

SECRETARIA DE SALUD DEL DISTRITO ESPECIAL DE SANTIAGO DE CALI

SUBSECRETARIA DE PROMOCIÓN, PREVENCIÓN Y
PRODUCCIÓN SOCIAL DE LA SALUD
GRUPO SALUD PUBLICA
SUBGRUPO ADULTEZ Y VEJEZ

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ALCALDÍA DE
SANTIAGO DE CALI

EQUIPO TECNICO VIH

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- ❑ Esperanza Blandón - Enfermera
- ❑ Edgar Grues - Psicólogo
- ❑ Gloria González - Enfermera
- ❑ Hernando Villaquiran - Bacteriólogo
- ❑ Hector Cabezas - Estadístico
- ❑ Mignon Barajas - Odontologa
- ❑ Paula Vivas - Técnico Administrativo en Salud

GENERALIDADES

□ is the severe state of immune depression caused by years of HIV infection.

AIDS

HIV

DE LA DETECCION DE UN
BROTE DE NEUMONIA
POR PNUMOCYSTIS C.

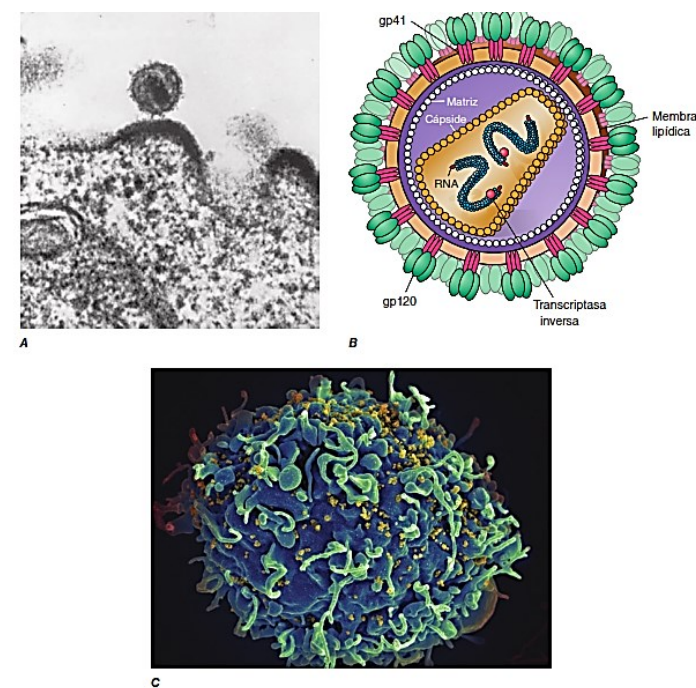


Figura 189-2 A. Microfotografía electrónica del VIH. La figura ilustra un virión típico tras la salida de la superficie de un linfocito T CD4+, junto con dos viriones incompletos en proceso de salida de la membrana celular. B. Estructura del VIH-1, incluidos la gp120 de la membrana externa, la gp41 transmembrana, el RNA genómico, la enzima transcriptasa inversa, la p18(p7) de la membrana interna (matriz) y la proteína p24 del núcleo (cápside). (Copyright George V. Kelnin) (Adaptada de RC Gall: Sci Am 256:46, 1987) C. Micrografía electrónica de barrido de viriones VIH-1 que infectan un linfocito T CD4+. La fotografía original se obtuvo con una magnificación de 8 000x. (Por cortesía de Elizabeth R. Fischer, Rocky Mountain Laboratories, National Institute of Allergy and Infectious Diseases, obtenida con autorización)

- DETECCION DE LA EPIDEMIA CUANDO DONDE QUIENES
- IDENTIFICACION ETIOLOGICA LAV HTLV III ARV
- ORIGEN DE LA EPIDEMIA CUANDO DONDE RESERVORIO
- DISPERSION

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❑ DETECCIÓN DE LA EPIDEMIA CUANDO DONDE QUIENES

- ❑ In 1980–1981 CDC received multiple requests for pentamidine to treat adult men,
- ❑ a rarely used drug for *Pneumocystis pneumonia* treatment in children whose immune systems were suppressed by cancer chemotherapy.
- ❑ the cluster of illness was noted
- ❑ It was first identified in the United States among MSM
- ❑ AIDS

INFECTIOUS DISEASE EPIDEMIOLOGY Theory and Practice. Third Edition
 Edited by Kenrad E. Nelson, MD Professor, Departments of Epidemiology, International Health, and Medicine The Johns Hopkins Medical Institutions The Johns Hopkins University Baltimore, Maryland
 Carolyn Masters Williams, PhD, MPH Chief, Epidemiology Branch, Basic Science Program Division of AIDS National Institute of Allergy and Infectious Diseases National Institutes of Health Bethesda, Maryland

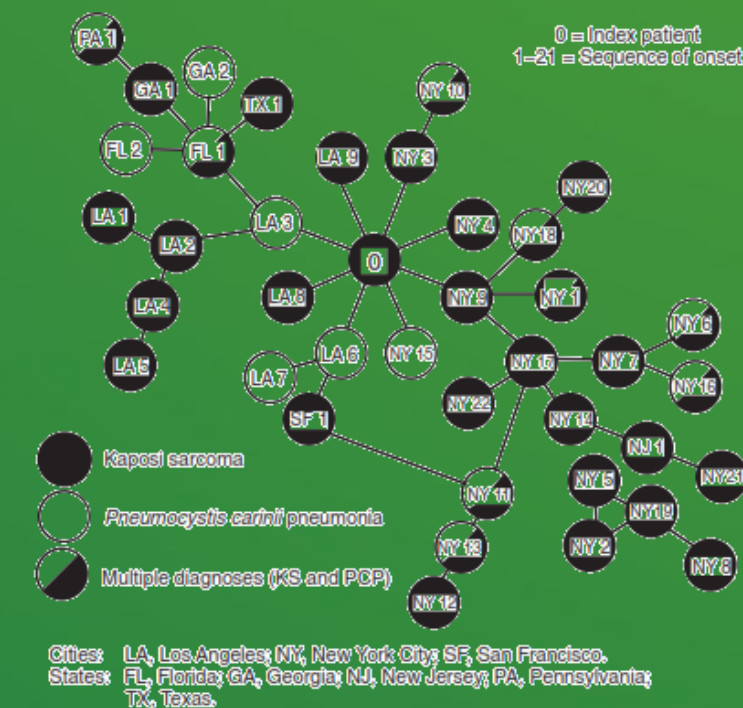


Figure 22-1 Sexual contacts among homosexual men with AIDS. Each circle presents an AIDS patient. Lines connecting the circles represent sexual exposures. Indicated city or state is place of residence of a patient at the time of diagnosis. "0" indicates Patient 0 (described in text). Reprinted from Auerbach et al. Cluster of cases of the Acquired Immune Deficiency Syndrome. Patients linked by Sexual Contact. *American Journal of Medicine*. Vol. 76, pp. 487–492, © 1984, with permission from Elsevier.

❑ Early epidemiology studies

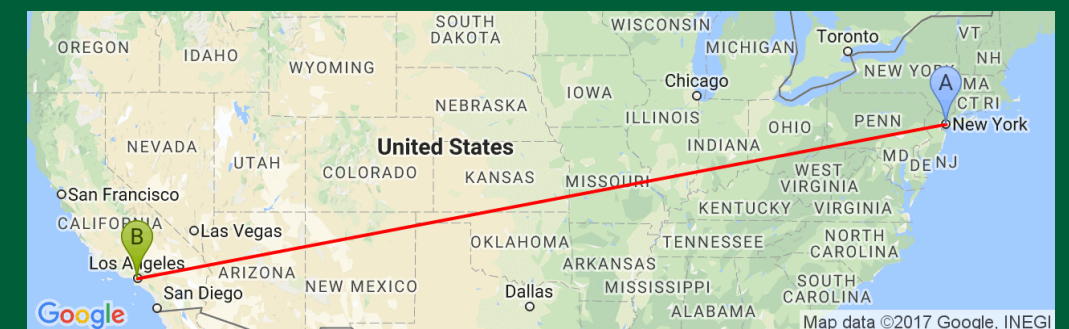
- ✓ Identified clusters of *Pneumocystis carinii* pneumonia (PCP) and Kaposi's sarcoma (KS) (or both)
- ✓ MSM
- ✓ In Los Angeles, New York, and a few other cities, many of whom had reported sexual contact with another

case

❑ similar patterns of disease were noted

among

- ✓ injection drug users,
- ✓ persons with hemophilia,
- ✓ and some transfusion recipients.



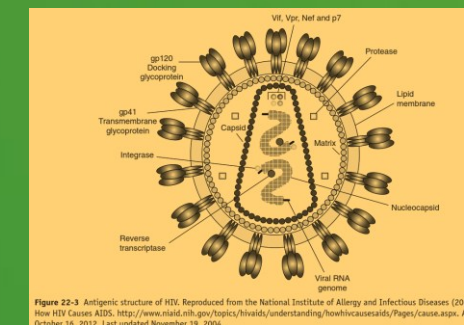
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distancia en avion
Línea recta: **3936 km (2444 mi)**
Duración del vuelo: **4 horas, 54 minutos (km/h)**

- ☐ IDENTIFICACION ETIOLOGICA
LAV
HTLV III
ARV

- ☐ In 1984, Robert Gallo and colleagues (NIH)
- ☐ and Luc Montagnier and coworkers at the Pasteur Institute independently
- ☐ reported the discovery of the cause of AIDS,
- ☐ a novel human retrovirus, the human immunodeficiency virus. HIV

M.H.A.Biswas/HIV&AIDSReview11 (2012) 87–94



NOBEL PRIZE 2008

Barre-Sinoussi, F. et al. Isolation of a T-lymphotropic retrovirus from a patient at risk for acquired immune deficiency syndrome (AIDS). *Science* 220, 868–871 (1983).

Gallo, R. C. et al. Isolation of human T-cell leukemia virus in acquired immune deficiency syndrome (AIDS). *Science* 220, 865–867 (1983)

❑ ORIGEN DE LA EPIDEMIA
CUANDO
DONDE
RESERVORIO

**1986 A virus was found to cause AIDS
in patients in western Africa
(Clavelet al. 1986)**

**morphocally similar but
antigenically distinct to HIV -1**

this new virus, was termed Type 2 (HIV2),

its sudden emergence,
wide epidemic spread,
unique pathogenicity

Reasons ?



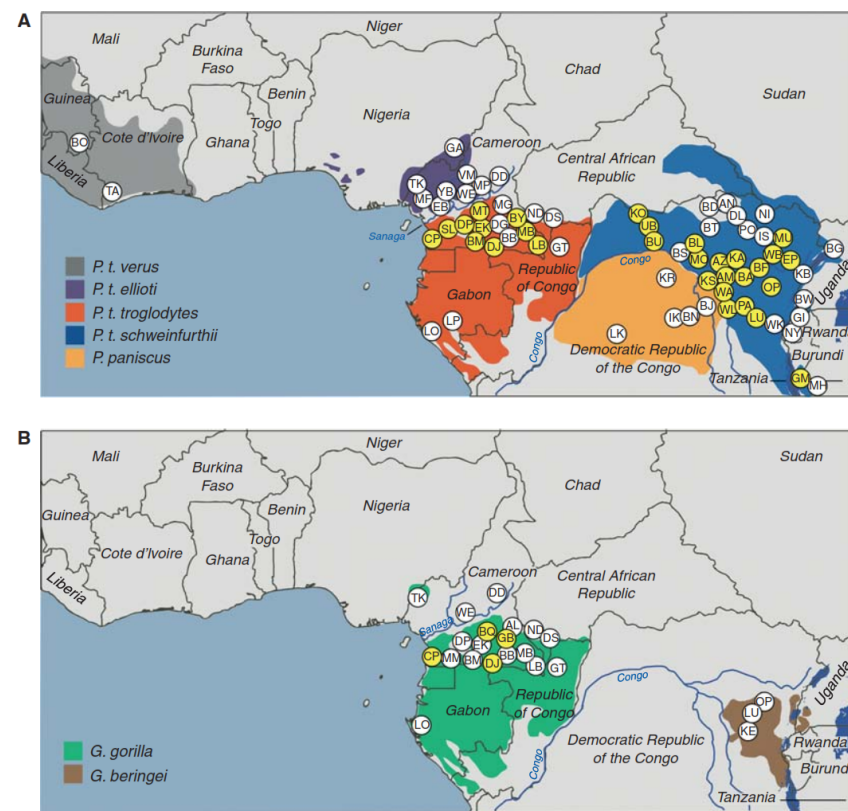
1, Cold Spring Harb Perspect Med 2011;1:a006841

additional viruses,

were found in different primates (sub-Saharan Africa)

collectively termed
simian immunodeficiency viruses (SIVs)
With a suffix to denote
their species of origin,

