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INTEGRATED CARE FOR FRAIL OLDER ADULTS

(AR-T1294)

DONORS MEMORANDUM

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PROJECT SUMMARY
INTEGRATED CARE FOR FRAIL OLDER ADULTS
(AR-T1294)

Population aging and the rise in chronic diseases and disability among older adults are creating a major health, economic, and social problem across the globe. The first to be affected are older adults themselves and, particularly, a high-risk subgroup among older adults—frail and/or dependent older adults—that makes up this project's target population. Frailty is characterized by a declining physiological reserve that translates into an individual's increased risk of incapacity, loss of resistance and greater vulnerability to adverse events, manifesting itself in higher morbidity and mortality. In all, 40.3% of people over 75 have had at least one fall in the last 2 years (29.0% in men and 47.1% in women), and of these, 56.8% have suffered a fracture (29.1% and 62.9%, respectively). Over time, frailty is a predictor of dependency—the condition of not being able to live autonomously and needing others' help for activities of daily living. Caregiving for frailty and dependency is lacking in Argentina, mainly caused by: (i) fragmented health services; (ii) difficulties for professionals to detect and diagnose frailty and in managing multipathology and prioritizing care strategies; and (iii) low capacities of caregivers, family members, and patients themselves to manage common care situations.

To address this issue, this project aims to develop a web-based platform that integrates a knowledge base, training modules, and clinical decision support software, targeting three groups of stakeholders: frail older adults, their caregivers, and health professionals. The project interventions will mainly seek to address two of the aforementioned causes of the problem: (i) low capacities and difficulties in detection, diagnosis, and treatment, by disseminating knowledge about the care of frail or dependent older people; and (ii) the lack of tools for the detection, diagnosis, and treatment of related conditions.

The project is innovative because, unlike the fragmented health services often observed in our region, it takes an integrated approach to the issue of caregiving for dependent and frail adults. Moreover, there is no free, open access in the Latin American region to a clinical decision support system like the one to be developed in this project. Given the region's dearth of geriatric experts for specialized consultations, this tool has the potential to be disruptive by expanding problem-solving at the primary care level.

The project is aligned with the IDB Group's Vision 2025, specifically with the medium-term strategic goal to "promote social progress," under which it aims to promote access to and quality of public services, including health. The project is also aligned with the IDB Group country strategy with Argentina 2021-2023, specifically with the priority area relating to "poverty reduction and social protection of the most vulnerable," under which the objective of "strengthening the health system" is proposed. Lastly, the project is closely aligned with IDB Lab's Business Plan for 2022-2023, specifically with the "Health" vertical, under which it aims to expand the availability and improve the affordability of health services.

ABBREVIATIONS

CDSS	Clinical decision support system
HIBA	Hospital Italiano de Buenos Aires
SCL/SPH	Social Protection and Health Division of the IDB Social Sector

EXECUTIVE SUMMARY
INTEGRATED CARE FOR FRAIL OLDER ADULTS
(AR-T1294)

Country and geographic location:	Argentina. Beneficiaries throughout the country are expected to be reached through the integrated care web-based platform for dependent and frail older adults.		
Executing agency:	Sociedad Italiana de Beneficencia de Buenos Aires (Hospital Italiano de Buenos Aires).		
Focus area:	Knowledge economy (Health vertical), and the crosscutting theme of Gender and Diversity (disability).		
Coordination with other donors/Bank operations:	The project will be cofinanced with technical-cooperation funding from the Bank's Social Protection and Health Division (SCL/SPH).		
Beneficiaries:	The main beneficiaries are: (i) 7,800 platform users; (ii) 1,500 health professionals and 6,000 people/patients who access developed content; (iii) 150 health professionals who pass the courses; and (iv) 150 caregivers who pass the course, of which 75% will be women.		
Financing:	IDB Lab technical-cooperation funding:	US\$255,000	24.9%
	SCL/SPH cofinancing:	US\$255,000	24.9%
	Counterpart	US\$515,050	50.2%
	TOTAL PROJECT BUDGET:	US\$1,025,050	100.0%
Execution and disbursement period:	42 months for execution and 48 months for disbursement.		
Special contractual conditions:	-		
Environmental and social impact review:	This operation was screened and classified pursuant to the IDB's Environmental and Social Policy Framework (document GN-2965-21) on 23 March 2022. Given the limited impacts and risks, it is proposed that this be classified as a category "C" operation.		
Unit with disbursement responsibility:	Discovery Unit at the Country Office in Argentina (DIS/CAR).		

