

# Factors influencing delivery of intersectoral actions to address infant stunting in Bogotá, Colombia – a mixed methods case study.

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## Research article

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# Abstract

## Background

Intersectoral actions (ISA) are a recognized relationship between the health sector and other sectors to improve health outcomes. Although a frequent topic in public health, evidence for systematic evaluation of implementation of ISA is scarce. An intersectoral health intervention for infants under one-year-old with, and at risk of, stunting (low height-for-age) was developed by a public-private partnership in Bogotá, Colombia, during 2018 and 2019. Here we report a case study conducted in parallel to the intervention designed to assess factors that influenced implementation of the ISA.

## Methods

The case study was developed using a concurrent mixed-methods design, with the qualitative component giving context to the quantitative results. The qualitative component was obtained from four workshops, three focal groups, and 17 semi-structured interviews with actors involved in the intersectoral intervention. The quantitative component was obtained with two questionnaires that evaluated perceptions on improvement and partnership functioning of the ISA.

## Results

This study collected information from 122 participants. The intervention demanded intersectoral collaboration. Political will, motivated human resources, and recognition that health results from collaboration facilitated intersectoral actions. Intersectoral actions were limited by difficulties in engaging the health sector, communication challenges related to local health service decentralization, and administrative barriers.

## Conclusions

Intersectoral actions have been recently discussed in the literature due to challenges on implementation, idealization, inconsistent demands, and doubts about economic outcomes. The implementation of intersectoral public health interventions can be jeopardized by a lack of coordination and management skills.

## Background

Intersectoral actions (ISA) are recognized relationships between part or parts of the health sector and part or parts of another sector to act on health-related issues in a way that is more efficient and sustainable than could be achieved by the health sector alone (1). This requires considerable coordination efforts and puts into question the durability of ISA, what Greer and Lillvis described as bureaucratic obstacles to

intersectoral governance (2). For this reason the study of ISA involves greater attention on plans for monitoring, evaluation, and accountability of the collaboration efforts with a focus on the importance of soft skills available within the partnership like communication (2–4).

Although ISA is a frequent topic in public health, documentation on systematization and implementation is scarce (2, 5–7). Discussions on the social determinants of health need to unravel the complex forms of intersectoral policy action since health is related to many different institutions and sectors of society (1).

Malnutrition is an example of the call for ISA, and a common topic in governmental agendas that highlight the need for public-private partnerships (8). Stunting is a form of malnutrition characterized by a low height-for-age that leads to irreversible damage including shorter adult height, lower attained schooling, and reduced adult income (9). Global efforts to reduce stunting with an intersectoral approach demand greater attention on how to articulate the different sectors in order to accomplish the nutritional goals (7).

The evidence indicates that a complex problem like stunting demands action from multiple sectors (7, 10–13). A recent systematic review showed that stunting was reduced by multisectoral efforts on community-based nutrition with a large emphasis on nutrition-sensitive and specific programs (14). Multisectoral actions are defined as collaborative work between two or more ministries and governmental bodies to design policies, programs or projects (15). Regardless of the conceptual differences between multisectoral actions and ISA, the recent systematic review by Aguilera and Daher collated macro-level policies and programs for stunting across government, health, and social assistance sectors of several countries including Peru, Malawi, Ethiopia, and Nigeria (14). Thus, sectors like government, agriculture, social assistance, health, education, water and sanitation, and the private sector have been identified with technical competencies to maximize nutrition results (7). However, identification of the sectors' responsibilities and roles does not necessarily mean that effectiveness of ISA is guaranteed, nor that a favorable environment for collaboration between sectors occurs.

Conditions for ISA include political will, legislative support, health sector engagement, local health service decentralization, motivation of human resources, and social participation (6). These conditions for ISA has been exemplified in countries like Indonesia, where the National Strategy to Accelerate Stunting Prevention (StraNas Stunting) recognized that coordination across all levels of government was critical to align incentives across national, regional, and local governments (16). Besides, there are factors that trigger ISA like management approach, teamwork skills and techniques, and recognition of health as a collaborative outcome (6). In this regard, the literature about ISA implementation emphasizes that sectors must overcome the challenging task of facilitating meeting points across departments and hierarchical levels (17).

## **Theoretical framework and context of this research**

Only 19 out of 46 Latin-American and Caribbean countries reported information on stunting, wasting, and overweight in children under 5 years old, according to the Pan American Health Organization, based on

the available data, between 1985 and 2014 (18). In 2015, Colombia, an upper middle income South American country, reported a prevalence of stunting of 10.8% in children under 5 years old with a higher percentage of 13% in the capital city Bogotá (19).

In 2018 and 2019 infants with, and at risk of, stunting were identified in three localities of Bogotá by an intersectoral intervention from the government, health, social assistance, and private sectors (19). The specific aim of the intervention was to promote interaction between the health sector (the health Secretary and health insurance companies) and the social assistance sector (the Social Integration Secretary and the Colombian Institute of Family Welfare). It had four main focus points. First, provide access to good quality health services and qualification of health professionals with knowledge on infant and young child feeding (IYCF). Second, enable access to social assistance programs and qualification of social assistance professionals in IYCF knowledge. Third, to educate caregivers in nutrition practices. Fourth, community empowerment.