P.M. Sharp and B.H. Hahn



Surprisingly, these viruses *appeared to be largely nonpathogenic in their natural hosts*, except captive macaques

Despite clustering together with *the human and simian AIDS viruses in a single phylogenetic lineage*

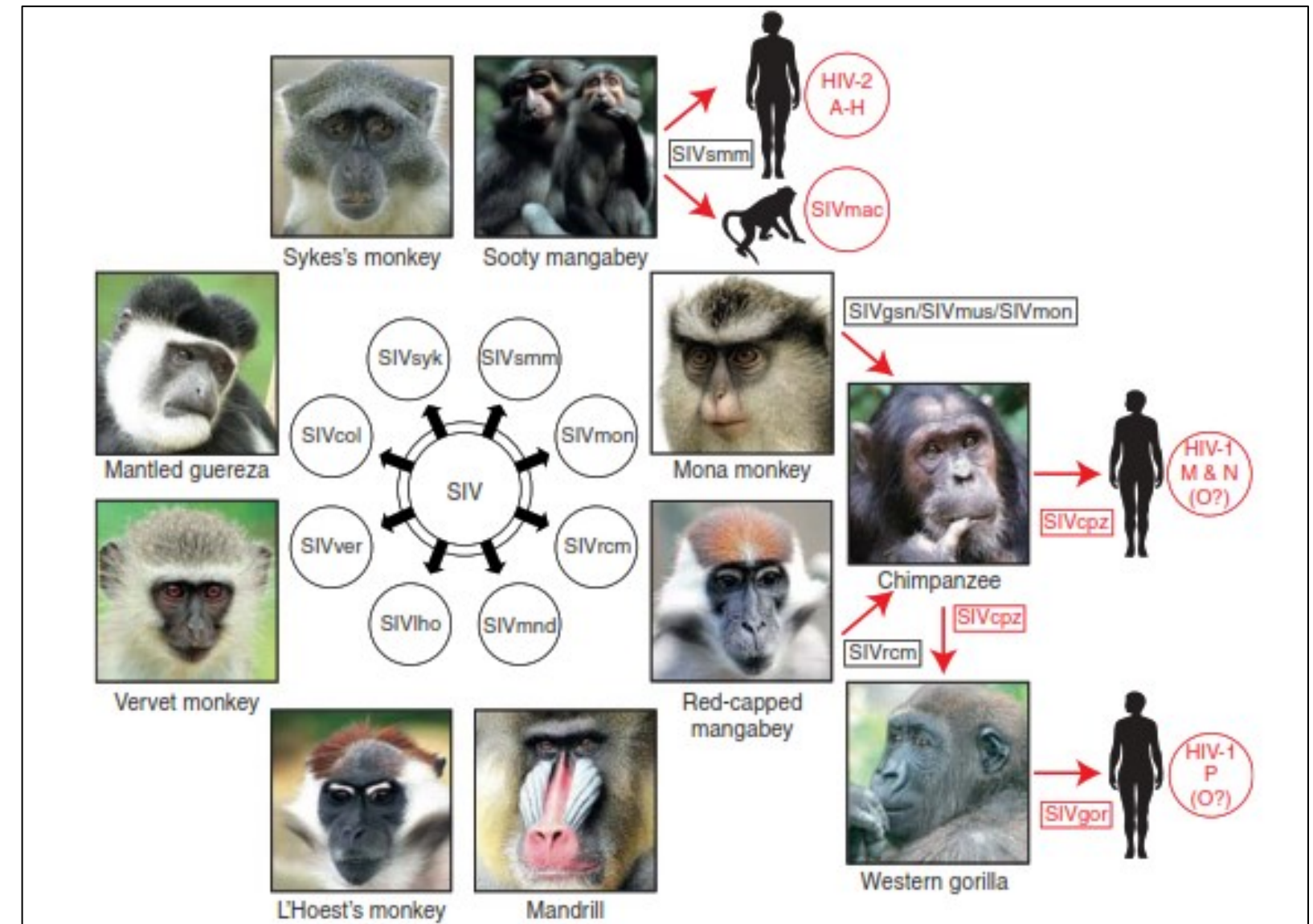
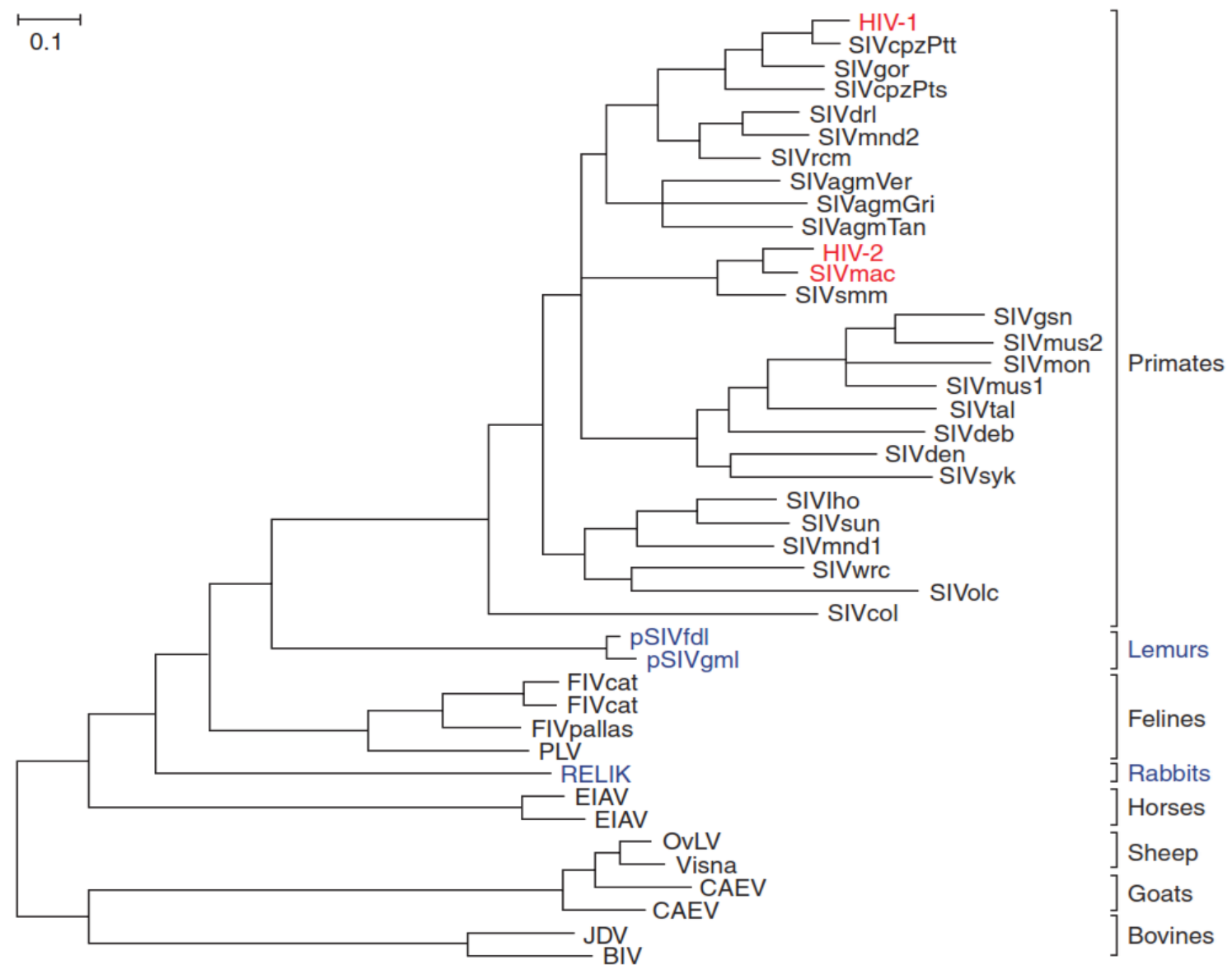


Figure 1. Origins of human AIDS viruses. Old World monkeys are naturally infected with more than 40 different lentiviruses, termed simian immunodeficiency viruses (SIVs) with a suffix to denote their primate species of origin (e.g., SIVsmm from sooty mangabeys). Several of these SIVs have crossed the species barrier to great apes and humans, generating new pathogens (see text for details). Known examples of cross-species transmissions, as well as the resulting viruses, are highlighted in red.



**HIV-2 was distinct HIV-1
BUT**

**closely related to a simian virus
(SIV)**

**that caused immunodeficiency in
captive macacus**

(Chakrabarti et al. 1987; Guyader et al. 1987).

Figure 2. Phylogeny of lentiviruses. The evolutionary relationships among Pol sequences (~ 770 amino acids) derived from various mammalian lentiviruses; host species are indicated at the right. Exogenous viruses are depicted in black, with HIV-1, HIV-2, and SIVmac highlighted in red; endogenous viruses are shown in purple. The phylogenetic tree was estimated using maximum likelihood methods (Guindon and Gascuel 2003). The scale bar represents 0.10 amino acid replacements per site.

**It became clear
that HIV-1 and HIV-2 were the result of zoonotic transfers
of viruses infecting primates in Africa (Hahn et al. 2000).**

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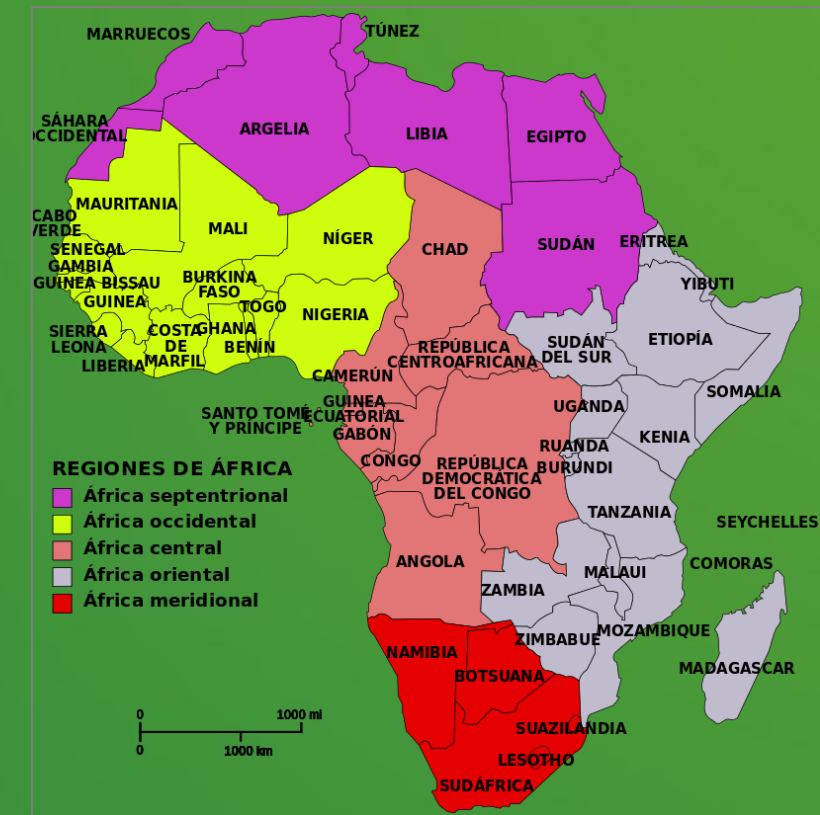
ORIGIN OF THE AIDS PANDEMIC

Phylogenetic and statistical analyses have dated the last common ancestor of HIV-1 group M to around 1910 to 1930, with narrow confidence intervals (Korber et al. 2000; Worobey et al. 2008).

This indicates that after pandemic HIV-1 first emerged in colonial west central Africa, it spread for some 50 to 70 years before it was recognized.