I. PROBLEM ADDRESSED

A. Description of the problem

- 1.1 Population aging and the rise in chronic diseases and disability among older adults are creating a major health, economic, and social problem across the globe. The first to be affected are older adults themselves; in Argentina, 46.9% of people 75 and over have a self-perception of fair or poor health.¹ A high-risk subgroup among older adults—frail and/or dependent older adults—makes up this project's target population. In all, 40.3% of this age subgroup have had at least one fall in the last two years (29.0% in men and 47.1% in women), and of these, 56.8% have suffered a fracture (29.1% and 62.9%, respectively).¹ Frailty is characterized by a declining physiological reserve that translates into an individual's increased risk of incapacity, loss of resistance and greater vulnerability to adverse events, manifesting itself in higher morbidity and mortality.² While this term was initially defined in relation to physical frailty (loss of muscle mass and strength, unintentional weight loss, reduced activity, exhaustion, and slowed movement), it can also include other dimensions, such as cognitive, psychological, and even social (loss of social resources and important skills to meet basic social needs).³ Although frailty, dependency, and disability are not synonymous, the three situations correlate positively. Over time, frailty is a predictor of dependence.⁴ In 2020, Argentina had an estimated 678,000 older people with difficulties carrying out basic activities, 1.5 million with difficulties carrying out instrumental activities, and a total of 1.6 million needing some degree of support (i.e., with difficulty carrying out both basic and instrumental activities).^{5,6}
- 1.2 Dependency also entails not being able to live autonomously and needing others' help for activities of daily living. Specifically, dependency is "a state in which persons, by reason of lack or loss of physical, psychological, or intellectual autonomy, require significant assistance or help carrying out their usual day-to-day activities, particularly those related to personal care".⁷ On a continuum, frailty may predispose to disability and disability to dependency.
- 1.3 This dependency also affects the family and society as a whole. In Argentina, 31.4% of households with people over 75 have a person with limitations in basic activities of daily living.⁸ In households with people over 60 who have difficulties in basic

¹ Instituto Nacional de Estadística y Censos. Encuesta Nacional sobre Calidad de Vida de Adultos Mayores 2012. - 1st. ed. – Autonomous City of Buenos Aires: INDEC, 2014.

² Jáuregui, JR and Rubin, RK. Fragilidad en el adulto mayor. *Rev. Hosp. Ital. B. Aires.* 2012;32(3):110-115.

³ Junius-Walker, U. et al. The essence of frailty: A systematic review and qualitative synthesis on frailty concepts and definitions. *European Journal of Internal Medicine* 56 (2018) 3–10.

⁴ Fried, LP, et al. Frailty in older adults: evidence for a phenotype. *J Gerontol A Biol Sci Med Sci.* 2001;56(3):M146-56.

⁵ Oliveri ML. Envejecimiento y atención a la dependencia en Argentina. Technical Note IDB-TN-2044. Inter-American Development Bank. 2020.

⁶ Basic activities of daily living relate to independence in bathing, toileting, continence, dressing, feeding, and transfers from bed or chair. Instrumental activities of daily living are the ability to use the telephone, prepare food, look after the house, do laundry, use money, go shopping, use transportation, and take responsibility for medication.

⁷ Council of Europe. Recommendation R (98) 9 of the Committee of Ministers to Member States on dependence. Strasbourg: Council of Europe, 1998.

⁸ Amadasi, E; Tinoboras, C and Cicciari, MR. Las personas mayores que necesitan cuidados y sus cuidadores. First ed. Autonomous City of Buenos Aires. Educa, 2018.

activities of daily living, 48.1% have insufficient income (versus 37.1% of households that do not have older people with difficulties). In addition to this unequal economic burden and greater vulnerability for these households, the responsibility for care in households with older people falls primarily on women (four times more likely than men).⁹ This contributes to gender inequities, with negative repercussions for women in terms of their independence and employment opportunities, among others. Caregiver burnout is also highly prevalent and has health and social consequences. In a study in Colombia, 34% of caregivers assessed had mild burnout and 10% had severe burnout; 36% said that their health was sometimes affected; and social relations were affected in 40%.¹⁰ Lastly, dependency and associated complications place significant pressure on health services. The physiological vulnerability and progressive decline of frail adults increase the risk of hospitalization and death, and thus drive up the costs of care.

- 1.4 Health services are fragmented and ill-equipped for proactive follow-up focused on the person and their particular needs. Moreover, health systems are disjointed from social security systems, further compromising frail or vulnerable older adults, who depend on informal (family) or formal (paid caregivers in the patient's home or in nursing homes) caregiving. The main causes of poor care for frailty and dependency include: (i) Health care fragmentation. Health problems, especially in people who have several health problems affecting them simultaneously (multipathology), are often (in the best case and when there are no barriers to access the health system) treated in isolation by different health professionals without a comprehensive, integrative view. The interaction of treatments prescribed by these different practitioners often leads to cascading adverse effects (negative interactions that worsen rather than improve health); (ii) Difficulties in the detection and diagnosis of conditions of frailty, in practitioners' management of multipathology, and in the prioritization of management strategies and the clinical pathways they have to follow, especially at the primary care level; and (iii) Low management capacities of caregivers, relatives, and patients themselves to manage common care situations. Caregivers and relatives are often unaware of basic tenets for proper patient care. Patients themselves are often unaware of both the conditions that affect them and the simple tools they can use to self-manage these conditions.
- 1.5 Certain health problems are associated with difficulties in prevention and treatment by both health professionals and family members or caregivers. The paradigmatic example of this is pressure ulcers, which occur in dependent people and persons with disabilities with marked mobility limitations and require complex treatment once developed, especially if they are at an advanced stage. They have a significant impact on quality of life in physical, psychological, and social terms, as well as financial impacts and impacts on health care utilization.¹¹

⁹ Oliverim ML. Envejecimiento y atención a la dependencia en Argentina. Technical Note IDB-TN-2044. Inter-American Development Bank. 2020.