The private sector played a key role in the intervention. The mission to explicitly eradicate stunting was advocated and financially supported by the Fundación Éxito in coordination with key stakeholders. The Fundación Santa Fe de Bogotá provided the technical skills to implement the intervention.

The intervention was developed as a “before and after” study to assess the change in anthropometric measures of infants with, and at risk of, stunting. Six hundred and eighty-six infants were followed-up throughout. The intervention also had a component of education in nutrition for parents and caregivers, and was supplemented with food bonuses with a pedagogical purpose. In parallel, a case study was conducted to identify factors that facilitated or limited ISA implementation in Bogotá. The research used concepts extracted from The National Ministry of Health guidelines for ISA (6). Definitions are in Table 1.

Table 1  
Glossary of terms (6).

Term	Definition
Sector	There are two definition angles. One angle differentiates the public sector from the private sector and the community. This angle relates to public-private partnerships towards improving public services. A second angle considers sectors as different governmental organizations (education, health, agriculture, economic development, culture, housing, etc.). The combination results in government, public, private, and the community sectors (6)
Demands for ISA	Events, needs, or health, well-being and quality of life problems with multiple causes that demands an answer beyond the health sector. Implies the planning, organization and integration between different sectors to reach effective resolutions.
Conditions for ISA	Existent conditions in the city that allows for intersectoral actions to develop. They are related to society's capacity to answer to social problems.
Engagement of the health sector	Local health institutions strengthened to exercise health authority, and to lead strategies of health for the population. It includes strategies for public health management among different sectors (6).
Health decentralization.	The transfer of authority, responsibilities, and resources to local health institutions. Without this, the territory would not be able for leadership, intersectoral actions negotiation, and decision making
Legislative support	Current legislation supports intersectoral actions and resources, including explicit objectives for intersectoral collaboration, roles and responsibilities.
Motivated human resources	People in the health sector, and other sectors, with full teamwork disposition, and knowledge of intersectoral collaboration.
Political will	Full disposition from the governments to assume intersectoral collaboration as a principle to materialize actions for health, wellbeing and quality of life of the population. It is the foundation to summon collective support for a common objective
Social participation	Allows for community and citizens to participate and influence in decision making for health policies. It is related with achieving health, well-being and quality of life. It could be used to inform, consult, participate, collaborate, or empower.
Triggers of ISA	Management factors that trigger a coherent and coordinated action between sectors and actors in the city.
Management approach	A coordinated, strategic, ethical, and participatory approach between sectors.
Management skills	Focus and methods of direction. They are related with communication, leadership, motivation, and co-worker's relationships.
Management techniques	Techniques and procedures whose practices have shown improvement in organization implementation like empowerment, direction by objectives or projects, economic health evaluation, benchmarking, outsourcing, the use of technologies of information and communication, and knowledge management.

Term	Definition
Recognition of health as a collaborative outcome	In health analysis, the social determinants of health are included as key elements to generate social responses, which should consider the programs already existing and the competences of each actor involved.
Teamwork skills	Group problem solving and decision making (6).

Table 1 shows a glossary of terms.

## Methods

The case study was developed using a concurrent mixed-methods design, with the qualitative component giving context to the quantitative results. We conducted workshops, focal groups, and semi-structured interviews. With the adaptation of two questionnaires, we further explored ideals of ISA for stunting, and the functioning of the partnership.

A convenience sampling was conducted from a list of representatives and opinion leaders that included health, social assistance, education, economic development, and private institutions. Members of nutrition committees from the three localities were invited to participate via email and in person and familiarized with the intervention. For focal groups, parents and caregivers of the three localities were contacted by telephone for a process of evaluation of the intervention. Request for participation was sent via text message or by phone call. Interviews were conducted with committee and operative members of the intervention, national experts in nutrition, representatives of health insurance institutions, and representatives from other sectors.

## Qualitative component

### *Workshops and focal groups*

Four participatory workshops were developed. One workshop was developed with representatives from the health, social assistance, education, and private sectors who were familiarized with the intervention. Three workshops were developed with local nutrition committees in charge of articulating sectors towards food safety in the city. The purpose of the workshops was to assess perceptions about a coordinated response for the ISA on stunting in Bogotá, and the challenges to the intervention for implementation of the ISA. Focal groups were developed with parents and caregivers from each of the three localities to identify perceptions on reasons for growth faltering, and on which sectors are more important for infant nutrition. Workshops and focal groups were conducted during April and May, 2019.

### *Semi-structured interviews*

The first author conducted the interviews, which were audio-recorded, and then transcribed verbatim. Seven committee stakeholders and three operative members were interviewed between June and July 2019. Three representatives of health insurance companies [Entidades Administradoras de Planes de Beneficios (EAPB)] agreed to the interview to explain the coordination barriers that impeded their participation in the intervention. One representative from the local government, and two representatives from the education sector gave their perceptions about how these sectors could contribute to the prevention and treatment of stunting in the localities where the intervention was developed. Guides of the semi-structured interviews were revised by the second author of this article and an anthropologist. Annex 2 presents the overview of the semi-structured interviews.

