

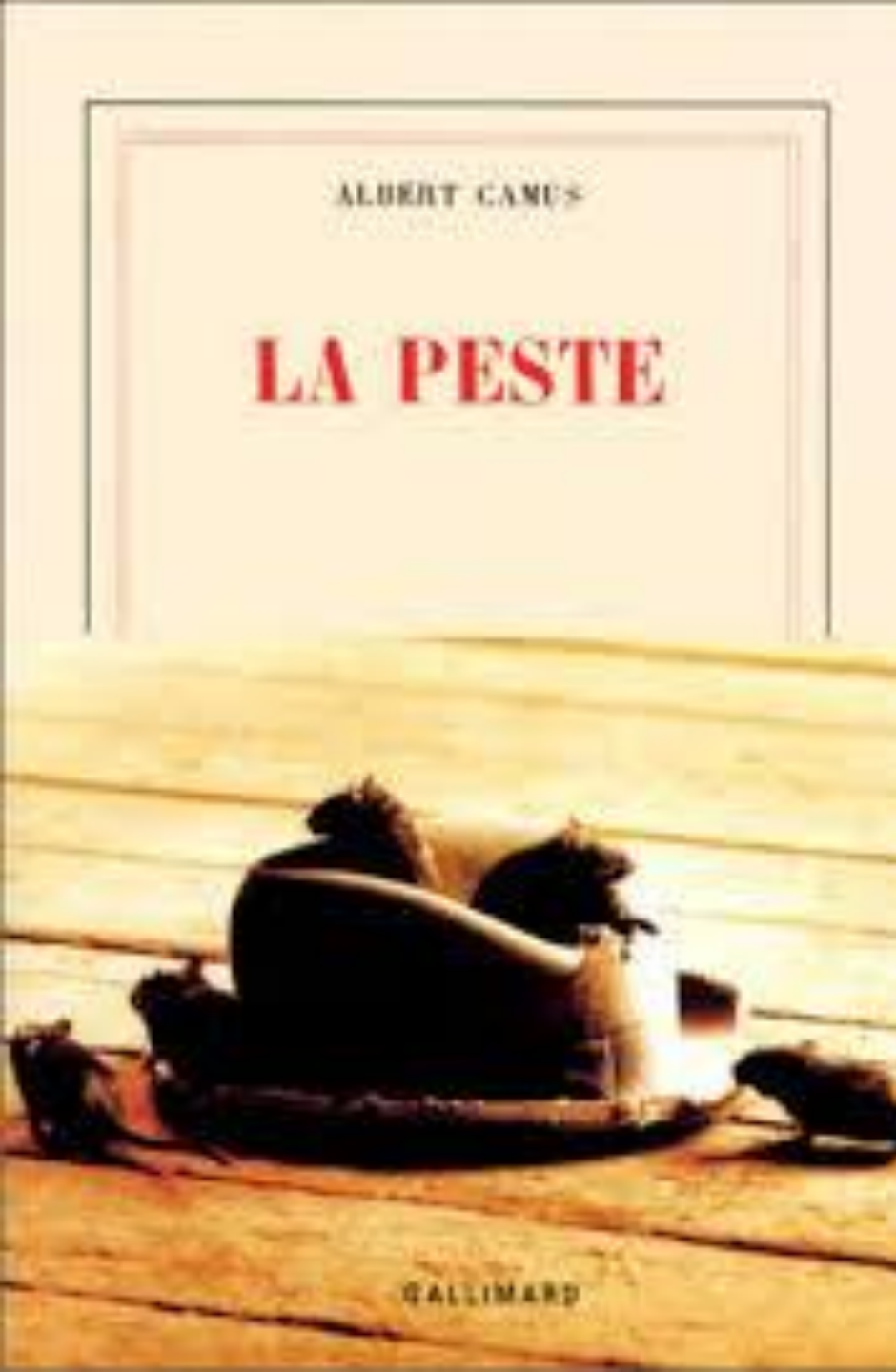
Plague in Latin America

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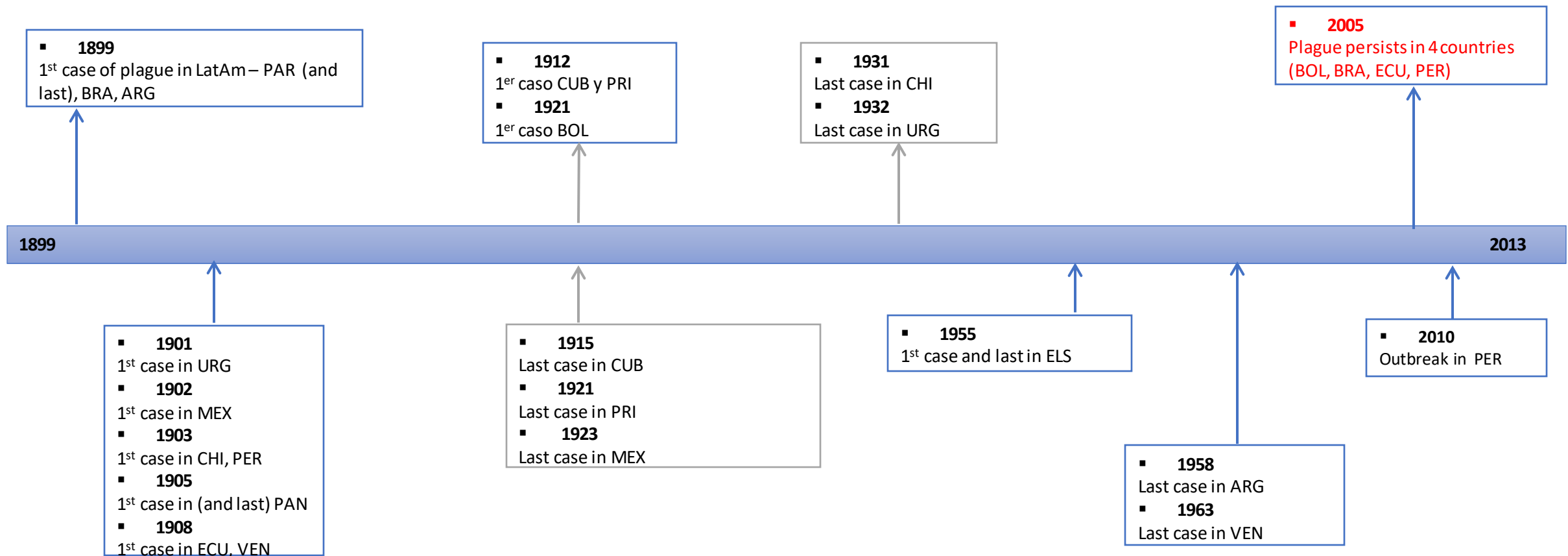




«The plague bacillus never dies or disappears, it can remain dormant for decades on furniture, on clothes and wait patiently in bedrooms, cellars, suitcases, handkerchiefs and papers, and there may come a day when the plague, for the disgrace and teaching of men, wakes up its rats and sends them to die in a happy city»