¹⁰ Giraldo Montoya, DI et al. Sobrecarga en los cuidadores principales de pacientes con dependencia permanente en el ámbito ambulatorio. Medicina U.P.B., vol. 37, no. 2, pp. 89-96, 2018. DOI: <https://doi.org/10.18566/medupb.v37n2a02>

¹¹ Gorecki, C et al. Impact of Pressure Ulcers on Quality of Life in Older Patients: A Systematic Review. JAGS; 2009. 57:1175–1183. DOI: 10.1111/j.1532-5415.2009.02307.x.

- 1.6 International best practice for managing frail and dependent adults is based on integrated care, which looks to improve the person's life by caring for the whole person and ensuring that those working in health and social care have the skills to bring together their collective capacities and resources to improve health outcomes for such people.^{12,13} Its central principles and values are to be holistic, with a shared construction and management of health (including the central role of people, family, and community), the comprehensiveness and continuity of care, as well as equity, sustainability, and dignity. However, beyond the scientific evidence of its effectiveness, its implementation in Latin America and the Caribbean is still in the early stages. Moreover, its approach is strictly health-based and does not consider the social issues associated with dependent older adults. Therefore, it is necessary to work together with other social sectors, the recipients of the benefits, and their environments (families, home caregivers, nursing homes, etc.). At present there is a need in the region to integrate and train the relevant actors.
- 1.7 To address this problem, this project will carry out interventions in three groups of social actors: frail older adults, their caregivers, and primary care professionals. The project interventions will mainly seek to address two of the aforementioned causes of the problem: (i) low capacities and difficulties in detection, diagnosis, and treatment, by disseminating knowledge about the care of frail or dependent older people; and (ii) the lack of tools for the detection, diagnosis, and treatment of conditions associated with them. An additional cause of the problem—health fragmentation—is too wide-ranging to be addressed by a project of the magnitude of the proposed project. However, contributions to solving this problem will be made through (i) the delivery of a university course on the home care of frail older people, which seeks to level up knowledge to promote a more aligned caregiving approach among the various actors involved, and (ii) the organization of university workshops on integrated care for health professionals, spotlighting the integrated care approach and promoting a bottom-up paradigm shift. Hospital Italiano de Buenos Aires (HIBA) will be the executing agency for this project. Founded in 1853, HIBA is a nonprofit civil association. Each year it handles 2,800,000 consultations and 46,500 discharges. Fully coordinating health, social, and gerontological services, its integrated health services network assists more than 65,000 people over 65, 3,000 of whom are dependent at home. HIBA features a number of key factors that make it a suitable and strategic partner to successfully implement the project. First, it has highly qualified human resources and leading national and regional teams in both medical informatics and geriatrics. Second, HIBA is the ideal setting for testing such a pilot, since it is where this work is done with the target population on a daily basis, thus facilitating access to that population.

¹² Communications Toolkit. A guide to support the local implementation of Health and Social Care Integration. The Scottish Government. 2015.

¹³ Pérez-Hernández G, Ehrenberg N, Gómez-Duarte I, Artaza O, Cruz D, Leyns C, et al. Pilares y líneas de acción para los sistemas de salud integrados y centrados en las personas y las comunidades. *Rev Panam Salud Publica*. 2022;46:e48. doi.org/10.26633/RPSP.2022.48.

II. THE INNOVATION PROPOSAL

A. Project description

- 2.1 **Objective:** The objective of the project is to disseminate knowledge about the care of dependent older people through a web-based platform that integrates a knowledge base, training modules, and clinical decision support software.
- 2.2 More generally, the project is expected to contribute to improving the quality of care for dependent older people and the medical management of frailty and multimorbidity often associated with dependency.¹⁴
- 2.3 The project also includes specific actions with a focus on gender, diversity (disability), and vulnerability. A large part of the project works on prevention and improved management of persons with disabilities. For example, artificial intelligence software for pressure ulcers that will target this subgroup will be developed along with several of the clinical pathways of clinical decision support software and material for the primary care team, patients, and caregivers.
- 2.4 As regards gender inequities, improving caregivers' competencies will help reduce the burnout they face through better, more efficient use of time. Most informal (and thus unpaid) caregivers are women who take care of their dependent or disabled family member. In addition, the project will generate a training course for caregivers, which will also help to improve the work of paid caregivers, who are also mostly women and in a vulnerable situation. As regards the vulnerable population, community workshops will also be held on the subject of dependency and disability in a vulnerable neighborhood. This will not benefit its inhabitants alone, as the joint lessons learned can be applied to other similar areas in the Latin American region.
- 2.5 **Intervention model.** To fulfill the project's purpose, a platform will be developed, targeting three specific audiences (health professionals, caregivers/families, and patients) and integrating a knowledge base, training modules, and clinical decision support software. The computer tools to be developed include a clinical decision support system (CDSS) and artificial intelligence software to diagnose and treat pressure ulcers. The development of knowledge bases, training, and tools will be supported by instances of dissemination to spread them and promote their adoption and scalability in the region's other health care institutions. At the end of the project, other hospitals in the region will be offered access to the platform free of charge to maximize impact.

