2019 in Brazil: R\$ 954.00.

Most users interviewed are female (79.53%), aged 60 years or over (21.63%) and 35 to 39 years old (19.2%), married (44.15%), with a number of children from four (38.30%) to more than five (29.82%), family income below one minimum wage (65.20%) and up to one minimum wage (24.56%). Regarding their level of education, they have incomplete elementary education (34.21%) and complete

high school (26.32%). Regarding the employment situation, as they are communities in the interior, more than 46% are farmers or fishermen.

Regarding the score presented by users for the essential and general scores, they had satisfactory (6.88) and low (6.57) scores, respectively, according to the reference value of 6.6 in the evaluation (*table 2*).

Table 2. Scores attributed to the attributes of Primary Health Care by the interviewees in the River Family Health Strategies. Santarém, Pará, Brazil, 2018 (n=342)

Attributes	Scores (Average)	Standard deviation	Minimum	Maximum
Affiliation	6.08	2.59	3.33	10.00
Access-Use	8.75	1.89	0.00	10.00
Access-Accessibility	6.81	2.46	0.00	10.00
Longitudinality	6.94	1.42	2.50	10.00
Coordination-Integration of care	6.08	2.43	0.00	10.00
Coordination-Information Systems	8.95	1.93	0.00	10.00
Comprehensiveness-Services available	5.07	2.58	0.00	10.00
Comprehensiveness-Services provided	6.36	2.50	0.00	10.00
Family Guidance	8.12	1.93	3.33	10.00
Community Guidance	2.51	3.48	0.00	10.00
Essential score	6.88	1.13	2.67	9.79
Overall score	6.57	1.14	2.81	9.83

Source: Own elaboration.

The attribute with the best evaluation was coordination-information system with a score of 8.95; and the lowest was community orientation (2.51). The attributes that also had low scores were: degree of affiliation (6.08), coordination-integration of care

(6.08), integrality-services available (5.07) and integrality-services provided (6.36).

The analysis performed on the variables and by the team individually show the weaknesses and potentialities that can be shared among them (*table 3*).

Table 3. Association between the number of users by total score value according to the variables team, craft, sex, and grouped by age, marital status, education and income, Santarém, Pará, Brazil, 2018

Variable	Overall score				p-value*
	< 6.6		≥ 6.6		
	N	%	N	%	
Team					< 0.0001
Team Abaré I	66	46.81	75	53.19	
Team Abaré II:1	38	40.86	55	59.14	
Team Abaré II:2	93	86.11	15	13.89	
Craft					0.0007
Abaré I	66	46.81	75	53.19	
Abaré II	131	65.17	70	34.83	
Sex					0.2412
Female	161	59.19	111	40.81	
Male	36	51.43	34	48.57	
Age					0.0002
< 60 years	173	62.45	104	37.55	
≥ 60 years	24	36.92	41	63.08	
Marital status					0.0002
No companion	26	37.68	43	62.32	
With companion	171	62.64	102	37.36	
Education					0.0628
Illiterate - Inc. Elementary	80	51.61	75	48.39	
Comp. Elementary - Inc. High School	48	57.83	35	42.17	
Comp. High School - Higher Educ.	69	66.35	35	33.65	
Income (minimum wage)					< 0.0001
Less than 1	152	68.16	71	31.84	
1 or more	45	37.82	74	62.18	

Source: Own elaboration.

*p-value obtained through the Chi-square test.

A significant association was identified between the general score and the variables team, vessel, age, marital status and income. In the variables sex and education, there was no significant association.

A higher proportion of satisfactory general score was observed in the Abaré I and Abaré II:1 teams, compared to the Abaré II:2 team. With regard to the vessel, a greater proportion of the satisfactory overall score was obtained on the Abaré I vessel. In the age variable, a greater proportion of users above 60 years of age attributed satisfactory scores. Related to marital status, higher proportions were

observed in the satisfactory general score in users without a partner. Regarding family income, there was a higher proportion of people who received a minimum wage or more, who attributed better scores.

Discussion

PHC attributes assessment can contribute to better results and quality of care provided to the population, being used as a parameter to guide managers, professionals and researchers, as well as serving as a tool to

guide the implementation and implementation of health policies and advances in the public health system¹⁹⁻²¹.