Transcribed interviews and fieldwork notes had two levels of analysis. The first level used an *a priori* code list based on the Ministry of Health for ISA conceptual guidance (6), the study protocol, and interview guides. The code list was developed by the first author with guidance from an anthropologist and tested using an initial set of transcripts (Annex 1). NVivo 12 Plus software was used for coding. The second level of analysis looked at each code individually. Themes, patterns and key quotations were identified. Data saturation was determined as repetition among sources and completion of category definitions. Instruments for data collection also contributed to triangulation, since comparisons were made between participant perceptions of ISA during workshops and interviews. The consolidated criteria for reporting qualitative studies (COREQ) checklist was used as a guide to describe important domains concerning the research team, study designs, analysis, and findings (20).

## Quantitative component

### *Questionnaires*

Two questionnaires were adapted for quantitative assessments both of which were commented upon by two professionals with knowledge in ISA from the Health Ministry and the academic sector.

One questionnaire collected general opinions regarding factors that demand ISA for stunting in Bogotá. Questions were adapted from the stunting conceptual framework of the World Health Organization (21). Questions to assess general opinions regarding factors that condition and trigger ISA for stunting in Bogotá were adapted from the “Orientations for Intersectoral Actions” document by the Colombian Ministry of Health and Social Provision (6). This questionnaire was sent via email on September 2019 to participants of workshops, focal groups and interviewees who had an email address and agreed to receive and answer the questionnaire. The email had a link to collect answers through Google forms. A reminder to answer the questionnaire was sent via email a week after the first mail was sent. We performed descriptive analysis and calculated the mean of each answer.

A second questionnaire was adapted from the Checklist for Intersectoral Partnership for Health Promotion by Samir Mahmood et al. (22) to evaluate perceptions of the functioning of ISA in the intervention against stunting. This checklist contemplates nine domains for intersectoral evaluation: 1)

need for the partnership, 2) mission, 3) context, 4) partner profile, 5) resources, 6) leadership, 7) roles and structures, 8) communication, and 9) partnership functioning. Thirty-two of the 49 questions by Mahmood et al were adapted. Reasons for adaptation were that the intervention had its own audit for resources, the questions were too long or too broad and were already assessed with the interviewees. The Likert scale was used and a “no answer” option added because some committee members joined the intervention after the planning phase and during implementation. The questionnaire was sent via email on September 2019 to members of the intervention committee with a link for collection through Google forms. A reminder email was sent a week after the initial one. The mean of each domain was calculated and then a spidergram was graphed to show strengths and weaknesses in the functioning of ISA of the stunting intervention. Full description of questionnaires can be found in Annex 3.

Figure 1 summarizes the units, data collection instruments and timeline of the study.

## Results

Forty out of 124 representatives participated in the workshops for a response rate of 32%. Sixty-five out of 90 parents and caregivers participated in the focal groups for a response rate of 72%. Thirteen out of 14 representatives were interviewed for a response rate of 93%. Thirty-three out of 99 participants of workshops, focal groups and interviewees answered the questionnaire about general opinion of stunting for a response rate of 33%. Nine out of 10 members of the intervention committee answered the questionnaire of ISA for stunting for a response rate of 90%.

## Factors that facilitated and limited demands, conditions, and triggers for ISA in the intervention

### *Demands for ISA.*

Members of the committee commented on why health and social assistance sectors were the focus of ISA for the intervention. In this regard, the principal investigator commented: *“we thought about stunting from the conceptual frame of the project as a problem that surpassed the health sector and we needed to add up the social component. That is why the District Secretary for Social Integration joined, and, when we were recruiting participants, the Colombian Family Welfare Institute joined.”* A representative from Fundación Éxito commented: *“I think that we started this project with a view on intersectoral actions, since we had to articulate two Secretaries – social integration and health – and the third actor that was the private sector – Fundación Santa Fe and us”.* Although the health, social assistance, and private sectors were summoned to fulfill the task, some members of the committee felt that additional sectors could have been gathered, like the education sector, economic development, and even a District Secretary of women policies. In the juncture of establishing the partnership for the intervention, the sectors that were associated from their institutional mission with infant nutrition were the health, social assistance, and two private institutions which shared that institutional core.

Two representatives from the education sector, when asked about their potential role in the prevention of stunting that the intervention was proposing, answered that the education sector of the city could aid towards reducing teenage pregnancy incidence and improving food security for those already pregnant. Besides, those representatives highlighted that they were aware of *“the consequences or sequels of inadequate treatment [for stunting], and saw it reflected in some indicators in subsequent years”* especially on school dropout.