B. Project beneficiaries

- 2.6 The end beneficiaries are dependent and/or frail older adults who will benefit from better quality of care based on the knowledge and tools that the project makes available to practitioners, caregivers, and family members involved in their care, as well as to the beneficiaries themselves. The second group of beneficiaries are primary care professionals and caregivers of dependent and/or frail adults who will gain access to knowledge and tools that will enable them to improve decision-

¹⁴ However, since it was not possible to include indicators in this operation's results matrix that measure the improvement in the quality of care for dependent older people or the medical management of frailty and multimorbidity often associated with dependency, this project's success will not be evaluated in terms of these outcomes.

making in treating dependency and/or frailty. The relatives of dependent and/or frail older adults are indirect beneficiaries, since the improved quality of their care will reduce the burnout they may face in the caregiving process. Lastly, society as a whole will benefit from this project since the knowledge and tools provided will help make the clinical care of dependent and/or frail adults more effective, thus reducing the costs associated with this care for society. In particular, it is expected to benefit: (i) 7,800 platform users; (ii) 1,500 health professionals and 6,000 people/patients who access developed content; (iii) 150 health professionals who pass the courses; and (iv) 150 caregivers who pass the course, of which 75% will be women.

- 2.7 **Innovation.** The project is innovative because, unlike the fragmented health services often observed in our region, it takes an integrated approach to the issue of caregiving for dependent and frail adults. There is no free and open access in the Latin American region to a CDSS. Globally, in some high-income countries, CDSSs exist, but they are either for a hospital setting,¹⁵ are more general to primary care¹⁶ and fail to focus on the particular problems associated with frail or disabled older people, or address only certain aspects of their care.¹⁷ Given the region's dearth of geriatric experts for specialized consultations, this software has the potential to be disruptive by expanding problem-solving at the primary care level.
- 2.8 Within one single platform, the project integrates the contents for the three main actors involved in the care of frail and/or dependent older adults (health professionals, caregivers, and the older adults themselves), aiming to equalize knowledge and thus help align the caregiving approach. In addition, the web-based platform includes components for it to be compatible with and used by the different IT systems that health organizations in Latin America may have. This aims to facilitate the involvement of the fourth key actor: the health services and systems as meso and macro structures (in addition and complementary to the micro level of the three aforementioned main actors). In a global context where different valuable resources exist but are unfortunately fragmented and separated in the care process, this project seeks to contribute to their necessary integration. Another innovative feature of the project is its adaptation to the Latin American context. There are currently some repositories for health professionals with material on caring for older adults, but these resources were developed in high-income countries against a backdrop highly different from that of Latin America. In high-income countries, the capacities of health systems and informal support environments, the availability of complementary social services, the purchasing power of patients and their families, and the ability to access certain treatments and health services are not the same as in our region. Consequently, the generation of data, knowledge bases, and tools tailored to the local context is an innovation that makes a valuable contribution to the care of dependent and frail older adults. Also, considering the difficulty of access to

¹⁵ Damoiseaux-Volman BA et al. Effect of Interventions with a Clinical Decision Support System for Hospitalized Older Patients: Systematic Review Mapping Implementation and Design Factors. *JMIR Med Inform* 2021;9(7): e28023. doi: 10.2196/28023.

¹⁶ Cricelli I et al. Clinical Decision Support System (CDSS) in primary care: from pragmatic use to the best approach to assess their benefit/risk profile in clinical practice. *Current Medical Research and Opinion*. 2022, Vol. 38, No. 5, 827–829. <https://doi.org/10.1080/03007995.2022.2052513>

¹⁷ Dykes P et al. Shareable, Interoperable Clinical Decision Support for Older Adults: Advancing Fall Assessment and Prevention Patient-Centered Outcomes Research Findings into Diverse Primary Care Practices (ASPIRE). AHRQ Grant U18 HS027557.

specialized consultations in our region, the contribution of software that makes the assessment and management of prevalent conditions with an expert approach more accessible to primary care professionals is an innovation of great value.

C. Project components

Component I: Web-based platform and content development (IDB Lab US\$193,600; SCL/SPH US\$225,000; Counterpart US\$342,350)