Molecular epidemiological studies have indicated that most, if not all, of the early diversification of HIV-1 group M likely occurred in the area around Kinshasa, then called Leopoldville.

All of the known HIV-1 group M subtypes were identified there, as well as additional lineages that have remained restricted to this area (Vidal et al. 2000).



a phylogenetic tree of representative HIV-1, SIVcpz, and SIVgor strains.

It shows that **all four HIV-1 groups,**
cluster with SIVcpz P. t. troglodytes from central chimpanzees,
identifying this subspecies as the original reservoir
of both human and gorilla infections.

RESERVOIR OF INFECTION

1. Any person, animal, arthropod, plant, soil, or substance, or a combination of these, in which an infectious agent normally lives and multiplies, on which it depends primarily for survival, and where it reproduces itself in such a manner that it can be transmitted to a susceptible host.
2. The natural habitat of the infectious agent.

A Dictionary of Epidemiology. FOURTH EDITION
Edited for the International Epidemiological
Association
by John M. Last

Epidemiologia Global

July 2022

Core epidemiology slides



Global estimates for adults and children | 2021

People living with HIV	38.4 million [33.9 million–43.8 million]
New HIV infections in 2021	1.5 million [1.1 million–2.0 million]
Deaths due to AIDS in 2021	650 000 [510 000–860 00]

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About 4000 new HIV infections (adults and children) a day | **2021**

- **About 58% are in sub-Saharan Africa**
- **About 430 are among children under 15 years of age**
- **About 3600 are among adults aged 15 years and older, of whom:**
 - **almost 49% are among women**
 - **about 31% are among young people (15–24)**
 - **about 19% are among young women (15–24)**



Global estimates for children (<15 years) | 2021

Children living with HIV 2.1 million]	1.7 million	[1.3 million–
New HIV infections in 2021	160 000	[110 000–230 000]
Deaths due to AIDS in 2021	98 000	[67 000–140 000]



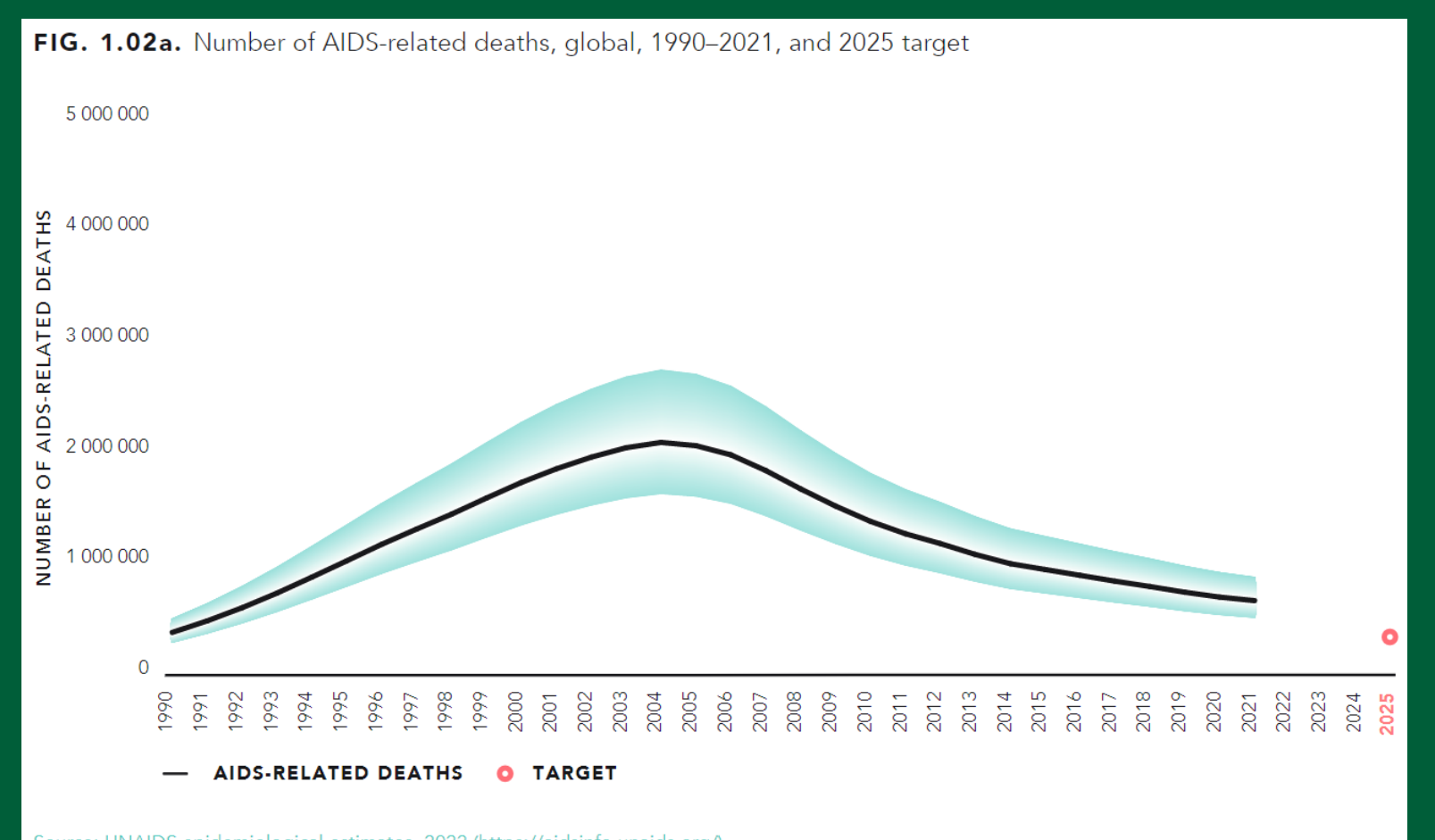
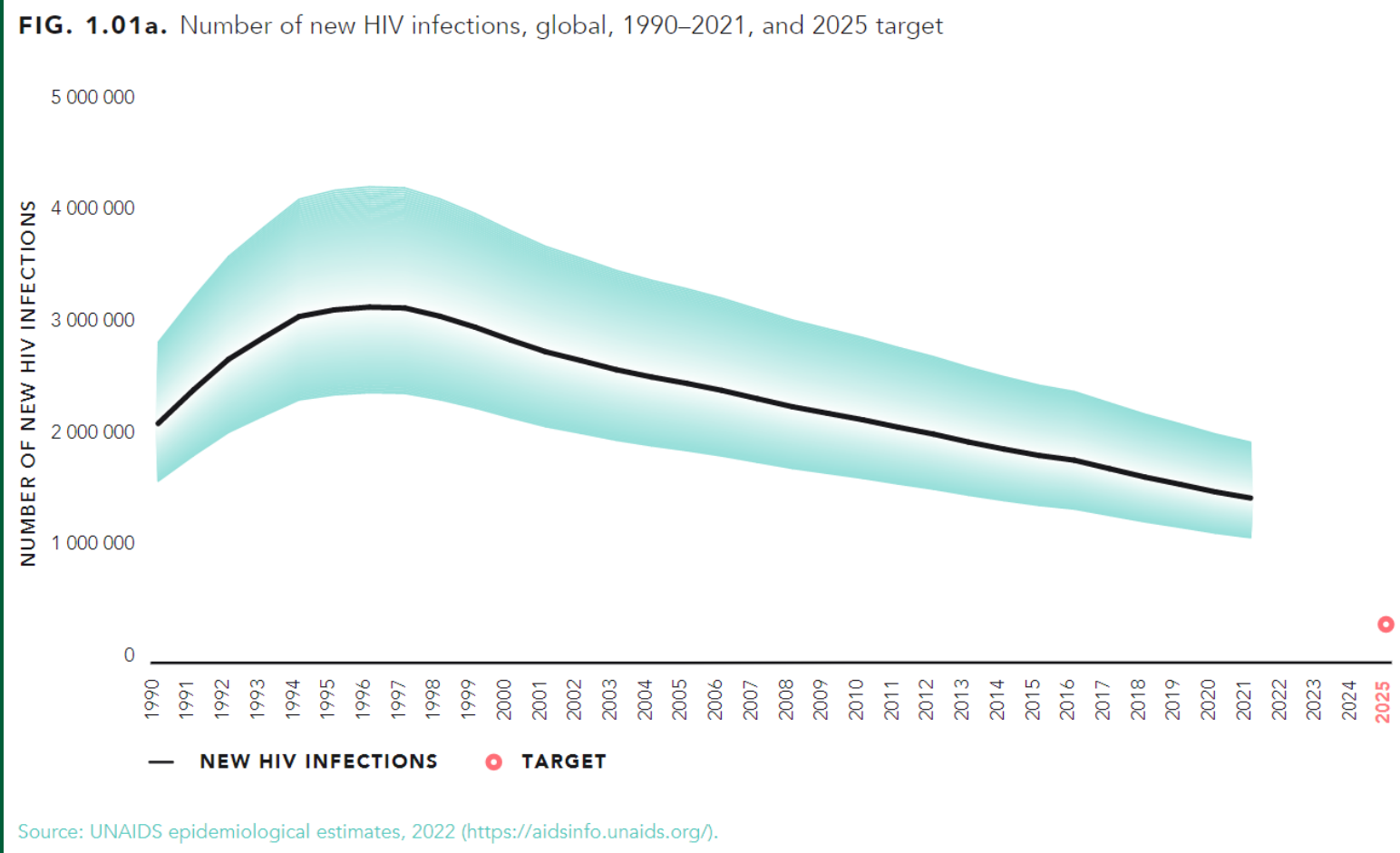
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Regional HIV and AIDS statistics and features | 2021

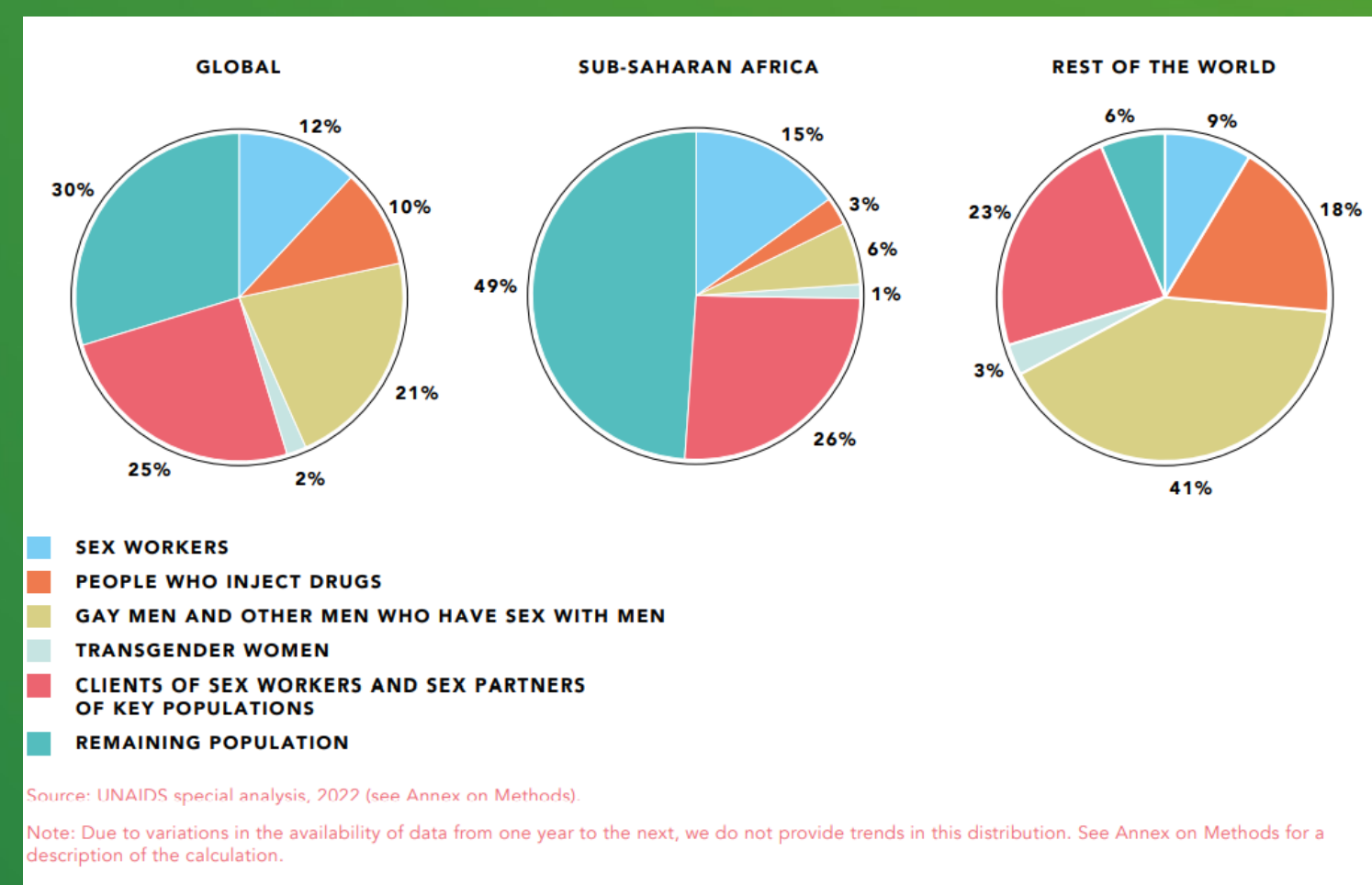
	Adults and children living with HIV	Adults and children newly infected with HIV	Adult and child deaths due to AIDS
Eastern and southern Africa	20.6 million [18.9 million–23.0 million]	670 000 [530 000–900 000]	280 000 [230 000–360 000]
Western and central Africa	5.0 million [4.5 million–5.6 million]	190 000 [140 000–270 000]	140 000 [99 000–210 000]
Middle East and North Africa	180 000 [150 000–210 000]	14 000 [11 000–38 000]	5100 [3900–6900]
Asia and the Pacific	6.0 million [4.9 million–7.2 million]	260 000 [190 000–360 000]	140 000 [99 000–210 000]
Latin America	2.2 million [1.5 million–2.8 million]	110 000 [68 000–150 000]	29 000 [18 000–42 000]
Caribbean	330 000 [290 000–380 000]	14 000 [9500–18 000]	5700 [4200– 7600]
Eastern Europe and central Asia	1.8 million [1.7 million–2.0 million]	160 000 [130 000–180 000]	44 000 [36 000–53 000]
Western and central Europe and North America	2.3 million [1.9 million–2.6 million]	63 000 [51 000–76 000]	13 000 [9400–16 000]
GLOBAL	38.4 million [33.9 million–43.8 million]	1.5 million [1.1 million–2.0 million]	650 000 [510 000–860 000]