#### *Conditions for ISA.*

Regarding “political will”, the government summoned sectors that were linked to infant nutrition like health and social assistance sectors. The main role of the health sector was to identify infants at risk or with low Height-for-Age Z score (HAZ) registered in the system of nutritional vigilance, and the main role of the social assistance sector was to cross-check this information to identify infants affiliated to their programs to join the intervention. A member of the committee highlighted that *“the authority [of the local Mayor] endorsed the participation of [the District Health Secretary and the District Social Integration Secretary] to continue the process.”* The private sector (Fundación Éxito) did the advocacy for positioning stunting in the stakeholder agendas. A member of the committee from the social assistance sector was already working on public-private partnerships, especially on technical support and supervision of the agreements, which facilitated ISA in the intervention.

“Legislative support”, “engagement of the health sector”, “local health services decentralization”, and “social participation” were identified as factors that limited the ISA. In regard to the lack of legislative support for stunting, a member of the committee from the health sector mentioned that *“unfortunately, in the current plans [of the District Health Secretary] stunting is not an explicit goal. When we talk about prevention of stunting, we talk about breastfeeding, about which we do have a goal.”* Wasting or low weight for age (WAZ), is a priority for many sectors. For stunting, as mentioned by the principal investigator, *“there is a normative barrier, [because] we do have an obligation on wasting [intervention, since] children can die, so it is an absolute alarm”*. An interviewee of a health insurance company also mentioned that they focus their attentions on low WAZ.

“Engagement of the health sector” was a concept with multiple comments regarding the lack of participation of the whole health sector in the intervention. The principal investigator commented that *“although we were already represented in the health sector by the District Health Secretary, this sector was not fully represented because we did not have the main actor that is the health insurance companies.”* A member of the social assistance sector in the intervention committee highlighted the importance of participation by health insurance companies, and ISA that could not be accomplished for other sectors. In her words: *“without them I think we are not complete because an early identification [of stunting] is not going to happen [...], or if we give a message and they give a different one, we will be against each other, and I think that the role of doctors is higher in our culture than that of any other educational agent.”* The intervention had an important objective of IYCF knowledge harmonization between the health and social assistance sectors.

Regarding “local health service decentralization,” there were barriers for coordination. An operative member who checked that each participating child had adequate health services said that she “*was shocked about how impotent the public [health] sector was in facing the private groups, the health insurance companies*”. Thus, in local caregiver dwellings, in spite of getting indications from operative members, harmonization could not be done since health professionals were not qualified. Concerning “social participation”, there was a barrier to identify community leaders due to high migration in and out of the city.

#### *Triggers for ISA.*

Regular meetings of the committee were important for coordination (“management skills”). The presence of a committee with regular face-to-face communication, according to a member from the Colombian Institute of Family Welfare, “*aided to visualize institutional fragmentation: [that sectors are working separately] and these scenarios help to ask ourselves about how to end or mitigate barriers and work together*”.

Premises of the private sector included qualification of the public sector to improve health and social assistance services for infants. A representative from Fundación Éxito highlighted that in the meetings to arrange the partnership both private and public sectors agreed on the need for a third party to drive the intervention, since “*we are not allowed to give resources to them [public institutions], nor they are allowed to receive these resources [...]. We qualify those institutions through a third ally [...] in charge of channeling resources.*” The institution that acquired this role was FSFB.

A further trigger for ISA was “recognition of health as a collaborative outcome”. The principal investigator said that “*we accomplished the project in order to study the problem [of stunting], to gather the base line [of participants], to participate in the intervention, and measure the change, and to present information and policy recommendations that are, at last, the final result of this exercise.*” The implementation of the intervention and the elaboration of a guideline for prevention and management of stunting gathered sectors towards a common goal.

The main factors that limited ISA triggering were related to “management approach”. Members of the committee highlighted bureaucratic barriers to establish a contractual partnership with health insurance companies. During implementation there were administrative barriers for nurses and medical doctors to receive continued education during worktime. A health insurance company representative indicated that “*professionals were not allowed to spend their eight hours of training on [identification of]stunting*”, and that “*the project’s expectations could not be accomplished because training [for identification of stunting] was planned during a time of the year when higher respiratory problems are increased*”. Virtual training was proposed but the approach was not within the context of the ISA and difficult to implement.

Barriers to information sharing were identified during implementation. Recruitment of infants was hampered by inconsistent updating of data shared between sectors. “*Intersectoral actions were presented*

*to find infants, but data bases were useless to find them. Infants were found in a totally different way. Then we had more problems [with] sharing information” because of data protection laws.*

Figure 2 summarizes factors that facilitated and limited ISA grouped by demands, conditions, and triggers for ISA.

## **General opinions on the demands, conditions, and triggers for ISA in the intervention**

Workshops, focal groups, and interviews showed that failure to achieve the potential height-for-age in the three localities was most frequently ascribed to family income (76%), food quality (76%), and health services (64%). Other factors that demanded ISA to address stunting in Bogotá related to the need of community participation and social network support, food safety and nutrition, and feeding practices. The caregivers valued recommendations made by family members like introducing vegetable and meat broth before the sixth month of life. Some caregivers were less concerned about the stunted child, and more about the child who failed to be chubby, which was interpreted as healthy feeding.