- 2.9 This component aims to develop a platform that integrates a knowledge base, training modules, and clinical decision support software, targeting three specific audiences involved in the care of dependent and frail older adults (health professionals, caregivers/families, and patients). The platform and related content will be developed by a transdisciplinary team made up of experts in clinical medicine, geriatrics, home medicine, clinical management, medical informatics, and health services research.
- 2.10 First, as for the knowledge base, resources to be developed targeting primary care professionals include: (i) evidence-based clinical recommendations in a short, practical, quick reference format (at the office or workplace); and (ii) short videos for the practical management of complex situations (e.g., pressure ulcers) and leaflets or diagrams with treatment algorithms. These resources address highly prevalent issues in persons with disabilities, such as management of dementia, pain, depression, insomnia, immobility, incontinence, and polypharmacy, as well as others, such as instability, falls, and multipathology. Resources targeting formal and informal caregivers and family members will also be developed, including short videos and information leaflets on the various dimensions of caregiving (both physical and mental issues and considerations on the rights of these vulnerable people). These resources will address issues of mobility, medication management, fall prevention, and the use of assistive devices (for walking or to facilitate activities of daily living at home for people with certain difficulties). Content related to abuse suspicion and detection and the rights of older people will also be developed. Lastly, resources will be developed for older people, including videos and resources for exercising and improving their intrinsic abilities (e.g., to improve strength, balance, the correct use of walking aids, etc.). All material will be co-created with patients and caregivers to include their needs and maximize the adoption and usability of this platform.
- 2.11 Second, the platform to be developed in this component will include training modules aimed at primary care professionals, caregivers, and relatives of dependent and/or frail older people. Two self-directed virtual university courses for professionals will be designed and implemented. These courses will focus on chronic homecare for frail older people and on pressure ulcer prevention, diagnosis, and management. A self-directed virtual training course for caregivers of dependent or frail older people will be designed and implemented. Most of the potential recipients are women and vulnerable people. This course will help improve their training, providing them with a tool to facilitate labor market insertion.
- 2.12 Third, the platform will include clinical decision support software. On the one hand, a CDSS will be developed. The CDSS will be a service that, based on data entry and an inference engine developed by the HIBA team of experts, will recommend the best clinical pathways and processes to treat older adults for the health

professionals using it. These clinical pathways will show the steps to follow for the diagnosis, stratification, and comprehensive therapeutic approach to major health problems in frail, dependent, or disabled older people. These recommendations will be adapted to serve different primary care settings in Latin America. Based on expert judgement, this computerized decision-making mechanism is expected to help improve quality of care and minimize complications.

- 2.13 In addition, artificial intelligence software will be developed for the diagnosis and prompt treatment of pressure ulcers (a prevalent condition among dependent and disabled adults), with automatic image recognition and corresponding therapeutic suggestions. The artificial intelligence software will be a service that, on receiving an image, will return a classification of pressure ulcers corresponding to the image and, through the CDSS service, recommendations on how to treat it. Through artificial intelligence, this software is expected to decrease the cost of care and thus help enhance the quality of life of older adults. Ethical use of artificial intelligence is planned, as there will be a committee of experts supporting the process, and Component II will investigate the validity of this software by evaluating its performance against that of experts in pressure ulcer management. In both software applications, the screens and interfaces of the various applications will be designed and tested with users following user-centered design techniques.
- 2.14 The main outcomes expected in this component include a developed and operational platform integrating all components, 300 health service professionals enrolled in the courses, and 300 caregivers enrolled in the course, of which 75% are women.

Component II. Learning and communication. (IDB Lab US\$5,000; SCL/SPH US\$30,000; Counterpart US\$15,500)

- 2.15 The objective of this component is to validate and disseminate the knowledge and tools developed to bolster project adoption and scalability. In public health and health services management, scientifically valid evidence is essential to implementing effective interventions. It is therefore crucial to evaluate the validity of artificial intelligence software. Concordance in pressure ulcer diagnoses made by the software with expert diagnoses will be analyzed. The results of this analysis will be used to validate or modify the software for large-scale use.
- 2.16 As they are produced, all resources developed for health professionals, caregivers/families, and patients will be disseminated through various channels to maximize their visibility and uptake. Two types of workshops are also planned for this same purpose.
- 2.17 Workshops will be held for the community at large, dealing with issues relating to frailty, dependency, and integrated care for these people. One of them will be in a vulnerable area, with a population living below poverty levels. In this area, 80% of the population has no health coverage beyond the public sector, with significant access limitations.¹⁸

¹⁸ Giraudo N. Diagnóstico socio-sanitario en la Comunidad de Boulogne, Partido de San Isidro. Centro de Medicina Familiar y Comunitaria, San Pantaleón.

- 2.18 Scientific workshops (in person and online) will also be held for health and social services teams and organizations. The objective of these workshops will not only be technical training, but also networking to boost the knowledge, adoption, and scalability of the project and to project new steps in health and social care integration in the region. Both workshops will be freely accessible online and free of charge.
- 2.19 The main outcomes expected in this component include three community workshops developed, of which at least one will be in vulnerable areas, and 300 people/patients accessing content from the community workshops.

D. Project results, measurement, monitoring, and evaluation

- 2.20 The project's main expected outcomes include: (i) the number of platform users; (ii) the number of health professionals accessing content for them; and (iii) the number of people/patients accessing content for them. This project will contribute to IDB Lab's key performance indicator on the percentage of projects contributing to the challenges of gender equality, diversity (persons with disabilities), and the poor and vulnerable population.
- 2.21 Project performance will be monitored by collecting data from HIBA's different areas. The executing unit will consolidate data generated by the HIBA's University Institute (data associated with training courses and workshops), Information Department (data on platform use and software developed), and others. This data will be used to report to the Bank every six months through project status reports.
- 2.22 The project team considers that this operation presents conditions conducive to conducting an impact assessment. Of particular interest is the possibility of evaluating the impact on patients of the interventions implemented for primary care professionals. During the second year of project execution, efforts will be made to manage resources from complementary sources within the IDB Group so as to finance the assessment. This will be carried out in parallel with the development of a prospective research protocol, an effort that will be led by HIBA's team of professionals and validated by Bank specialists.