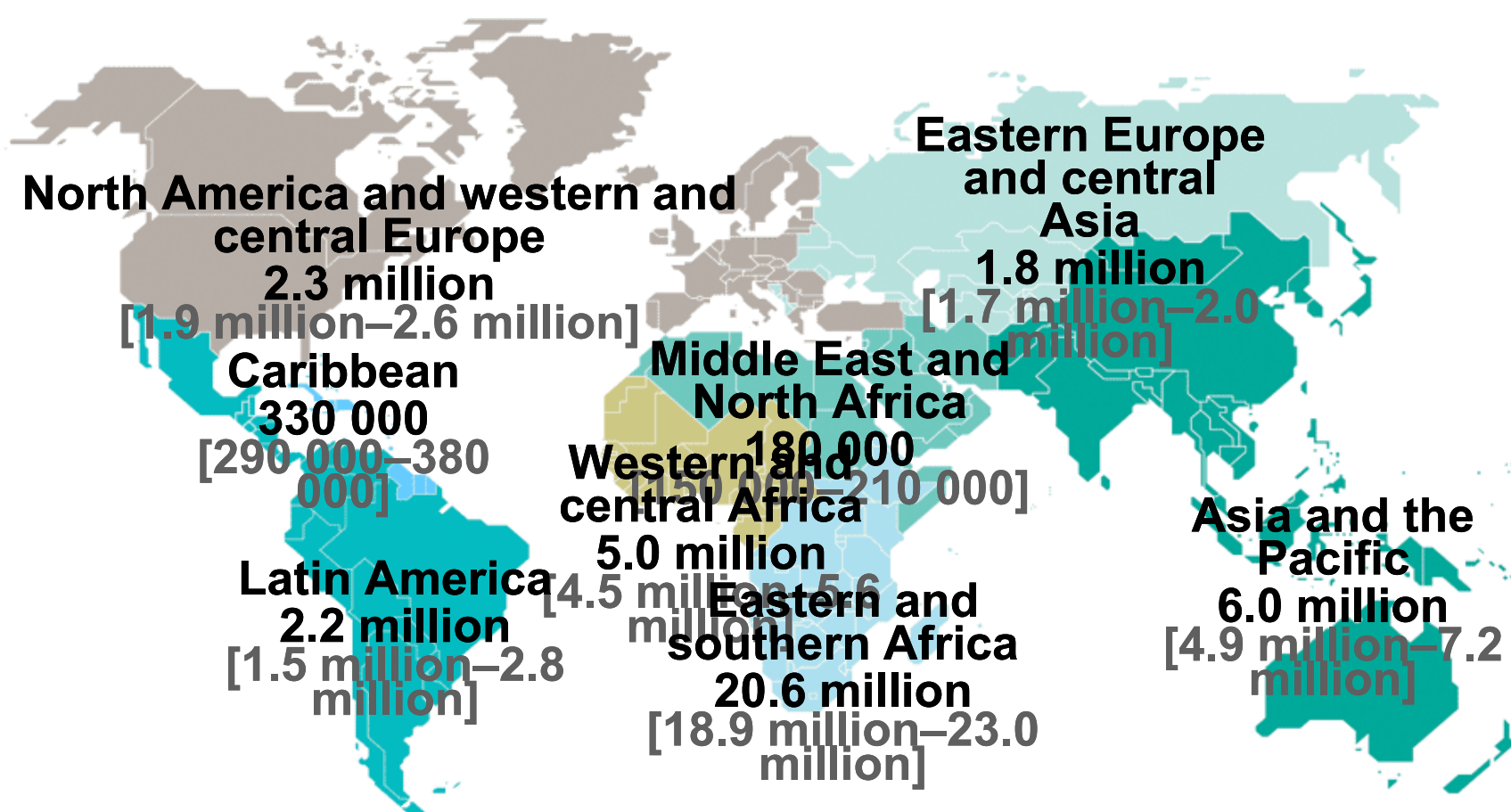
The ranges around the estimates in this table define the boundaries within which the actual numbers lie, based on the best available information.





Distribution of acquisition of new HIV infections by population, global, sub-Saharan Africa and rest of the world, 2021





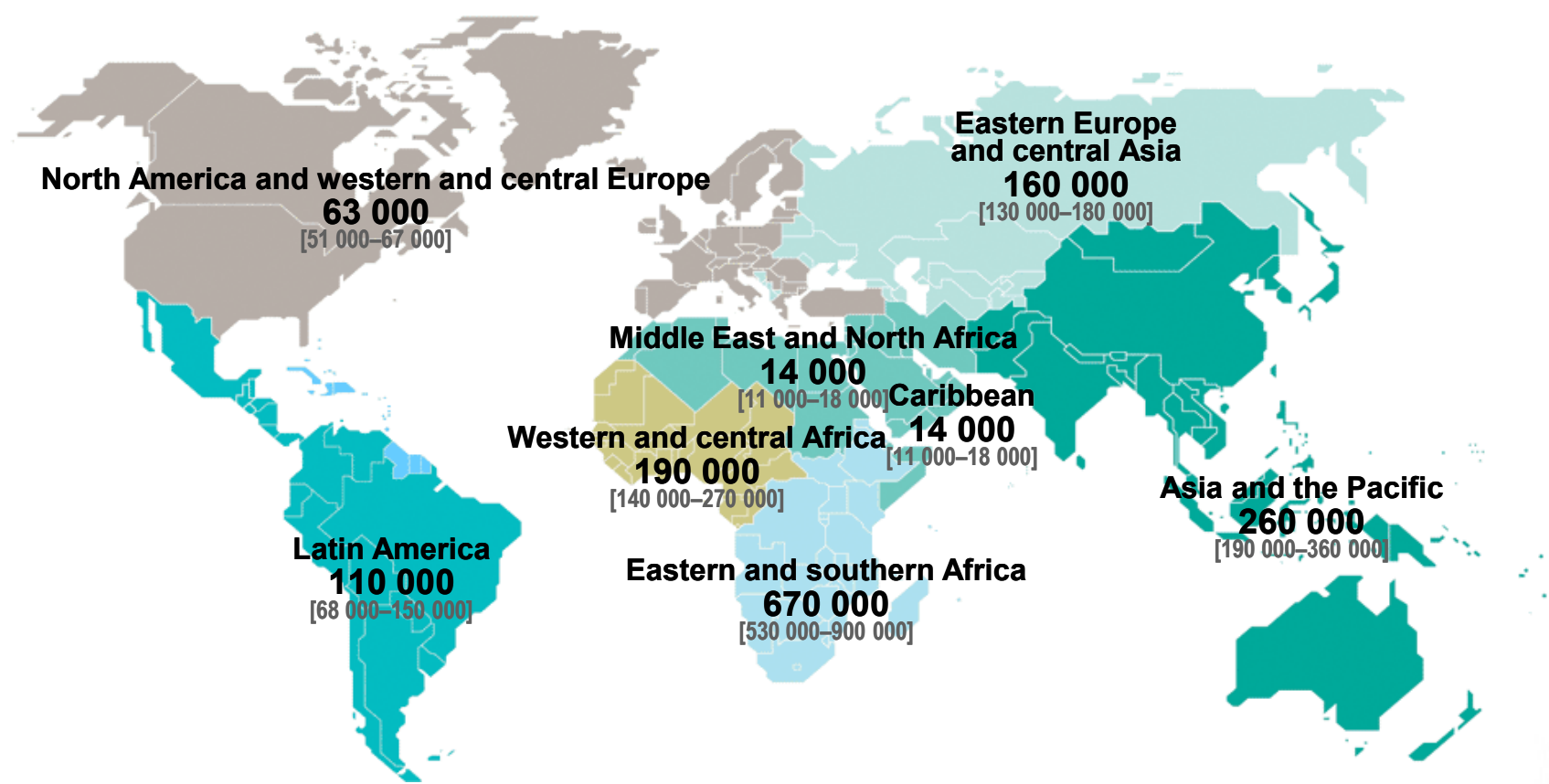
Total: 38.4 million [33.9 million–43.8 million]

Adults and children estimated to be living with HIV | 2021



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Total: 1.5 million [1.1 million–2.0 million]