Albert Camus

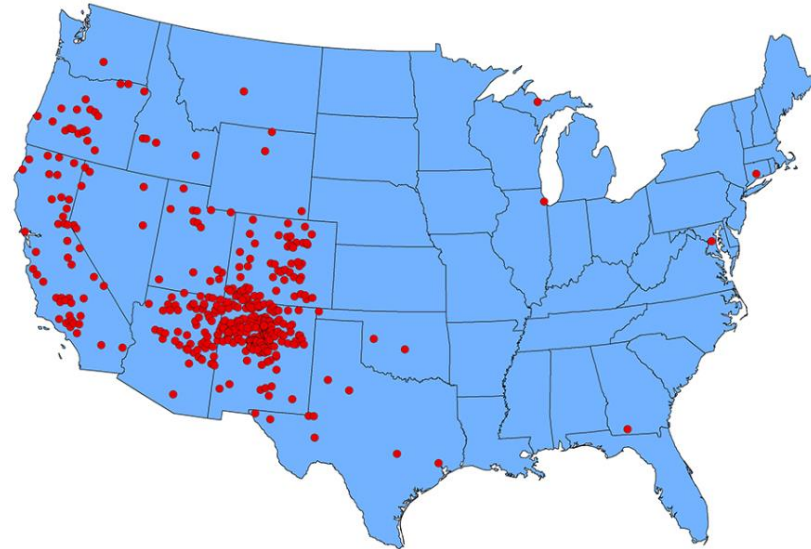
History of plague in Latin America



Source: PAHO/IHR

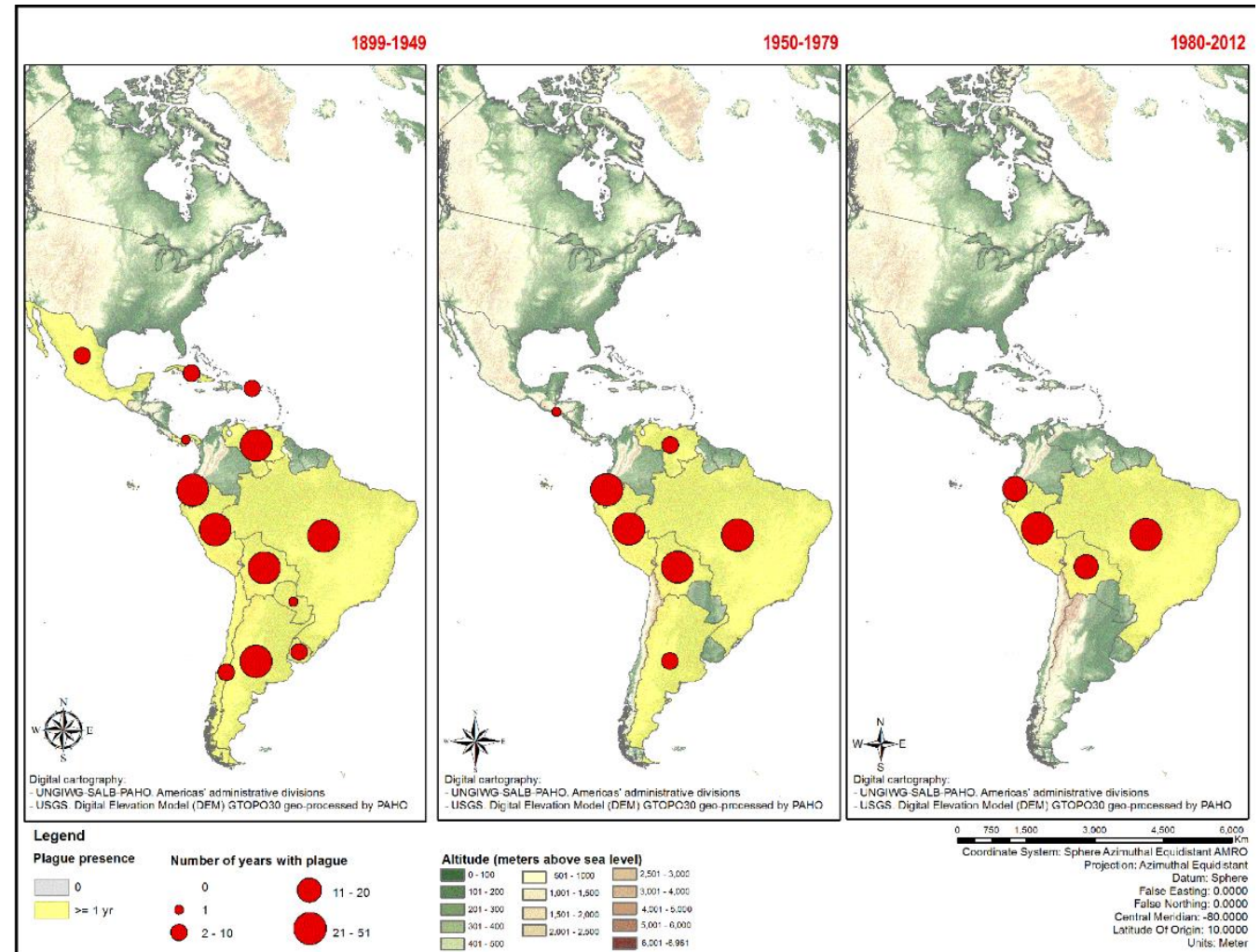
History of plague in the Americas

Reported Cases of Human Plague - United States, 1970-2020



1 dot placed in state of residence for each reported plague case

Since the mid-20th century, plague in the United States has typically occurred in the rural West. The case shown in Illinois was lab-associated.