There are evidence related to the positive impact of PHC in developing countries, in addition to the association between a greater degree of PHC orientation and the increase in the effectiveness of health systems, user satisfaction, promotion of equity, integrality and efficiency²².

Regarding the profile of users, it is noteworthy that most are female (79.53%), with family income below the minimum wage (65.20%) and who reported receiving the benefit of the Bolsa Família Program (PBF), characterizing socioeconomic vulnerability in the area. More than 40% reported having completed elementary school. It appears that the level of education is very low among the beneficiaries of the PBF, with more than two thirds (69%) without complete elementary education²³.

As for the evaluation of attributes, the degree of affiliation of the user with the professionals of the teams was unsatisfactory (6.08) even though the word 'doctor' was replaced by another professional in the PCATool (nurse or nursing technician). This result can be related to the frequent exchange of professionals from the teams, irregular visits to the communities and the great demand of the population for care, making the link between professionals and users difficult. In a study carried out in Teresina, Piauí, it was found, in the degree of affiliation, that 58.83% indicated the BHU doctor as a reference for their care, and 28.99% indicated the health service, with the score of this attribute 6.28²⁴.

Regarding first contact access, the dimensions of accessibility and use refer to the use of PHC as the open and preferred gateway to the care network, and the PHC's ability to deal with and solve different problems influenced by the social context⁴. The gateway to the river assistance arrangement has scheduled periods. On other occasions, use is made of the UBS present in the communities. However, the access-use score was 8.75; and access-accessibility, 6.81,

referring to the services of the River FHS and the BHU of the communities in the area. It is noteworthy that, when the UBSF is in the designated area or when the community has BHU, access becomes easier, having difficulties in periods and in places where there are no such structures for serving users, demonstrating how much arrangements are essential in these areas.

A study points out that, in some places, where there are vulnerable populations, there is difficulty in accessing health services, however social networks, family members, communities and traditional customs are used in different situations to solve or alleviate the needs in health²⁵.

Studies carried out indicate access-utilization with a high score among the assessed attributes, but accessibility obtained a low score, suggesting that the team's work process in the first contact is very well assessed and that the structure provided has deficiencies²⁶⁻²⁸. The low performance may reflect geographical and organizational barriers of the services in the PHC, such as reduced hours of operation for the units, difficulties encountered in scheduling appointments and waiting times for care²⁹.

The longitudinality attribute had a score of 6.94, considered satisfactory, demonstrating that users have teams as a regular source of care, despite the turnover of professionals in the teams. Good evaluations by FHS users reinforce that this care model enables the construction of bonds and interpersonal relationships between professionals and users over time^{22,30}. The result of this attribute is in line with the good performance of the degree of affiliation and access in the utilization dimension, which testifies in favor of the team, which has no difficulty in approaching users for involvement in the actions and services of the FHS²⁴.

The coordination attribute presents the dimensions of integration of care and information systems. The integration of care was evaluated by users who, at some point, received referral to specialized services. This attribute presupposes the continuity of care,

whether by the same professional in PHC, or by the recognition of the importance of problems addressed in other services³¹. In the results, the score attributed to the dimension of integration of care was 6.08, assuming difficulties in referral and counter-referral, mainly due to travel to other services.

In this context, regarding the provision of information by professionals for the user to take to a specialist or specialized service, it obtained a considerable percentage of positive responses. However, regarding the return of information to the units, there is no record of the specialist to the professional who sent it, and the information reported by the user, transmitted according to their own understanding and language.

In the information system dimension, regarding the availability of medical records, the assessment was 8.95. Within the scope of the River FHS, users refer to the availability of care, being organized by family records and by CHW micro-area. The use of family medical records makes it possible to record the information of all family members, being an important instrument for the integration of the team, and the availability during consultations is perceived as positive by users³¹; and, when not available, it is considered unsatisfactory³².

When assessing integrality, there are the services-available and services-provided dimensions, which include biopsychosocial actions in the health-disease process as well as promotion, prevention, cure/rehabilitation and care at all levels of complexity²⁶. The score value in the services-available dimension was 5.07; and services-provided, 6.36, considered low. The unsatisfactory evaluation suggests the discontinuity of care, as well as the lack of resources and structure necessary to meet health needs. The purpose of integrality is for professionals to perceive the user as a historical, social and political subject, linked to the family context, the environment, the society in which he/she is inserted, allowing the elaboration of care plans that meet the

needs of the population and contributing to better quality of services provided³³.