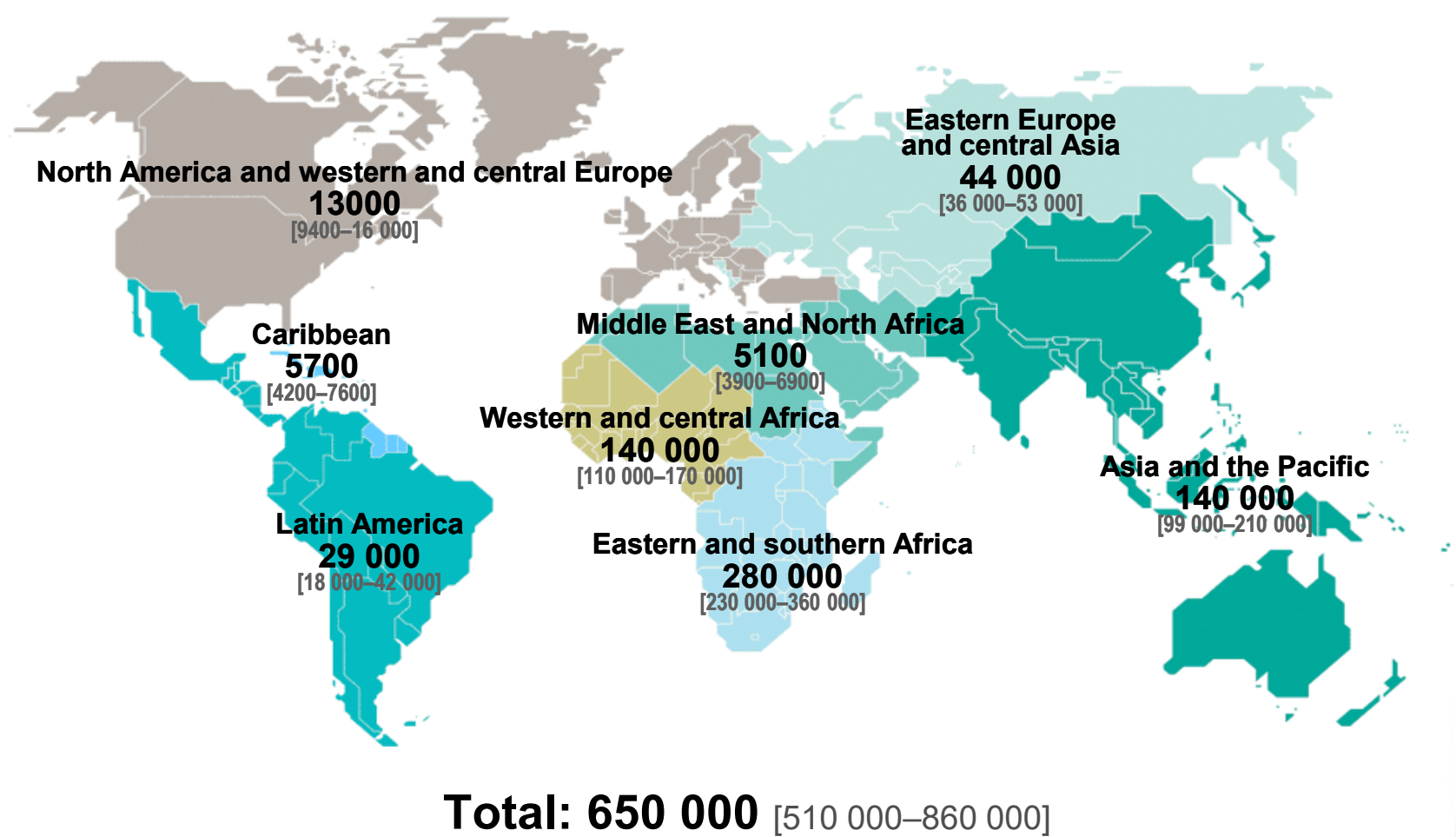
Estimated number of adults and children newly infected with HIV | 2021



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Estimated adult and child deaths from AIDS 2021

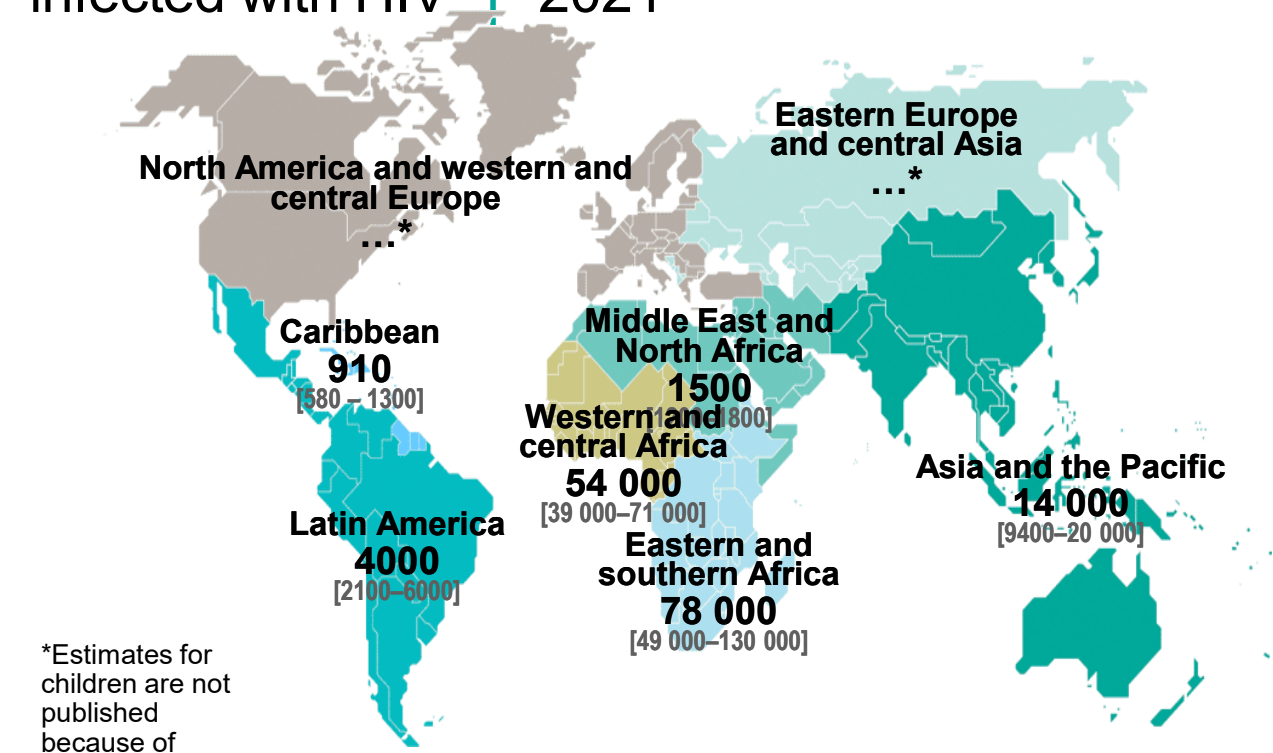
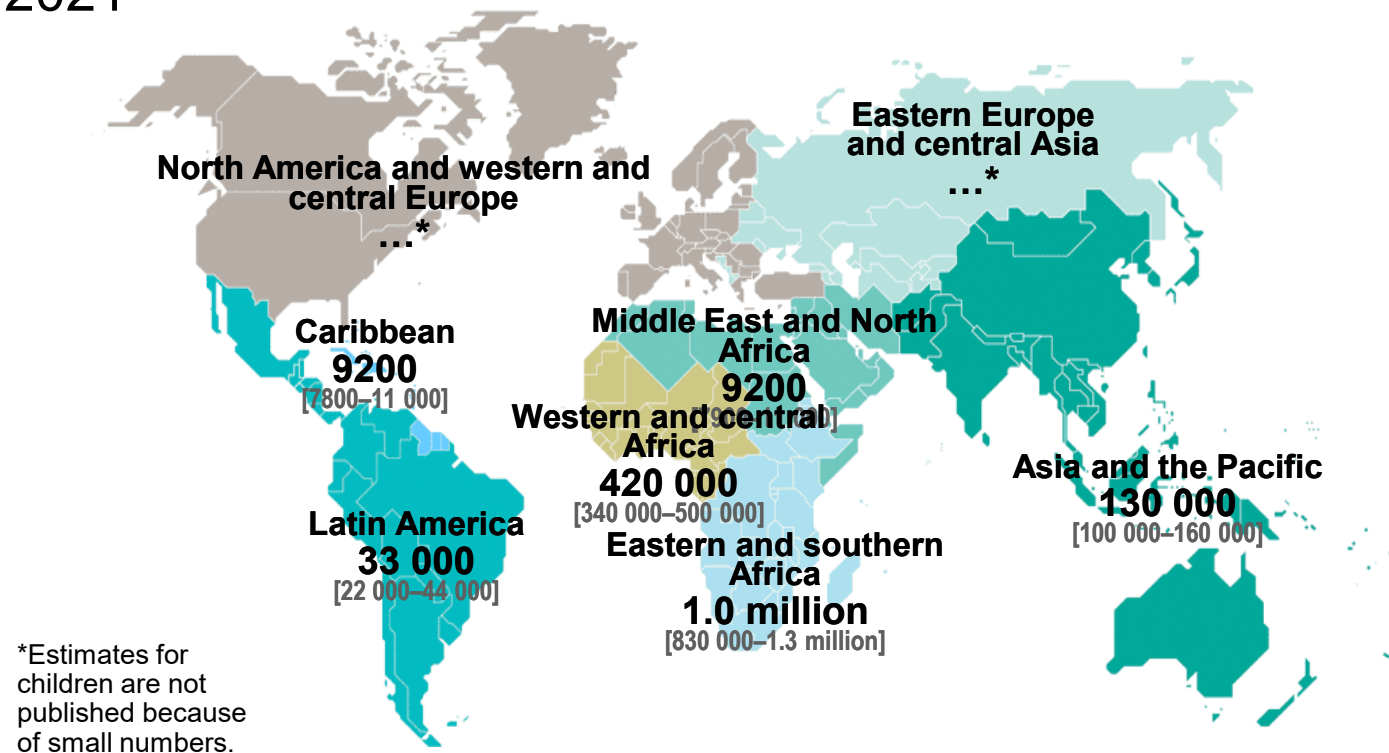


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Children (<15 years) estimated to be living with HIV | 2021

Estimated number of children (<15 years) newly infected with HIV | 2021



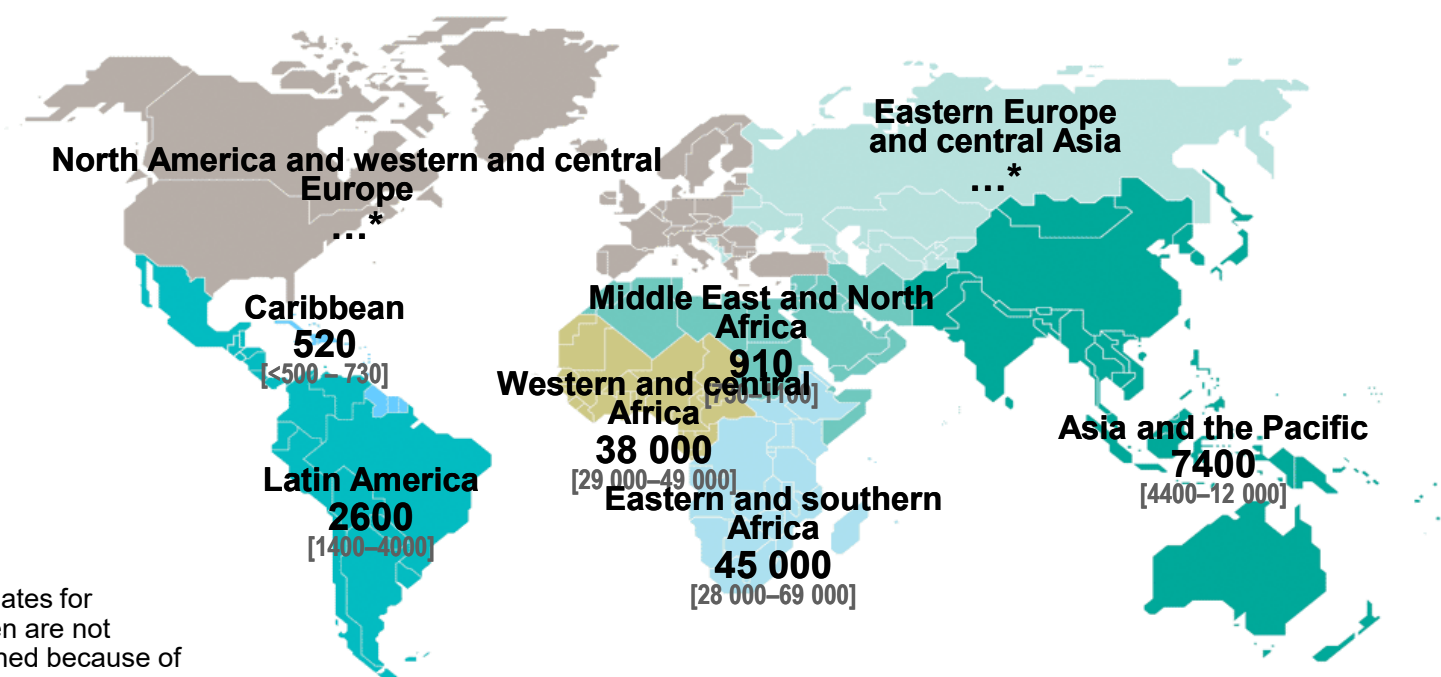
*Estimates for children are not published because of small numbers.

*Estimates for children are not published because of small numbers.

Total: 1.7 million [1.3 million–2.1 million]

Total: 160 000 [110 000–230 000]

Estimated deaths in children (<15 years) from AIDS | 2021



*Estimates for children are not published because of small numbers.