The most frequent conditions for ISA addressing stunting in the three localities were the importance that local governments summon all sectors involved (66.6%), the capacity and authority to guarantee infant nutrition services by the health sector (57.1%), and sufficient resources for the intervention (54.8%). Other factors conditioning ISA for stunting were the need for motivated and IYCF qualified human talent across sectors and an alignment of IYCF guidelines between sectors.

Finally, participants of workshops, focal groups and interviewees identified triggers for ISA like the importance of health results by each of the participating sectors (69%), that coordinated and participatory ISA are explicitly promoted (64.3%), and that ISA guarantee interactions between sectors by work group dynamics and/or community participation (59.5%). Results are shown in Table 2.

Table 2  
Factors that demand, condition, and trigger ISA intervention against stunting in Bogotá.

	n	%*
	42	
<b>Factors that demand ISA for prevention and management of stunting</b>		
Family income.	32	76,2
Health services.	27	64,3
Educational level of caregivers.	23	54,8
Vulnerable condition of mothers.	19	45,2
Quality of food.	32	76,2
Water and sanitation.	16	38,1
No answer	0	0,0
Others	8	19,0
<b>Factors that condition ISA for prevention and management of stunting</b>		
That local governments comprehend the importance of summoning different sectors to solve the problem (Political will).	28	66,7
Support from the current legislation (Legislative support).	18	42,9
That the local health institutions are in charge of managing the problem and are capable of being the health authority (Engagement of the health sector)	24	57,1
Enough local resources to pose the problem and commitment of each sector (Local health decentralization).	23	54,8
That people working in the locality are committed to teamwork within representatives of other sectors (Motivated human resources).	23	54,8
That the community as a sector is considered the most important for healthy growth of infants (Social participation).	19	45,2
No answer	0	0,0
Others	4	9,5
<b>Factors that trigger ISA for prevention and management of stunting</b>		
That interventions that tackle the problem can promote collaborative and participatory interactions between sectors (Management approach).	27	64,3
That a leading sector to tackle the problem could be identified (Management skills).	18	42,9

	n	%*
That interventions that tackle the problem guarantee dynamic sector interactions working with the community (Teamwork skills).	25	59,5
That interventions that tackle the problem use technologies and other knowledge management skills (Management techniques).	17	40,5
That interventions that tackle the problem guarantee that each of the participating sectors is concerned about contributing to health results (Recognition of health as a collaborative outcome).	29	69,0
No answer	0	0,0
Other	2	4,8
*Total adds up to more than 100% due to multiple choice answers		

## Strengths and weaknesses of partnership functioning

The adapted “Checklist for Intersectoral Partnerships for Health Promotion” (22) showed higher agreement between members of the intervention committee in Need for the partnership, Mission, Context, Resources, Leadership, Roles and structures, and Partners’ profile (Fig. 3). Specifically, members of the committee agreed that: (1) they perceived the need for collaboration between sectors because of common interests and capacity complementarities; (2) the intervention made use of intersectoral committees already existing in the city; (3) they considered the possibility that other sectors did not understand the relevance of their participation; (4) in the planning and implementation of the intervention, the sectors provided time, human talent and other materials for intersectoral collaboration; (5) the intervention showed the importance that each sector considers health results as a social product and; (6) the member sectors showed respect towards each other.

Checklist items that showed lower agreement were Communication and Partnership functioning. More specifically, members of the committee agreed less that: (1) the intervention allowed for strategic partnerships to overcome institutional limits; (2) the roles of each member depended on tasks of other members or sectors; (3) this partnership allowed for the participation of the community as a sector; (4) plans to monitor and evaluate the partnership were considered and; (5) plans for problem solving regarding communication and leadership were considered in the partnership. A summary of strengths and weaknesses of the partnership functioning are described in Fig. 3.

## Discussion

To our knowledge, this case study is the first to examine ISA for a prevalent but highly preventable public health problem, such as stunting, in an upper middle income Latin-American country. Our main finding is the identification of factors that facilitated and limited the ISA. The intervention was facilitated by an acknowledgment of the need for intersectoral collaboration, political will, motivated human resources, management skills, and recognition of health as a collaborative outcome. Limiting factors were barriers

to the timely summoning of some sectors, a lack of legislative support, insufficient engagement of the health sector, scarce local health decentralization, and barriers for social participation.

Colombia has established ISA as a core tool for development and promotes monitoring and evaluation of ISA to achieve the Sustainable Development Goals (SDG)(23). There is an emphasis worldwide on documenting the challenges in 'implementation' of ISA and their outcome 'effectiveness' (4, 5, 24). However, ISA for childhood programs and services have shown there is a need to ensure convergence between sectors and within a variety of programs to attain the common objectives (24). Thus, prevention and management of stunting demands efficient coordination of ISA to reduce all forms of malnutrition, and to achieve a 40% decline in the number of stunted children under 5 years in Colombia by 2025 (25).