III. ALIGNMENT WITH THE IDB GROUP, SCALABILITY, AND PROJECT RISKS

A. Alignment with the IDB Group

- 3.1 The project is aligned with the IDB Group's Vision 2025, specifically with the medium-term strategic goal to "promote social progress," under which it aims to promote access to and quality of public services, including health. The project is also aligned with the IDB Group country strategy with Argentina 2021-2023, specifically with the priority area relating to "poverty reduction and social protection of the most vulnerable," under which the objective of "strengthening the health system" is proposed. The project is aligned with IDB Invest's priority business area 4, which looks to enhance private provision of basic goods and services. Lastly, the project is closely aligned with IDB Lab's Business Plan for 2022-2023, specifically with the "Health" vertical, under which it aims to expand the availability and improve the affordability of health services. The key areas for action proposed in the business plan within the crosscutting theme of gender and diversity also provide for the improvement of care services, including those related to older adults. The project is also aligned with the IDB Group's Social Protection and Poverty Sector Framework

Document, by improving the quality of services that support the autonomy of people who require help to carry out daily activities, most of whom are older people.

- 3.2 Since 2019, IDB Lab has been promoting the Silver Economy as a medium- and long-term strategic pillar, working primarily with the Social Sector and expanding to other parts of the IDB Group. Two projects were approved in 2020: “Upskilling and Reskilling of Adults Ages 50 to 65: Continuing Education for Digital Transformation” (PE-T1454) and “The Future is ‘Silver’: Building an Entrepreneurial Ecosystem” (UR-T1246). Another project was approved in Argentina in 2021: “SilverTech: Leveraging the Talent and Experience of Older Adults through the Use of Technology” (AR-T1262). This proposal is one of those selected in the regional Silver Economy Challenge launched in June 2021 along with several others that will enable us to strengthen the portfolio of projects on the topic and to position IDB Lab and the IDB Group as the leader in this connection in Argentina and the region. As a result of that challenge, two projects have been approved in 2022 that are relevant to this proposal: “ANA Care: Improving Dependent Care for the Low-income Older Population through Technology” (ME-T1485, ME-G1023) and “Innovative Community Based Caregiving for Older Adults in Jamaica” (JA-T1203). Synergies will be sought with these two projects during implementation.
- 3.3 The project aligns with Sustainable Development Goal 3, Good Health and Well-being, particularly target 3.C, as it aims to disseminate knowledge relating to caregiving for dependent older people, and Sustainable Development Goal 5, Gender Equality (Target 5.5), as it will generate a training course for caregivers, who are mostly women in a vulnerable situation, which is expected to help improve their job skills.

B. Scalability

- 3.4 The project’s sustainability over time is guaranteed since maintenance of an online service platform to provide core services (e.g., synchronous second opinion consultations) is a key point in HIBA’s strategic plan. Accordingly, HIBA plans to finance platform maintenance with its own resources (financial and human), the cost of which includes amortization, IT updates, and the hosting service.
- 3.5 The project is expected to scale up through the adoption of the project-developed platform by various health system actors in Latin America and the Caribbean. A mixed business model is envisaged to maximize both the scale and impact of the project. In this regard, the platform and all its components will be freely accessible to public subsector health care providers. IT developments will be available in the Bank’s repository on request from public health care providers. Income will also be generated through the sale of the platform and its components, support in implementation provided to private subsector health care providers, and the sale of new services added to the platform to be developed outside of this project.
- 3.6 The following factors contribute to the likelihood of the project being scaled up, based on the structure described: (i) all the content, courses, and tools to be developed will be tailored to the Latin American reality so as to be relevant in such context; (ii) an application programming interface will be developed to facilitate platform integration with the pre-existing systems of each health care provider; (iii) there are important spaces for dissemination that will enhance knowledge of the platform and its contents among key audiences. Firstly, HIBA has more than

50,000 people over 65 affiliated with its integrated network of health services. It also works collaboratively with the International Foundation for Integrated Care and its regional chapter, Red Latinoamericana de Asistencia Integrada [Latin American Network for Integrated Care]. Lastly, the platform and its content are expected to be disseminated at the workshops to be held under Component II. All these actions are aimed at generating a network of professionals who understand the importance of integrated care, know the platform, use it, and recommend it. These are the project's main potential partners, made up of primary care professionals from across the region. This bottom-up dissemination and adoption strategy will be complemented by other top-down strategies. In the latter, in the third year of the project, a conference will be organized jointly with the Pan American Health Organization to strengthen and sustain the project over time. In parallel, dissemination activities will be conducted to reach the other main partner for project expansion, which is the community at large and, in particular, the subpopulation of older people and caregivers throughout Latin America; and (iv) HIBA has extensive experience in transferring knowledge and technology to other health care providers. One example is the development of a replicable version of the HIBA electronic medical history, which was adopted by multiple public and private health care providers, including the public health care system for the Autonomous City of Buenos Aires. HIBA also carries out free annual activities (courses and workshops) for the general population in which thousands of people participate¹⁹ and develops prevention and health promotion material through social media that tens of thousands of people access free of charge.^{20,21}

- 3.7 Based on the activities described above, after five years from project commencement, the number of platform users is expected to be at least three times the three-year target. The marginal cost per extra user will be slight, as various automated services will be developed to ensure its sustainability over time and scale. This will make it possible to achieve efficiencies of scale.