Total: 98 000 [67 000–140 000]

Epidemiologia - Cali



Cambio Vs 2023

Año	Cambio vs 2023
2019	-0,2
2020	0,1
2021	0,0
2022	0,1

VIH/SIDA

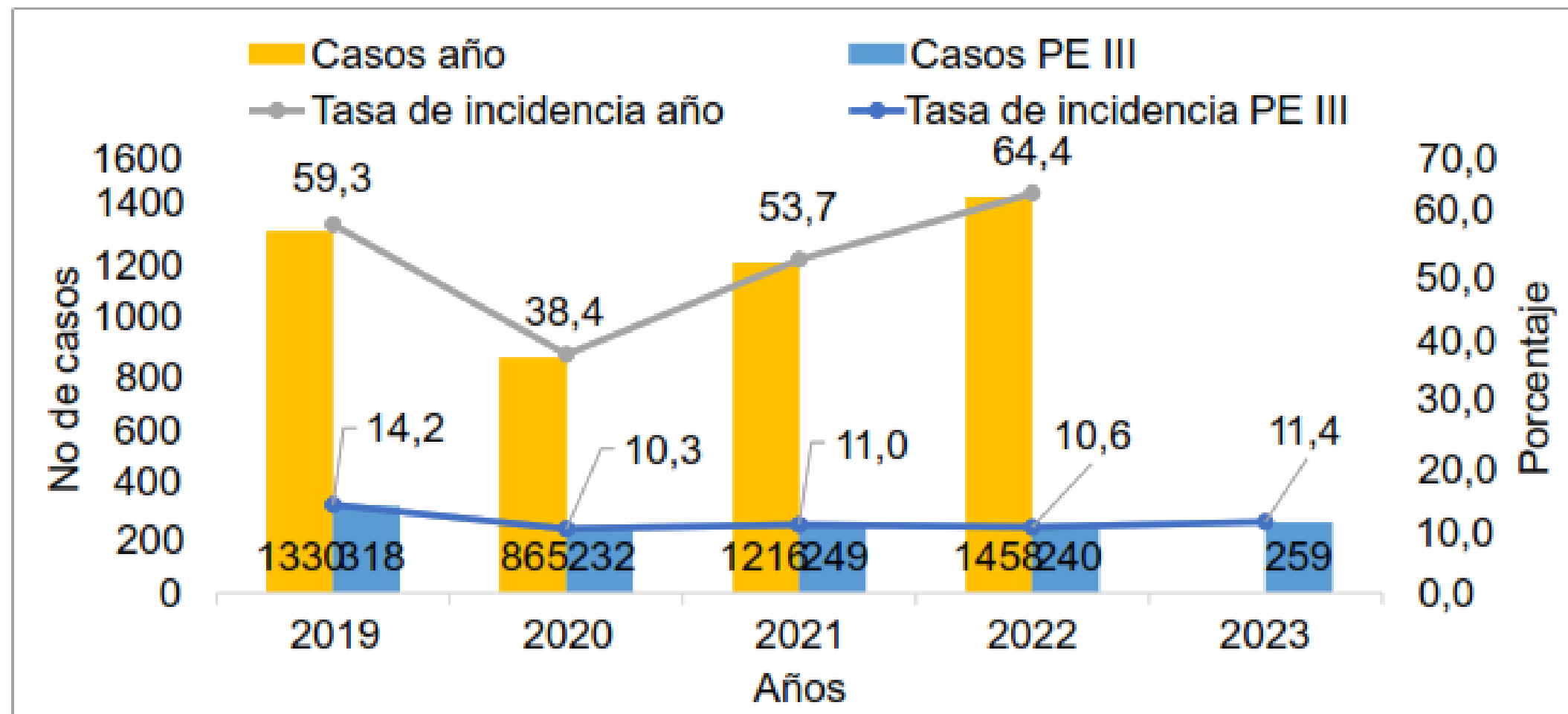
Periodo epidemiológico III, Semanas (1 a 12) Santiago de Cali 2023



259

No. De casos

¿Cómo se comporta el evento?



Comportamiento notificación casos de VIH/SIDA, a periodo Epidemiológico III, Santiago de Cali 2019-2023 Fuente: RUAF – ND 2021

Indicadores

Casos de VIH/SIDA según barrio y comuna de residencia, Cali, 2023

Indicadores

Casos de VIH/SIDA según barrio y comuna de residencia, Cali, 2023

Incidencia VIH/SIDA

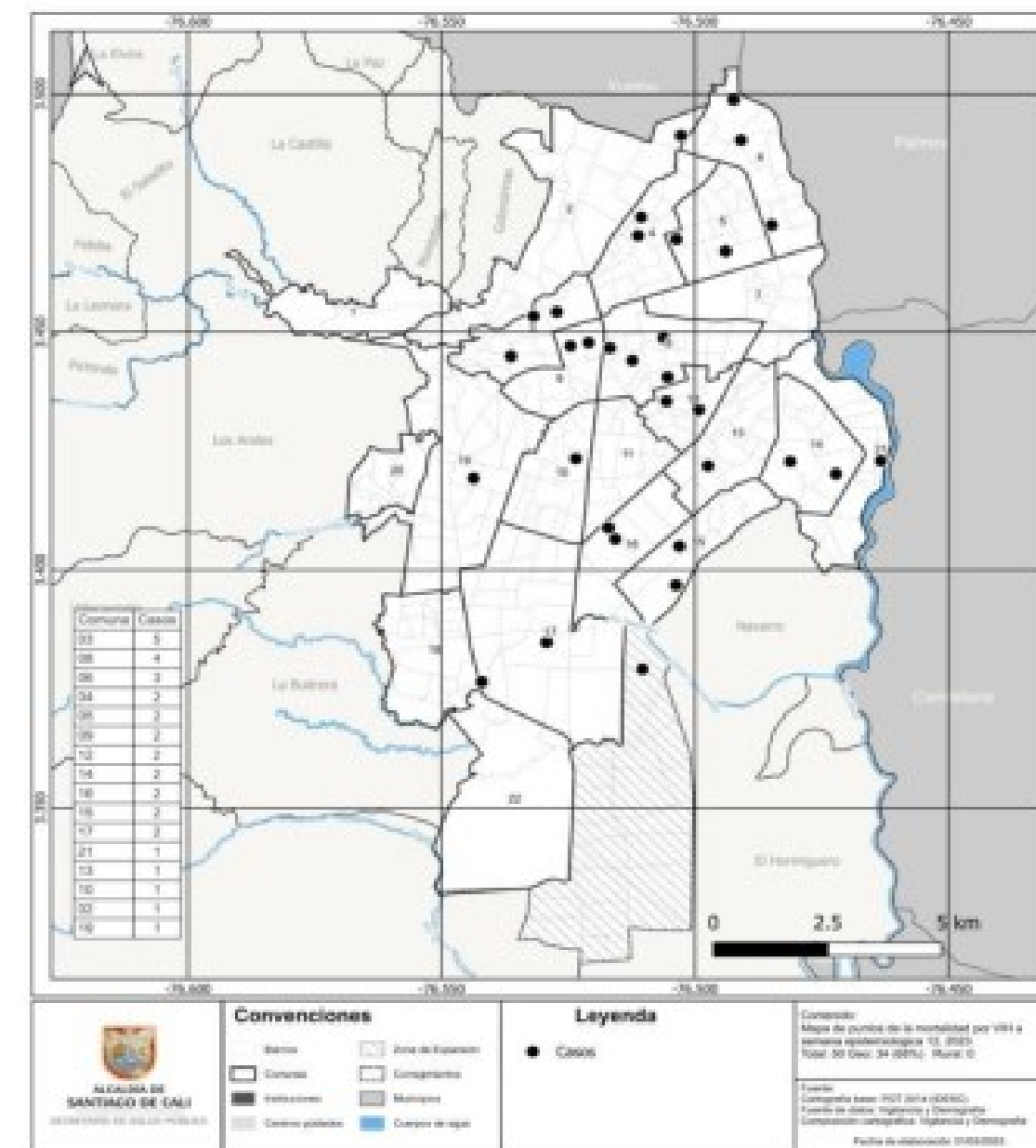
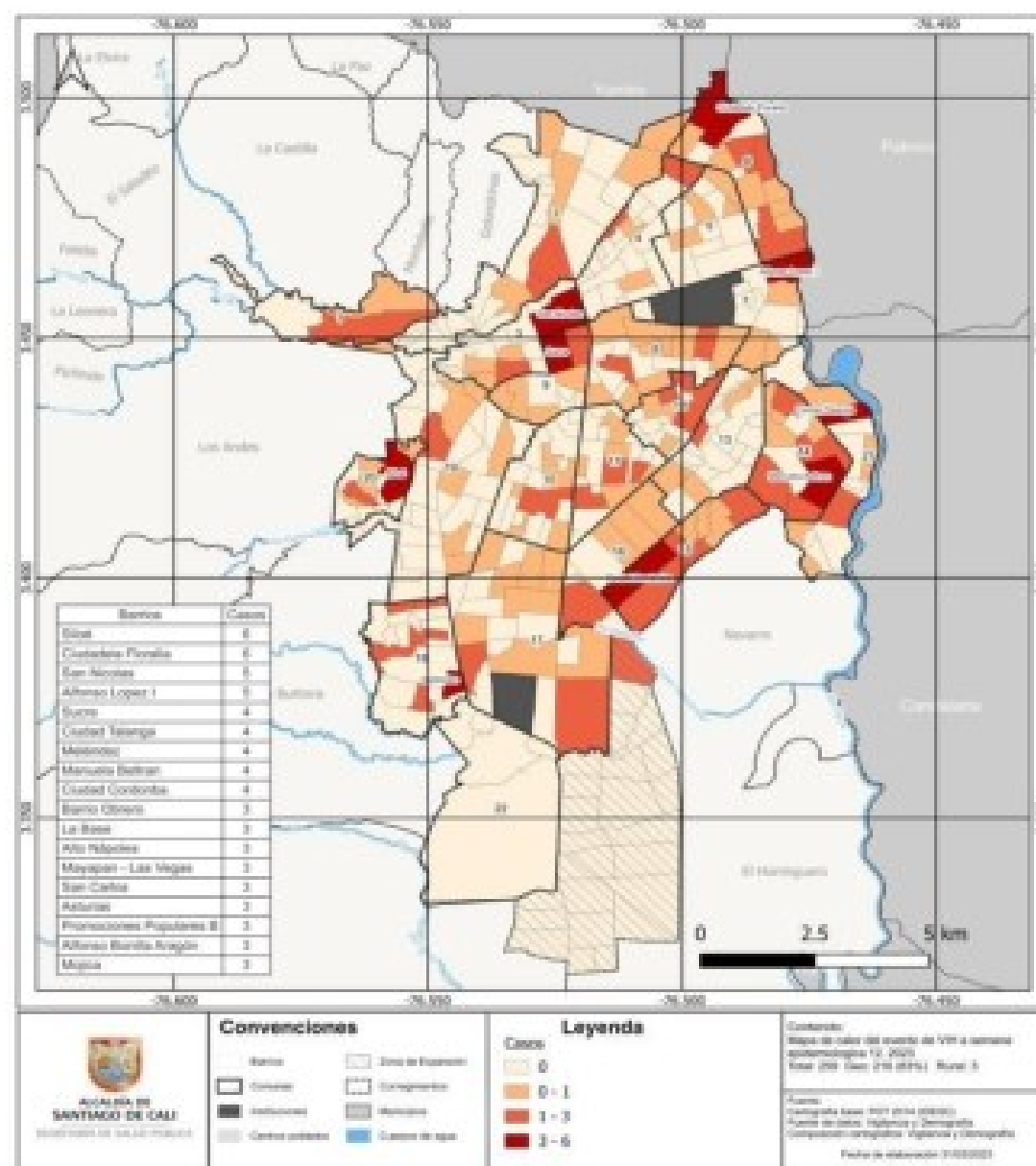
11,4

(259 casos / 2264748 habitantes)

Prevalencia de 15 a 49 años

0,020

(137 casos / 1140761 habitantes)



Distribución de Casos de VIH/SIDA por barrio y comuna, Periodo Epidemiológico III, Santiago de Cali 2023