<https://journals.plos.org/plosntds/article/file?id=10.1371/journal.pntd.0002680&type=printable>

<https://www.cdc.gov/plague/maps/index.html>

Current situation in the Americas

WEEKLY EPIDEMIOLOGICAL RECORD, NO 25, 21 JUNE 2019

Americas – Amériques	2013	2014	2015	2016	2017	2018
Bolivia – Bolivie	0 (0)	2 (1)	0 (0)	... (..)	... (..)	1 (1)
Peru – Pérou	24 (2)	8 (1)	0 (0)	1 (0)	3 (0)	4 (1)
United States of America – États-Unis d'Amérique	4 (1)	10 (0)	16 (4)	4 (0)	5 (0)	1 ^c (0)
Total	28 (3)	20 (2)	16 (4)	5 (0)	8 (0)	6 (2)

	2019	2020	2021	2022#	Source
Peru	0	0	0	0	www.dge.gob.pe/portal/docs/vigilancia/sala/2022/SE28/peste.pdf
Bolivia	0	0	N/A	N/A	https://www.minsalud.gob.bo/component/jdownloads/?task=download.send&id=397&catid=5&m=0&Itemid=646
Ecuador	0	0	1	N/A	IHR communication.
Brazil	0	N/A	N/A	N/A	https://antigo.saude.gov.br/images/pdf/2019/junho/24/Casos-de-Peste.pdf
USA	2	9 (2)	N/A	N/A	https://www.cdc.gov/plague/maps/index.html

Where Does Human Plague Still Persist in Latin America?

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Abstract

Background: Plague is an epidemic-prone disease with a potential impact on public health, international trade, and tourism. It may emerge and re-emerge after decades of epidemiological silence. Today, in Latin America, human cases and foci are present in Bolivia, Brazil, Ecuador, and Peru.

Aims: The objective of this study is to identify where cases of human plague still persist in Latin America and map areas that may be at risk for emergence or re-emergence. This analysis will provide evidence-based information for countries to prioritize areas for intervention.

Methods: Evidence of the presence of plague was demonstrated using existing official information from WHO, PAHO, and Ministries of Health. A geo-referenced database was created to map the historical presence of plague by country between the first registered case in 1899 and 2012. Areas where plague still persists were mapped at the second level of the political/administrative divisions (counties). Selected demographic, socioeconomic, and environmental variables were described.

Results: Plague was found to be present for one or more years in 14 out of 25 countries in Latin America (1899–2012). Foci persisted in six countries, two of which have no report of current cases. There is evidence that human cases of plague still persist in 18 counties. Demographic and poverty patterns were observed in 11/18 counties. Four types of biomes are most commonly found. 12/18 have an average altitude higher than 1,300 meters above sea level.

Discussion: Even though human plague cases are very localized, the risk is present, and unexpected outbreaks could occur. Countries need to make the final push to eliminate plague as a public health problem for the Americas. A further disaggregated risk evaluation is recommended, including identification of foci and possible interactions among areas where plague could emerge or re-emerge. A closer geographical approach and environmental characterization are suggested.

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RESEARCH ARTICLE

Open Access



Identifying the social and environmental determinants of plague endemicity in Peru: insights from a case study in Ascope, La Libertad

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Abstract

Background: Plague remains a public health problem in specific areas located in Bolivia, Brazil, Ecuador and Peru. Its prevention and control encompasses adequate clinical management and timely laboratory diagnosis. However, understanding communities' interaction with its surrounding ecosystem as well as the differences between community members and institutional stakeholders regarding the root causes of plague might contribute to understand its endemicity. We aim at bridging the traditionally separate biological and social sciences by elucidating communities' risk perception and identifying knowledge gaps between communities and stakeholders. This approach has been used in other areas but never in understanding plague endemicity, nor applied in the Latin American plague context. The objectives were to identify (i) plague risk perception at community level, (ii) perceived social and environmental determinants of plague endemicity, and (iii) institutions that need to be involved and actions needed to be taken as proposed by stakeholders and community members. The study was performed in 2015 and took place in Ascope rural province, La Libertad Region, in Peru, where the study areas are surrounded by intensive private sugarcane production.