C. Project and institutional risks

- 3.8 **Adoption risk.** There is a risk that the material developed for health teams, caregivers, and patients will not have sufficiently useful content or appeal. The level of risk is considered low considering that the executing agency's team has experts in the subject and experience in developing training and communication materials. Mitigating factors: As the topics are diverse and very broad, the content and scope will prioritize key issues in care and integrate the different concepts and content. To minimize this risk and focus the use of resources on key issues, no encyclopedia or textbook material will be developed, as there are already a number of such options for consultation.
- 3.9 **Operational risk.** The development of CDSS rules involves a moderate risk. It is a major challenge to integrate different clinical and social variables that are necessary for decision-making but place low demands on the user uploading the information to the system, since the tool is intended to be useful in the context of care (quick loading and easy-to-understand instructions provided by the software). Mitigating factors:

¹⁹ Hospital Italiano de Buenos Aires. Memoria y Balance al 31 de marzo de 2021. Buenos Aires.

²⁰ <https://www.facebook.com/AprenderSaludHI/>

²¹ https://www.youtube.com/channel/UCHdAiQKr_uXhRoaEbHLKSHQ

The practicality and usefulness of the tool will be prioritized over the length of the content. The initial lessons learned will serve to work more efficiently in subsequent lines.

- 3.10 **Technological risk.** A software development risk has been identified and is considered to be moderate. Although these applications are complex and require substantial experience, the HIBA team has such experience, having already developed several applications that work in an integrated and interoperable way with other applications (both its own and those provided to other public or nonprofit institutions). Mitigating factors: However, as with any new system, further improvements may need to be made in the future and outside the current project schedule, based on what is learned through daily use and interaction with users.
- 3.11 **Technical human resources risk.** A high-level risk identified is the external risk stemming from the shortage of human resources with software development experience. This is a global problem, exacerbated by the massive push for computerization generated by the COVID-19 pandemic. Mitigating factors: The project provides for the outsourcing of programming to dedicated companies, with prices within the range of market values. This reduces the risk of possible modifications to HIBA's technical team. However, even so, the national context is unstable, with a brain drain and international competition for local services (internationalized market prices). The proposed project budget, scope, and schedule were developed taking into account the realities of the IT market, to minimize this risk.
- 3.12 **Risk of use of content.** Another low-level risk relates to the possibility that the content is not used. Mitigating factors: The content will be designed to address the present-day practical information needs of primary care teams, patients, and caregivers. The various materials will be disseminated to boost their visibility. Since the project aims to integrate the different content to be developed, this necessarily implies that the platform will only be fully integrated in the last six months of the project. In the meantime, the individual pieces will be disseminated. Graphics in the materials will be edited to make them more attractive and clearer to the user.

IV. INSTRUMENT AND PROPOSED BUDGET

- 4.1 The project has a total cost of US\$1,025,050, of which US\$255,000 (24.9%) will be contributed by IDB Lab, US\$255,000 (24.9%) by the Social Protection and Health Division (SCL/SPH) of the IDB Social Sector, and US\$515,000 (50.2%) by the counterpart. The IDB Lab and SCL/SPH contribution will be nonreimbursable technical-cooperation funding, considering the project's targeting of older adults and the potential broad nonprofit scope.
- 4.2 Retroactive recognition of counterpart funds. Counterpart funds may be recognized for up to US\$16,000 as from the date of the project eligibility on 30 September 2021.

Components	IDB Lab	SCL/SPH	Counterpart	Total
I. Web-based platform and content development	193,600	225,000	342,350	760,950
II. Learning and communication	5,000	30,000	15,500	50,500
Coordination	46,000	-	157,200	203,200
Contingencies	10,400	-	-	10,400
Total	255,000	255,000	515,050	1,025,050
% of financing	24.9%	24.9%	50.2%	100.0%

*The breakdown between IDB Lab and SCL/SPH is indicative and subject to adjustment during implementation without the total amount contributed by IDB Lab and SCL/SPH being changed.