Distribución de Casos de Mortalidad con VIH/SIDA por barrio y comuna, Periodo Epidemiológico III, Santiago de Cali 2023

Comportamiento de variables de interés



Cabecera municipal

96,5 %
250

Casos



Hombres

82,2 %
213

Casos



Mujeres

17,8 %
46

Casos



Régimen de afiliación al SGSSS

Subsidiado	Contributivo	No asegurado
35,9 %	54,8 %	5,4 %
93	142	14

Casos



Indígenas

0 %
0

Casos



Afrocolombianos

6,6 %
17

Casos



Gestantes

0 %
0

Casos



Población migrante

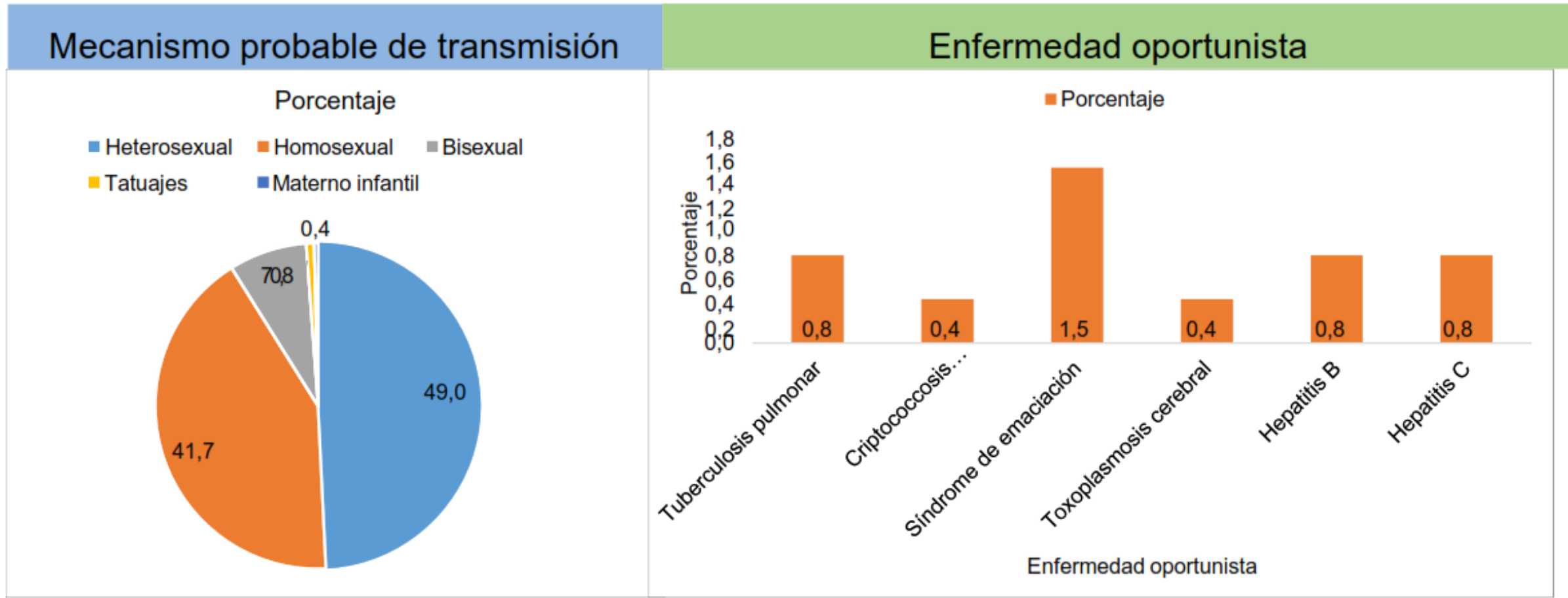
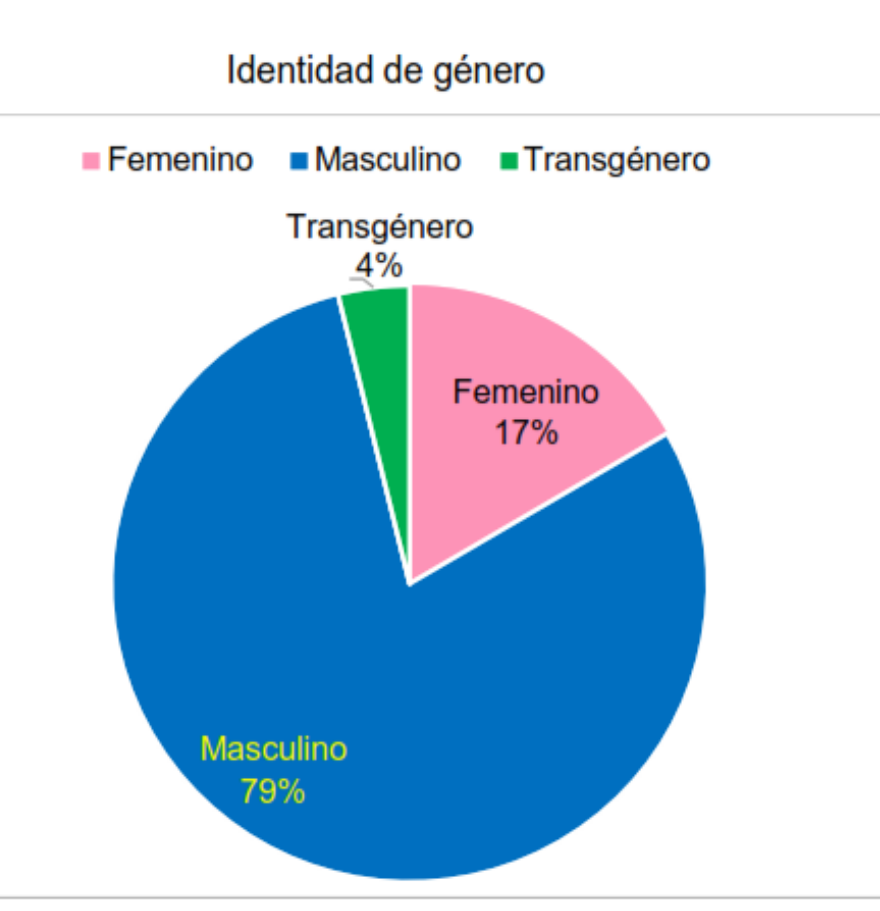
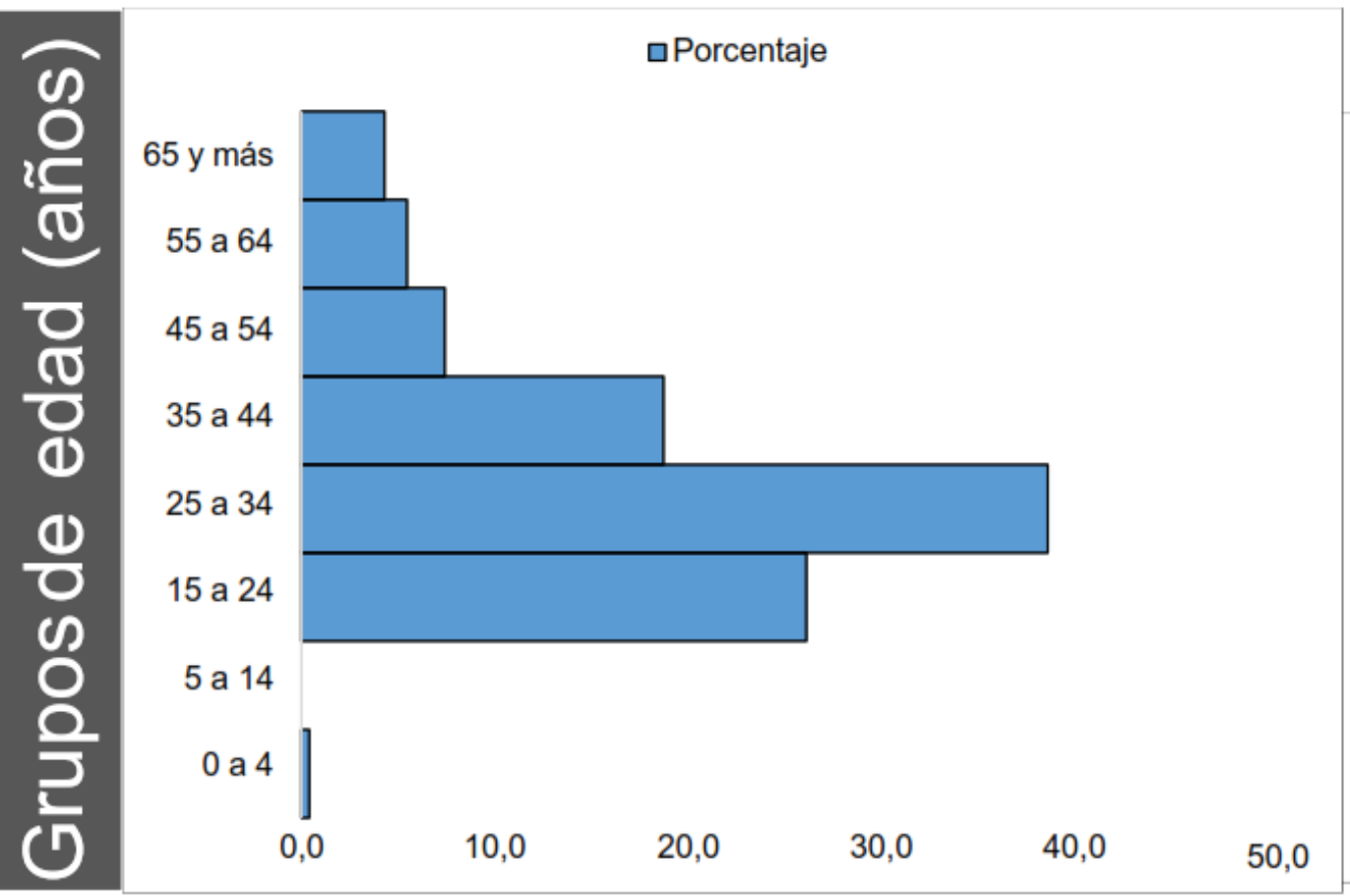
6,6 %
17

Casos

Distribución de casos por EAPB y tipo de régimen VIH/SIDA, Cali

No. de casos

Nombre EAPB	Población	Contributivo	Subsidiado	Otros	N° casos (160)	%	Incidencia VIH/SIDA x 100.000 habitantes
Asmet Salud	2264748	2	3	0	5	0,03	0,22
Comfenalco	2264748	7	0	0	7	0,04	0,31
Compensar	2264748	0	1	0	1	0,01	0,04
Coosalud	2264748	3	20	0	23	0,14	1,02
Emssanar	2264748	4	24	0	28	0,18	1,24
Famisanar	2264748	2	0	0	2	0,01	0,09
Fuerzas militares	2264748	0	0	4	4	0,03	0,18
No asegurado	2264748	0	0	13	13	0,08	0,57
Nueva EPS	2264748	11	5	0	16	0,10	0,71
Otros	2264748	0	1	1	2	0,01	0,09
Salud total	2264748	12	0	0	12	0,08	0,53
Sanitas	2264748	9	0	0	9	0,06	0,40
SOS EPS	2264748	13	1	0	14	0,09	0,62
SURA EPS	2264748	24	0	0	24	0,15	1,06
Total	2264748	87	55	18	160	1,00	7,06