Methods: We propose using a multi-level discourse analysis. Community households were randomly selected ($n = 68$). Structured and semi-structured questionnaires were applied. A stakeholder analysis was used to identify policy makers ($n = 34$). In-depth interviews were performed, recorded and transcribed. Descriptive variables were analyzed with SPSS®. Answers were coded following variables adapted from the Commission on Social Determinants of Health and analyzed with the assistance of ATLAS.ti®.

A qualitative socio-ecological characterization of the plague threat at Hermelinda Market, La Libertad, Peru

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Anita Luján,² Marilú Noriega,⁴ John Omar Espinoza Quiroz,² Yesenia Carpio,² and
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ABSTRACT

Objective. To identify 1) the main determinants of persistent *Yersinia pestis* circulation and the associated threat of plague at Hermelinda Market—a large farmers' market in the city of Trujillo, La Libertad, Peru—and the main actions taken against it, as perceived by local stakeholders; 2) the level of plague risk perception among local actors; and 3) recommended actions to solve the plague threat at the market.

Methods. A conceptual framework was developed combining a social determinants approach with a complex systems-thinking framework and a knowledge management perspective. A four-step qualitative protocol was carried out (literature review; stakeholder mapping; 37 semi-structured interviews; and coding/analysis). In the fourth step, the data collected in the semi-structured interviews were coded for eight social determinants of health (SDH) variables and analyzed with ATLAS.ti®, and an emerging category analysis was performed to identify risk perception levels.

Results. Based on analysis by SDH variable, the three main determinants of the plague threat at Hermelinda Market were: 1) local (Trujillo City) governance, 2) infrastructure and basic services, and 3) local culture. According to the same analysis, actions most frequently undertaken against plague involved 1) infrastructure and basic services, 2) social vigilance, and 3) communication. The emerging category analysis indicated local risk perception levels were low, with most of the data pointing to "unhygienic" ("naturalized") lifestyles and a general lack of awareness about the disease prior to plague-related health concerns at the market as the cause.

Conclusions. The results indicate that the persistent circulation of *Yersinia pestis* at Hermelinda Market is not simply a technical matter but more of a managerial and cultural problem. As local governance was found to be a main factor in the persistence of this public health threat, future efforts against it should focus on sustainable inter-sectoral planning and education. Actions taken exclusively by the health sector and the improvement of infrastructure and basic services alone will not be enough to reduce the threat of plague at the market.

Keywords

Public health; plague; qualitative research; social determinants of health; Peru; South America.

Elimination Initiative 3

Sustaining communicable disease elimination efforts in the Americas in the wake of COVID-19

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Summary

The COVID-19 pandemic has disrupted implementation of health interventions and set back priority programs aiming to control and eliminate communicable diseases. At the same time, the pandemic has opened up opportunities to expedite innovations in health service delivery to increase effectiveness and position health on the development and political agendas of leaders and policy makers. In this context, we present an integrated, sustainable approach to accelerate elimination of more than 35 communicable diseases and related conditions in the region of the Americas. The Elimination Initiative promotes a life-course, person-centred approach based on four dimensions - preventing new infections, ending mortality and morbidity, and preventing disability - and four critical lines of action including strengthening health systems integration and service delivery, strengthening health surveillance and information systems, addressing environmental and social determinants of health, and furthering governance, stewardship, and finance. We present key actions and operational considerations according to each line of action that countries can take advantage of to further advance disease elimination in the region.

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1- Strengthening and integration of health systems and service delivery



2- Strengthening health surveillance and information systems



3- Addressing the environmental and social determinants of health



4- Strengthening governance, stewardship, and finance





Thank you
Merci
Gracias
Obrigada

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