The conceptual framework for stunting by the World Health Organization (21) has previously highlighted the factors that we identify demand ISA to address stunting. The context that affects stunting is molded by political economy, health and healthcare services, education, society and culture, agriculture and food systems, and water, sanitation, and environment (21). In our case study family income was a key underlying factor for stunting. The intervention developed in Bogotá did not cover all of the structural social determinants of stunting. At the juncture of defining sectors related to infant nutrition, those directly involved were the health and social assistance sectors, and private institutions that shared infant nutrition as their mission. However, the literature also supports the importance of including economic factors for optimal linear growth. Children living in poverty lack the appropriate care, stimulation, or nutrition required to promote their development (26).

Research on ISA to address stunting suggests that the government sector should take a leadership role for coordinating ISA (11, 27). In our case study political will and motivated human resources were facilitating factors of the ISA. These factors were mainly associated with the importance that local governments had taken responsibility for the summoning of all relevant sectors, in particular for the engagement of the health sector which guaranteed that infant nutrition services had sufficient resources for the intervention.

The city of Bogotá has recently had a remarkable performance with ISA to accomplish an absence of deaths by wasting in children between 0 and 5 years old (28). For this type of malnutrition, different strategies had been optimized through factors that the literature showed conditions ISA like the engagement of the health sector (providing therapeutic formula and the assistance to prevent child mortality), legislative support (to summon sectors that can aid towards food safety) motivated human resources (representatives from different sectors that meet at local nutrition committees to identify and follow cases of child wasting), and social participation intended to strengthen community social networks towards food safety (29). Notably, the lack of some of these conditioning factors for ISA to address stunting were outstanding barriers for the planning and implementation phases of the intervention. There is a challenge to summon ISA for a nutritional condition that does not raise as much awareness as wasting does, especially in a context of declining nutrition-related child mortality (26).

A further conceptual point for discussion regarding differences between intersectoral and multisectoral interventions for stunting arises from the analysis of factors that condition ISA. Nutrition-specific interventions rely on the health sector (7) and there is ample recognition that many sectors have roles in nutrition-sensitive interventions (11, 30–32). During planning and implementation of the intervention against stunting in Bogotá a lack of engagement of the health sector was frequently seen as a barrier for ISA. This may stem from a misconception that health professionals in infant nutrition play a pivotal role. This questions whether the health sector should lead an approach that tackles a nutritional condition rooted in social determinants. Kim et al. have shown that the health sector usually controls the review of indicators thereby limiting the notion of health as a collaborative outcome in itself a trigger of ISA (4). More evidence is therefore needed to understand how sectors summoned to address stunting are more adequately interconnected (33).

Recognition of health as a collaborative result triggered ISA in the intervention. Pelletier et al. showcased the difficulties that Peru, Bolivia and Guatemala faced in policy formulation and translation into concrete operational plans (34). In this regard the World Bank pointed out that sectors should include explicit nutrition indicators in the design phase of interventions (7). This would help reduce concerns over failure to accomplish sector-specific goals, and remove limits to joint planning and coordination that frequently hinder ISA (4, 12).

Greer and Lillvis argue that obstacles for intersectoral governance are related to coordination and durability, and that solutions lie in enhanced political leadership, bureaucratic change, indirect strategies like expanding the range and capacity of people who access data including ordinary citizens (2). In the context of public-private partnerships of varying and separate organizational regulations, achieving appropriate intersectoral and interprofessional collaboration is complex, especially in private–public engagements (3, 35). A first step for ISA resides in information quality and sharing among sectors, which is known as informative ISA (6). Thus, each sector must have clear roles before implementation to avoid barriers to pre-empt issues with information system management and data sharing (8).

The benefits of ISA were never questioned by workshop participants and interviewees, nor were the high demands to tackle stunting towards partnerships and synergies. There were however concerns over how to implement ISA. A similar situation was explored in an ethnographic study by Holt et al., who challenged the idealization that ISA can be more discursive than practical and thus difficult to implement (5). Although initiatives for intersectoral or multisectoral strategies to tackle stunting are approved, there is a clear need to know how to implement them beyond political will (36).

This mixed methods case study had limitations. Recall bias could have been present from the single cross-sectional design of the interviews and the response rate of the questionnaire on general opinion of stunting was low. The adapted Checklist for Intersectoral Partnerships for Health Promotion was applied only at the final stage of the intervention thereby precluding insights from comparison to its application in the early stages of the partnerships and during implementation. The adapted checklist was not completed by members of the intervention committee.

# Conclusions

ISA has been recently discussed in the literature due to challenges on implementation, idealization, inconsistent demands, and doubts about economic outcomes. Stunting demands ISA in its core, and although the mechanisms to couple actions from the different sectors are well described, these should be applied within the context of the local actors. This mixed methods case study described some of the factors related with ISA and how stunting was positioned in the government's agenda and in the mission of the social assistance, health and private sectors in Bogotá, Colombia. The ISA are highly valued but the implementation of complex interventions to integrate different sectors is jeopardized by a lack of coordination and management skills. Information access and data sharing are pivotal and a first step for ISA. Constant communication, without losing sight of the demands, conditions, and triggers of ISA, will ensure that the perennial use of facilitating factors and the timely resolution of limiting ones results in an effective implementation.