PHC guidance occurs, as well, through derived attributes, which are family and community orientation, assessed by PCATool, which are family and community orientation, evaluated by Pcatool, which deal with stimulating user participation for their autonomy, building individual and collective care in the territory, in coping with situations that interfere with health, in the organization of services and in stimulating social control¹.

Family guidance had a high score (8,12), demonstrating that there is a stimulus for users to participate in planning and for their autonomy. In other studies, it was observed that the attribute, together with community orientation, obtained very bad scores^{20,26,28,34,35}, suggesting that the services act on the logic centered on the individual, in curative practices, in the absence of contact with the enrolled population, of planning and evaluation, not considering family care in health services.

Community guidance, which refers to the knowledge of the social context in which people live, obtained a poor evaluation despite also considering the bond with families, participation in care planning and community involvement. In PCATool, professionals are asked about conducting research on user satisfaction in the services offered, and this practice is not performed in the services studied. In the context of the River FHS, this attribute was evaluated with the lowest value of all (2.5). Social participation is an important tool to empower people about their rights in relation to health services³⁶. The user's perspective, through surveys on satisfaction, needs to be considered for planning actions that will meet their health needs.

The limitation of this study is that the results refer to three eSFF in a municipality, in addition to the impossibility of collection in all communities belonging to the coverage areas.

The importance of PHC assessment is a tool to support the decision-making process, planning, rethinking professional practices,

reorganizing work processes, improving service networks at all levels of care, as well as for the effectiveness and reformulation of health services. public policies and specific actions, for assistance arrangements, that can reach vulnerable populations and with difficulties in access and, consequently, in the other attributes inherent to health services. It is noteworthy that the expansion of such assistance arrangements, as in the river health model, must consider the reality and needs of each population, as well as their participation in decisions that improve their living conditions.

Conclusions

The results presented in this study show important considerations for the eSFF assistance arrangement, as well as serve to support public policies for the implementation and implementation of PHC and to improve assistance in order to reach vulnerable populations as in the riverine context.

The provision of health services in the municipality is limited by several issues, such as long distances and difficulty in accessing the floods and droughts in some periods, thus reducing the options for users. However, in order to offer comprehensive care, providing the resources capable of responding to the needs of users in its assigned area, the municipality adhered to ministerial policies to cover the riverside population, which are the River FHS and the BHU in larger and strategic communities for geographic access.

It is known that the services available do not address all the health demands of users, especially in a region with such adverse characteristics, however, it was found that half of the attributes achieved satisfactory evaluation (access-accessibility and use, longitudinality, coordination-systems information, family orientation) demonstrating the valorization of services that,

despite being scarce and with limitations, is the essential option for serving communities. Attributes, such as access and its dimensions, were evaluated satisfactorily, highlighting that, when UBSF is in the designated area or when the community has BHU, access becomes easier, with difficulties in periods and in places where that there are no such structures for serving users, demonstrating how essential, fundamental and necessary the arrangements are for these regions.

The proper health performance of the river family depends on the management of services, the social, cultural, economic, geographical context and the participation of users in the construction of better work processes, of what is possible to have, taking into account all existing conditions.

Regarding the instrument used for the evaluation, it is clear that the PCATool reduced version has demonstrated practical applicability, presenting itself as an important tool for seeking to improve the quality of health services. However, there was an absence of specific characteristics, such as alternative therapies, midwives, healers, handles, medicinal plants and other options present in the Amazon context.

Finally, there is a scenario impacted by the changes proposed by the National Policy for Primary Care (PNAB) 2017, in which the differences and locoregional difficulties were neglected, leading to the disqualification of two eSFF considered to be of high cost for the municipality, leading them to the option of maintaining primary care teams in communities where the service already existed (nurses and nursing technicians), which can mean closed entrance doors, providing less access to riverine populations.

The results of this study were discussed with managers, workers and leaders from the riverine areas, and proposals were made to organize work in the areas to improve the assistance provided to users.

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Collaborators

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