V. EXECUTING AGENCY AND IMPLEMENTATION STRUCTURE

A. Description of the executing agency

- 5.1 Sociedad Italiana de Beneficencia de Buenos Aires (Hospital Italiano de Buenos Aires or HIBA) will be the executing agency for this project and will sign the agreement with the Bank. Founded in 1853, HIBA is a nonprofit civil association. Each year it handles 2,800,000 consultations and 46,500 discharges. Fully coordinating health, social, and gerontological services, its integrated health services network assists more than 65,000 people over 65, 3,000 of whom are dependent at home. It has a partner university and is a leader in Latin America in developments and training in this project's lines (geriatrics, home medicine, integrated care, and medical informatics). It is accredited as an academic medical center by Joint Commission International and validated as Electronic Medical Record Adoption Model (EMRAM) Stage 7 by Healthcare Information and Management Systems Society.
- 5.2 HIBA features a number of key factors that make it a suitable and strategic partner to successfully implement the project. First, it has highly qualified human resources and leading national and regional teams in both medical informatics and geriatrics. Second, HIBA is the ideal setting for testing such a pilot, since it is where work is undertaken with the target population on a daily basis, thus facilitating access to it. Lastly, this project fits within the strategic developments for the organization, which ensures that HIBA will have dedicated budget and human resources for implementation.
- 5.3 HIBA will be responsible for executing all project components. It will not rely on other organizations, except where specified (e.g., contracting software development companies for specific programming under the HIBA team's requirements and supervision). In activities that HIBA considers strategic (e.g., integrated care workshops), it may invite other organizations to participate, but HIBA will always be ultimately responsible for proper execution.

B. Structure and implementation mechanism

- 5.4 HIBA will set up an execution unit and the necessary structure to implement project activities and manage project resources effectively and efficiently. HIBA will also be responsible for submitting status reports on project implementation. Details of the execution unit's structure and the requirements for status reports can be found in Annex V in this operation's technical files.

- 5.5 The execution unit will be made up of a technical and an administrative team. General coordination will fall to the hospital's Social and Health Integration Area under the supervision of the Vice Director of the Hospital Italiano de Buenos Aires Health Plan. They will coordinate the execution process with different HIBA departments. The Geriatrics and Home Medicine Section of the Medical Clinic Service will participate in planning and implementation of the training actions and the development of medical content. Also, IT developments will be planned and supervised alongside the Health Information Department. The administrative team will be led by the accounting area of the Research Department and supported by the Finance and Legal Departments. Lastly, representatives of the project beneficiaries will be involved in developing the various deliverables to ensure their suitability to the target population's needs and possibilities. In community workshops, they will do so as co-protagonists; for the materials intended for patients and families, representatives from this target group will be consulted in advance on the issues of greatest importance to them, and their understanding of the content will be subsequently validated.

VI. FULFILLMENT OF MILESTONES AND SPECIAL FIDUCIARY AGREEMENTS

- 6.1 **Results-based disbursements and fiduciary agreements.** The executing agency will adhere to IDB Lab's standard agreements relating to results-based disbursements, the procurement and financial management policies applicable to the private sector, and the IDB Lab and SEP Guidelines for Milestone Management and Financial Supervision for Technical Cooperation Operations.
- 6.2 The level of risk resulting from the diagnostic assessment of integrity and institutional capacity was low, demonstrating that HIBA has a financial management system acceptable to IDB Lab and a monitoring and accountability structure to submit its institutional financial statements to the Bank each year, under the financial policies applicable to IDB Lab.
- 6.3 Project **disbursements** will be determined based on the project liquidity needs agreed upon by IDB Lab and the executing agency and will be contingent on verification of the fulfillment of the milestones, activities, and costs forecast in the annual planning exercise. Fulfilling the milestones does not relieve the executing agency of the responsibility to fulfill the agreed outcomes.
- 6.4 Unless otherwise determined by the Bank during execution, the executing agency's policies will be used for **procurement**. An annual plan for the procurement required for project execution and fulfillment of the milestones will be submitted together with the annual work plan. IDB Lab may perform an ex ante review of the procurement-related technical issues that it deems necessary, particularly those considered critical.
- 6.5 **Exceptions to procurement policies:** In line with HIBA's policies and processes, direct contracting of HIBA personnel via invoice will be used for smaller amounts to perform tasks additional to those related to the project. These will relate to the generation and publishing of educational and dissemination material for health professionals and the community, the design of treatment algorithms, the tagging of pressure ulcer images, and project-specific research and coordination tasks.

- 6.6 The executing agency will send to the Bank its **audited annual financial statements** which will include a note on the use of the contribution resources and the contributions for the project. The financial statements will be submitted to the Bank within 90 calendar days after the end of each financial year. Together with the delivery of the annual financial statements, the executing agency will submit to the Bank a certification of integrity, transparency, and use of funds following the format attached as Annex B. With resources from the contribution, the Bank may review the financial statements and make revisions to the use of resources applied to the project, verifying financial practices and procurement.
- 6.7 **Results-based disbursements and fiduciary agreements.** The executing agency will agree to standard IDB Lab arrangements for results-based disbursements, to the Bank's procurement policies,²² and to the financial management guidelines²³ specified in Annex V and Annex VI.

VII. ACCESS TO INFORMATION AND INTELLECTUAL PROPERTY

- 7.1 **Access to information.** The information contained herein is classified as public under the Bank's Access to Information Policy.²⁴
- 7.2 **Intellectual property.** The intellectual property of all works and results obtained under the project remains with the executing agency. The executing agency will grant the Bank a nonexclusive, noncommercial license free of charge to use, copy, distribute, reproduce, display, and publicly perform any work or result of the project. The Bank may disclose, reproduce, and publish any project-related information and include the executing agency's name and logo in such information.

²² Link to [Policies for the Procurement of Goods and Works Financed by the IDB](#)

²³ Link to the [Financial Management Guidelines for IDB-financed Projects](#)

²⁴ Link to the Bank's [Access to Information Policy](#)