# Abbreviations

ISA  
Intersectoral actions.  
FSFB  
Fundación Santa Fe de Bogotá.  
HAZ  
Height for Age Z score.  
IYCF  
Infant and Young Child Feeding  
SDG  
Sustainable Development Goals  
WAZ  
Weight for Age Z score.

# Declarations

## Ethics approval and consent to participate

This research was approved by the ethics committee of Fundación Santa Fe de Bogota, 21<sup>st</sup> March 2019, record number CCEI-10385-2019. A written consent outlining the aim and extent of the research was signed by the involved parties.

## Consent for publication

Not applicable.

## Availability of data and materials

The dataset, consisting of field notes and interview transcripts, generated and analyzed during the current study are not publicly available to ensure the confidentiality and anonymity of the participating institutions and individuals.

### **Competing interests**

The authors declare they have no competing interests.

### **Funding**

The study was funded by Fundación Éxito and the Population Health Division of Fundación Santa Fe de Bogotá. The funding sources had no involvement in the study design, data collection, analysis and interpretation of data or the decision to submit for publication.

### **Authors' contributions**

NBT: Conducted data collection, data analysis and writing of the manuscript.

GPAZ: data analysis and writing of the manuscript.

ARV: data analysis and writing of the manuscript.

All authors have read and agreed on the final version of this manuscript.

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## Figures

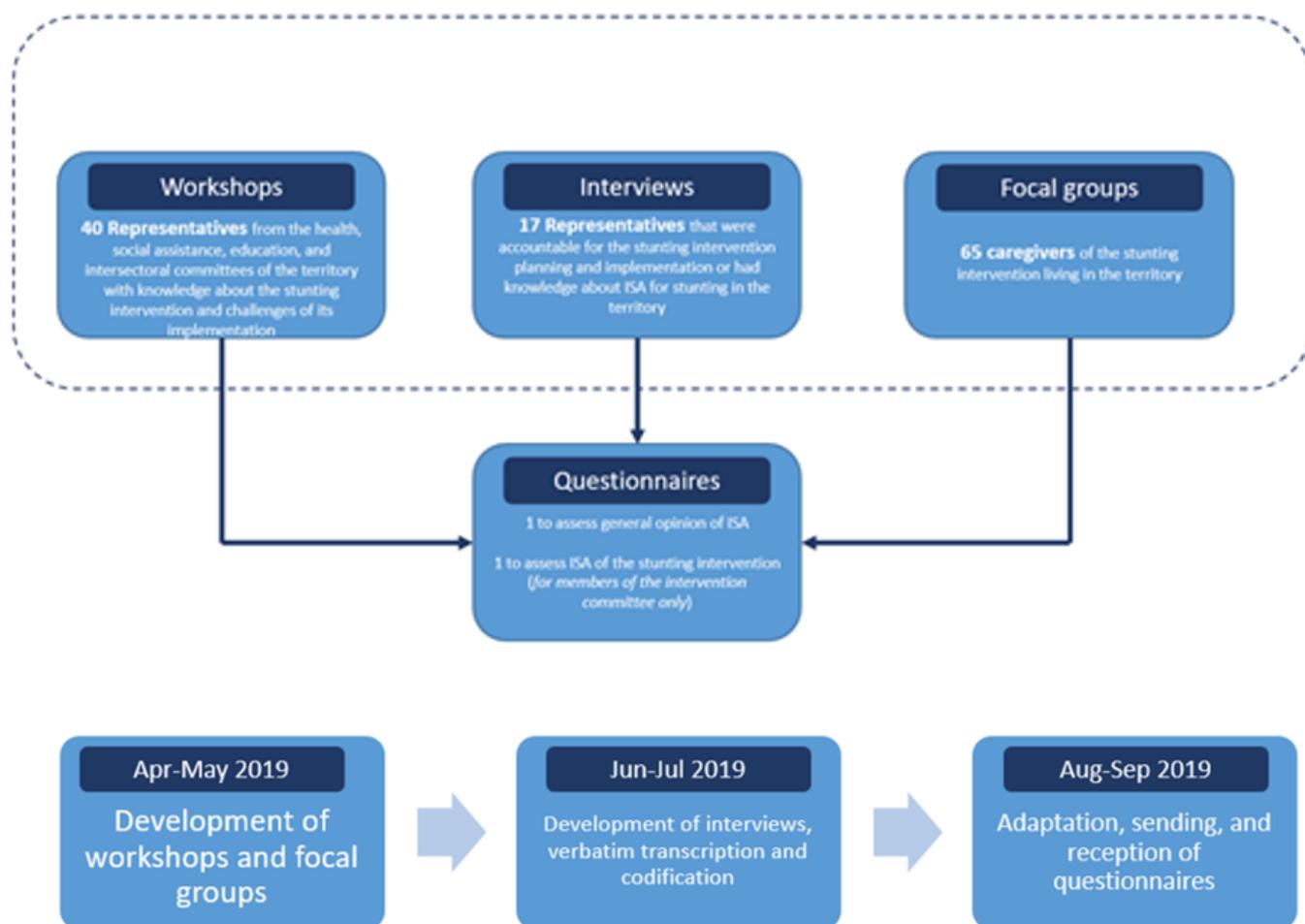


Figure 1

Description of the units of study, data collection instruments, and timeline.