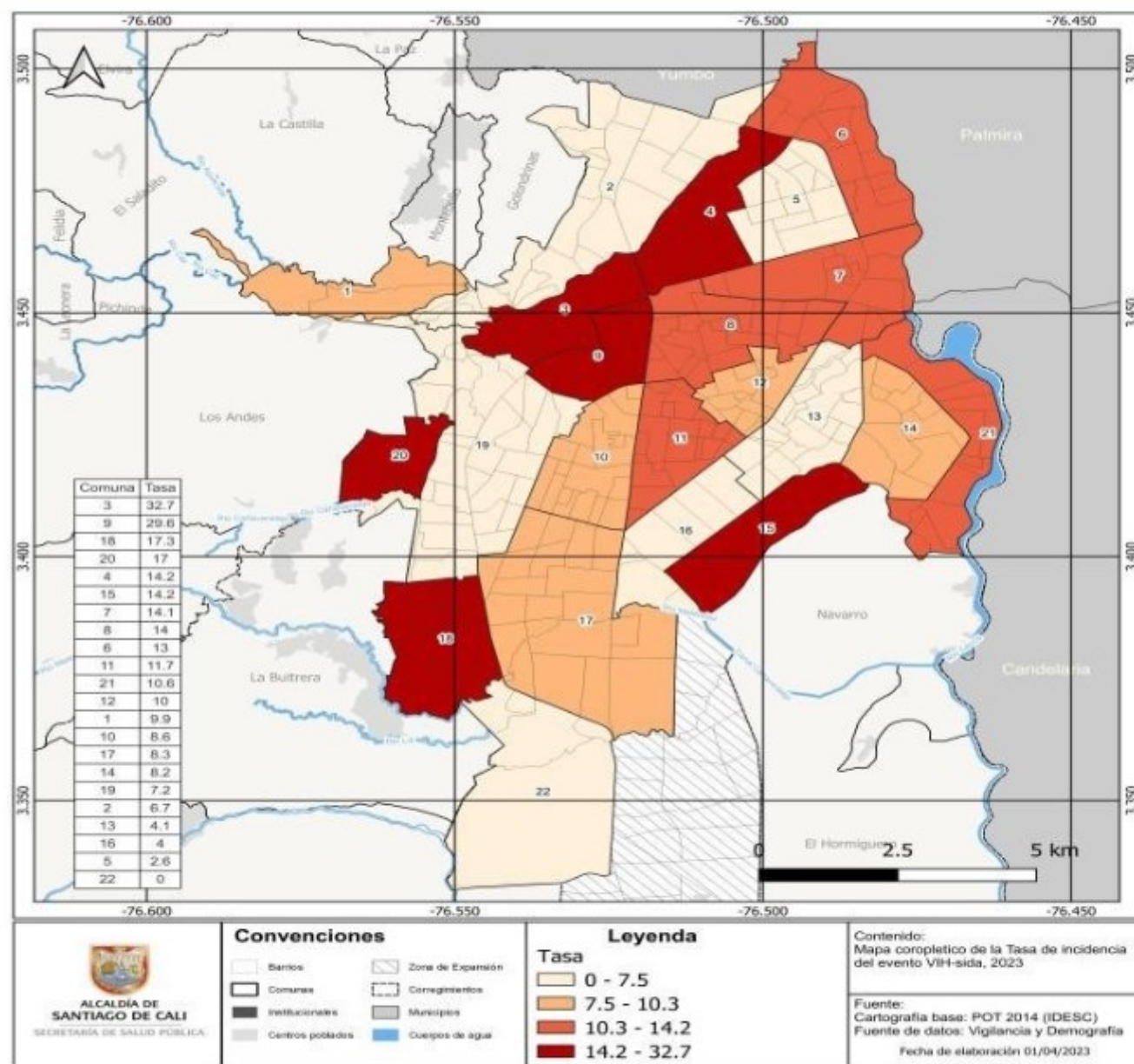
Distribución de casos por Comuna VIH/SIDA, Cali

ESE	Comuna	Población	Casos	FA	Incidencia
Centro	8	100226	6	0,04	6,0
	9	37165	7	0,04	18,8
	10	104729	6	0,04	5,7
	11	111204	11	0,07	9,9
	12	69956	5	0,03	7,1
Ladera	1	60799	5	0,03	8,2
	3	33652	6	0,04	17,8
	17	168998	9	0,06	5,3
	18	115529	10	0,06	8,7
	19	111310	6	0,04	5,4
	20	58827	6	0,04	10,2
	22	26104	0	0,00	0,0
Norte	2	118956	5	0,03	4,2
	4	56189	5	0,03	8,9
	5	114776	1	0,01	0,9
	6	154154	12	0,08	7,8
	7	71049	7	0,04	9,9
Oriente	13	145047	2	0,01	1,4
	14	157639	8	0,05	5,1
	15	126766	11	0,07	8,7
	21	132544	10	0,06	7,5
Suroriente	16	99041	1	0,01	1,0
Rural		46787	3	0,02	6,4
SD - Otros		43301	18	0,11	41,6
Total		2264748	160	1,00	7,1

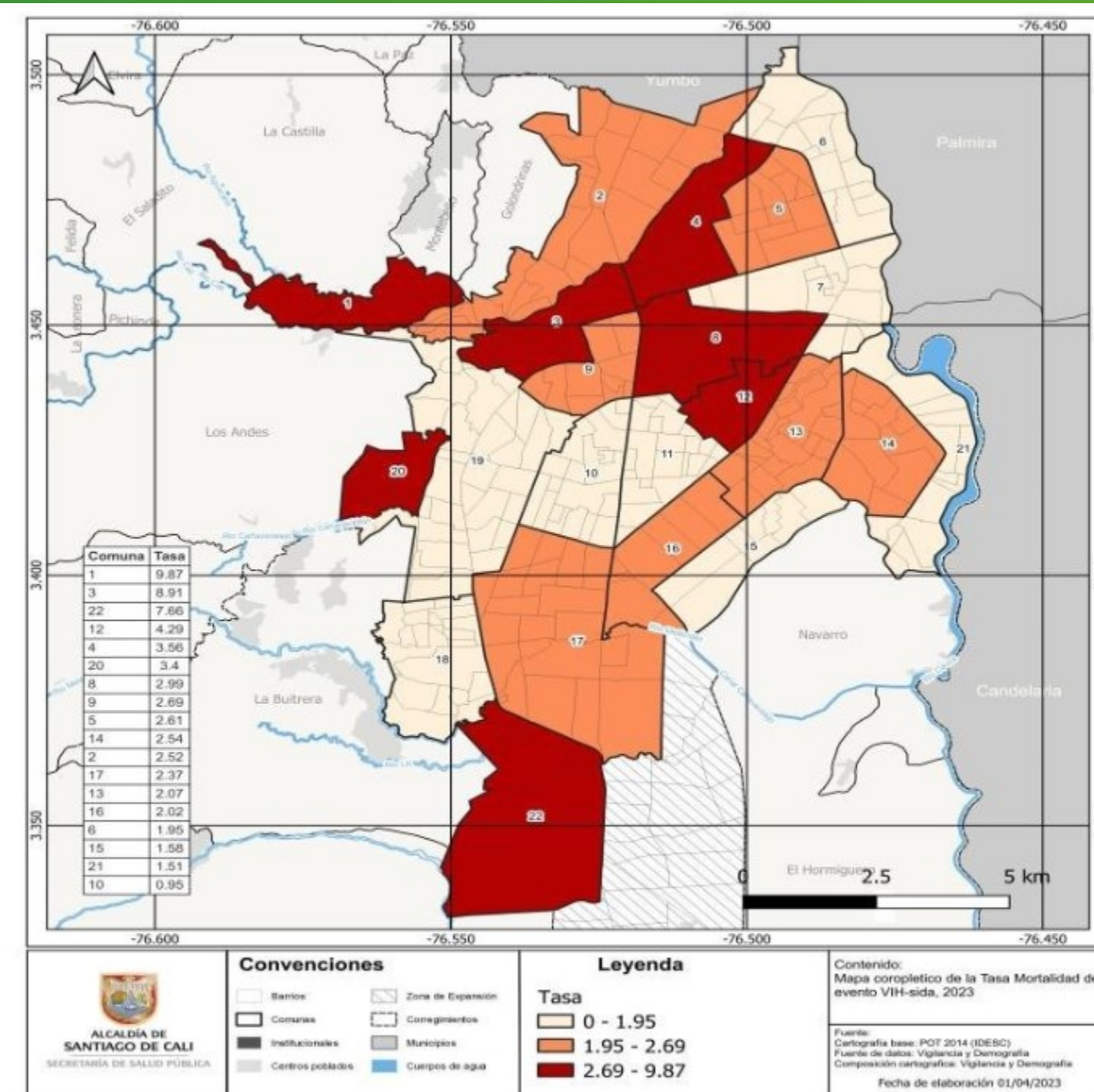
Incidencia de VIH/SIDA por barrio y comuna



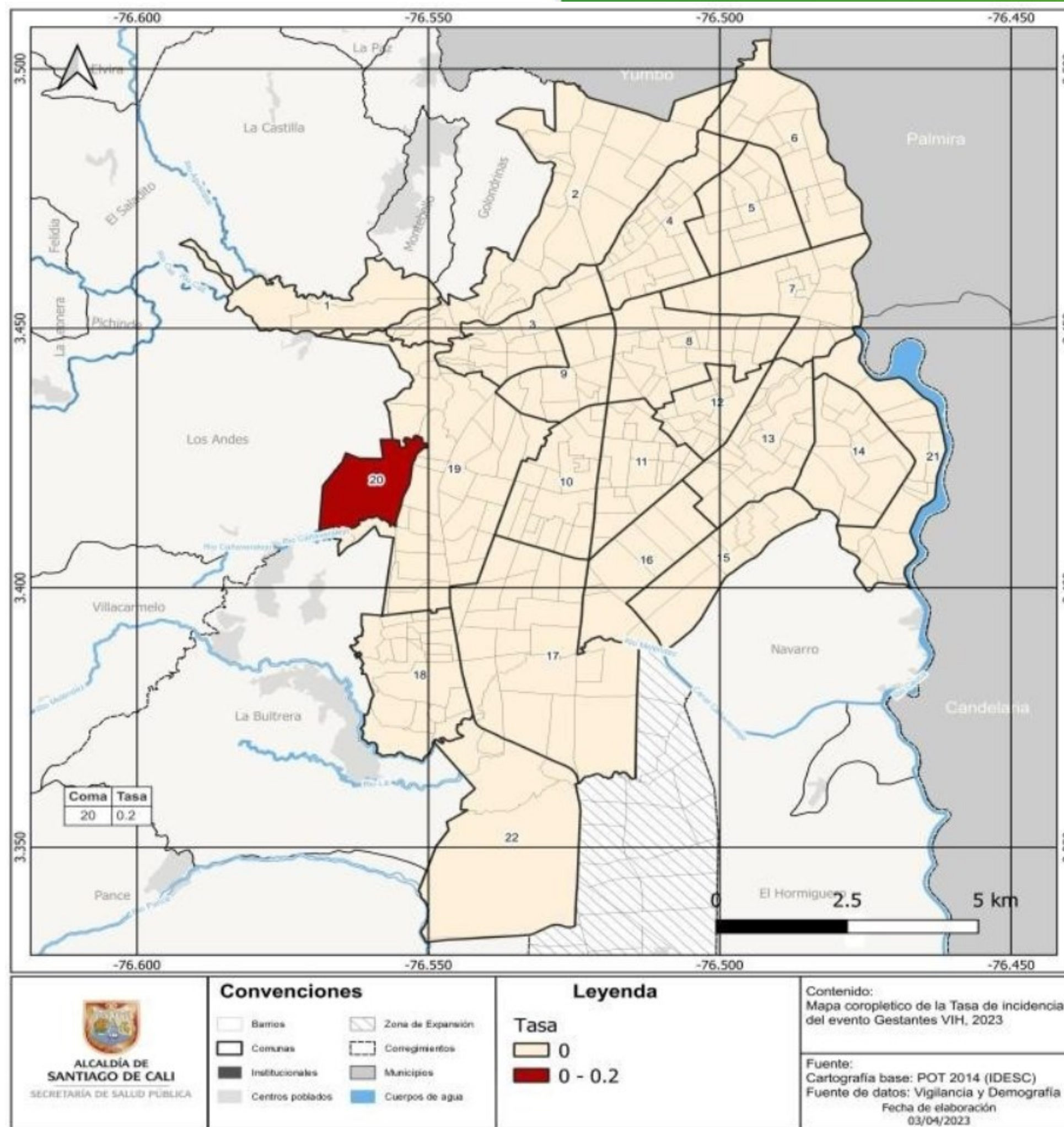
Incidencia de VIH/SIDA por barrio y comuna



Georreferenciación de incidencia de VIH/SIDA, Cali, periodo Epidemiológico III, 2023. Cali



Georreferenciación de incidencia de Mortalidad con VIH/SIDA, Cali, periodo Epidemiológico III, 2023. Cali



Correferenciación de incidencia de gestantes con VIH/SIDA, Cali, periodo Epidemiológico III, 2023. Cali