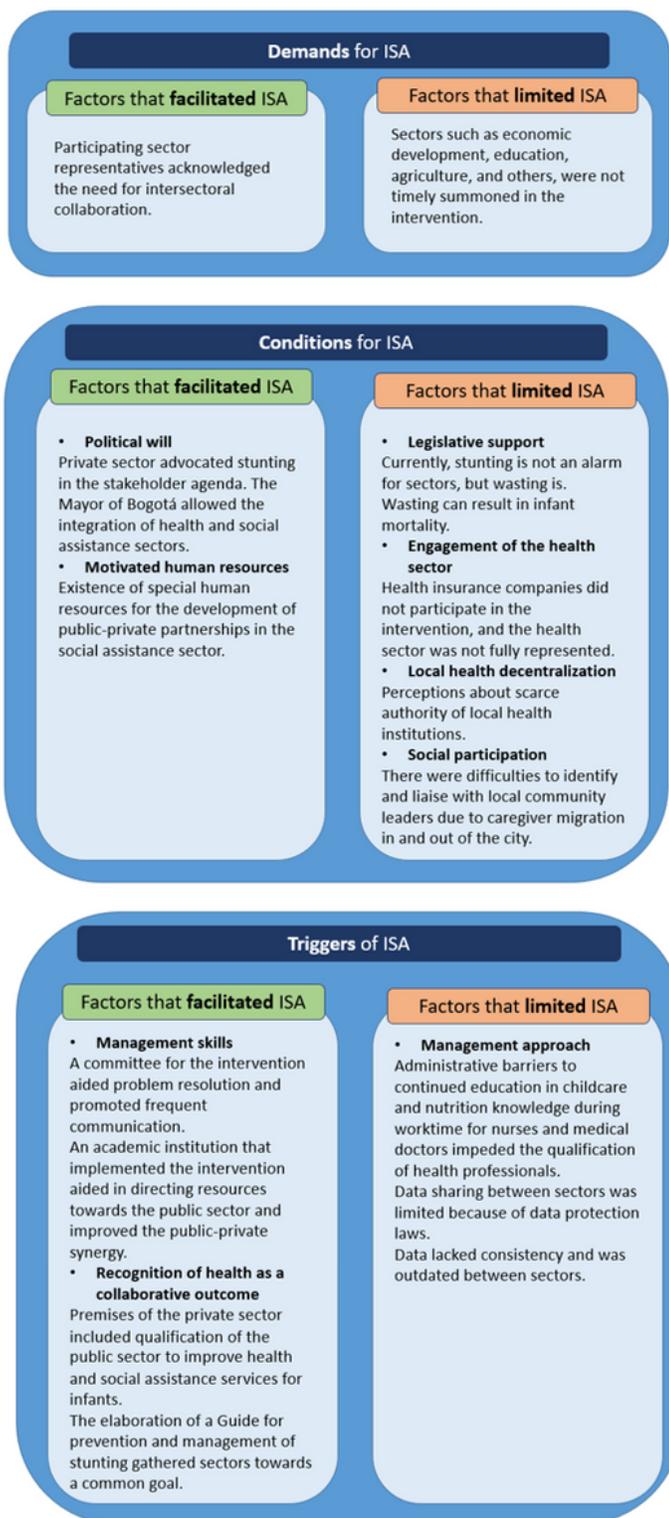


Figure 2

Factors that facilitated and limited ISA grouped by demands, conditions, and triggers for ISA.



**List of concept definitions as adapted from Mahmood et al., (22).**

*Need for the partnership:* the benefits of a partnership approach for the intervention were clear.

*Mission:* refers to the purpose of a partnership for the intervention and encompasses the idea of a shared vision and aligned goals.

*Context:* refers to the juncture at which the intervention emerged and within which the partnership existed.

*Resources:* financial and other resources such as time, skills, expertise, personal networks and connections for the intervention.

*Leadership:* refers to the members of the intervention committee that lead and provided strategic direction to achieve the partnership mission.

*Roles and structures:* refers to the level of working agreements within the members of the intervention committee for the partnership.

*Partners' profile:* refers to the overall skills, expertise, and willingness to share resources of members of the intervention to fulfil the mission.

*Communication:* the ways in which members of the intervention conveyed information inside and outside of the partnership.

*Partnership functioning:* tasks and activities that helped maintain a productive partnership pertaining to the partnership mission.

**Figure 3**

Strengths and weaknesses identified by the members of the intervention committee about partnership functioning.

**Supplementary Files**

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- [STROBEchecklistFactorsISA.doc](#)
- [Annexes.docx](#)