TARGETED VACCINATION: TRAVELLERS

It's not just about vaccines…

Dr Albie de Frey

MB ChB (Pret); DA(SA); Dip PEC(SA); Dip TM (Glasgow)
AACTM, FFTM (ACTM); FFTM RCPS (Glasgow)
SENIOR HONORARY LECTURER
UNIVERSITY OF THE WITWATERSRAND
PAST PRESIDENT, EXECUTIVE COMMITTEE MEMBER,
SOUTH AFRICAN SOCIETY OF TRAVEL MEDICINE

VACFA
vaccines for africa

SOUTH AFRICAN SOCIETY OF TRAVEL MEDICINE
SASTM

6 NOVEMBER 2025

TRAVEL MEDICINE IN A NUTSHELL

VACFA
vaccines
for africa

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OCTOBER2025

TARGETED VACCINATION: TRAVELLERS

It's not just about all vaccines...

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6 NOVEMBER 2024

TARGETED VACCINATION: TRAVELLERS

It's not just about ~~vaccines~~ for all!

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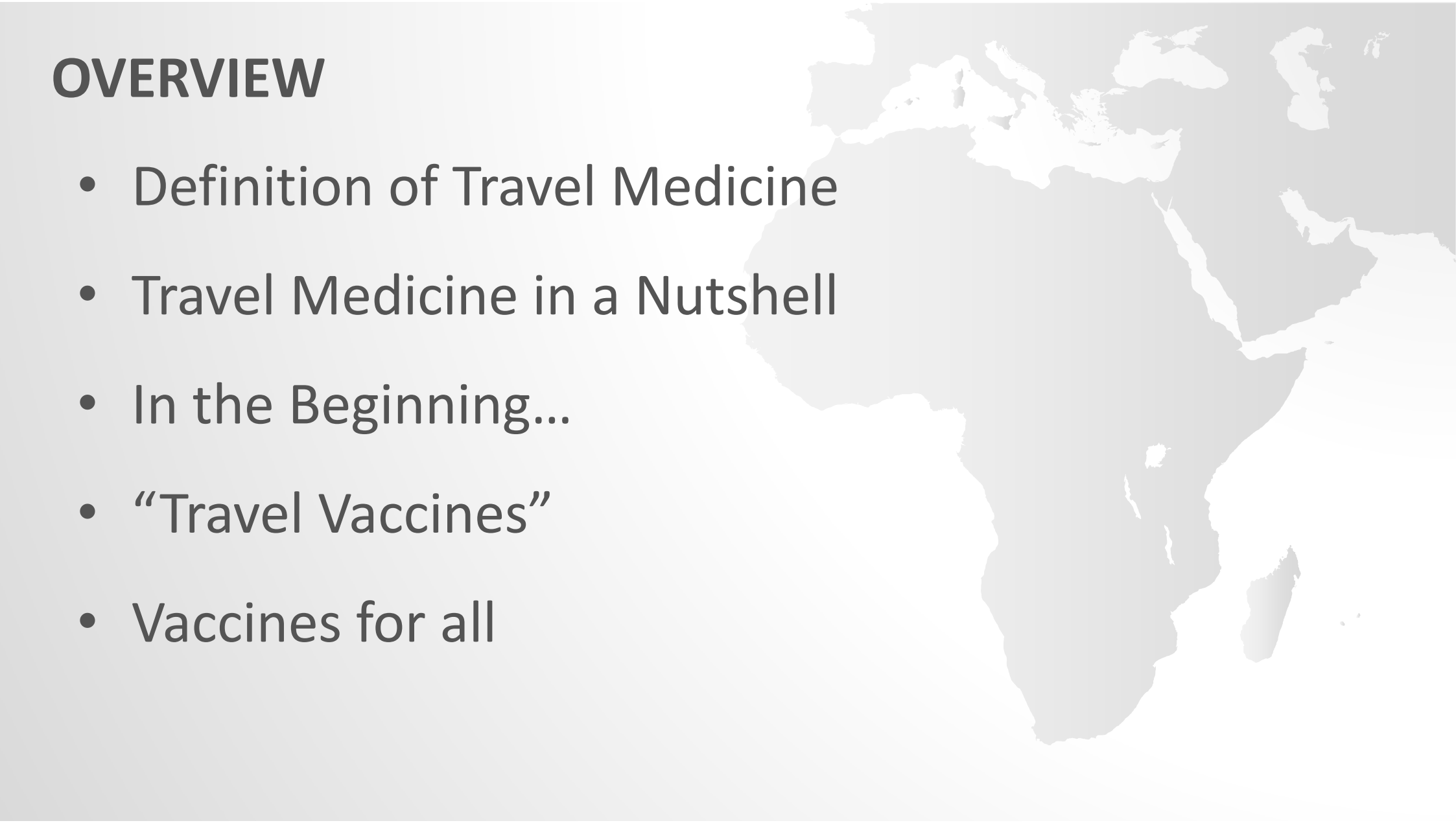
6 NOVEMBER 2024

OVERVIEW

- Definition of Travel Medicine
- Travel Medicine in a Nutshell
- In the Beginning…
- “Travel Vaccines”
- Vaccines for all



Definition of Travel Medicine

MULTIDISCIPLINARY FIELD
PRIMARY GOAL –

Prevent illness and injury in all types of travellers

EDUCATION (95%)

Vaccination (5%) & Prophylaxis (Malaria)

SECONDARY GOAL

Minimize the impact of illness

Teaching principles of self-treatment

AND:

Concern for the impact of travellers on the host country

Travel Medicine in a Nutshell

- What you bite into
- What bites into you
- What hits you…

“WHAT YOU BITE INTO…”

“WATCH OUT WHAT BITES INTO YOU!”

“WATCH OUT WHAT HITS YOU…”

TRAVEL HEALTH RISKS

YOU BITE INTO IT

- Traveller's Diarrhoea
- Hepatitis A
- Typhoid
- Lassa Fever
- Cholera
- Etc.

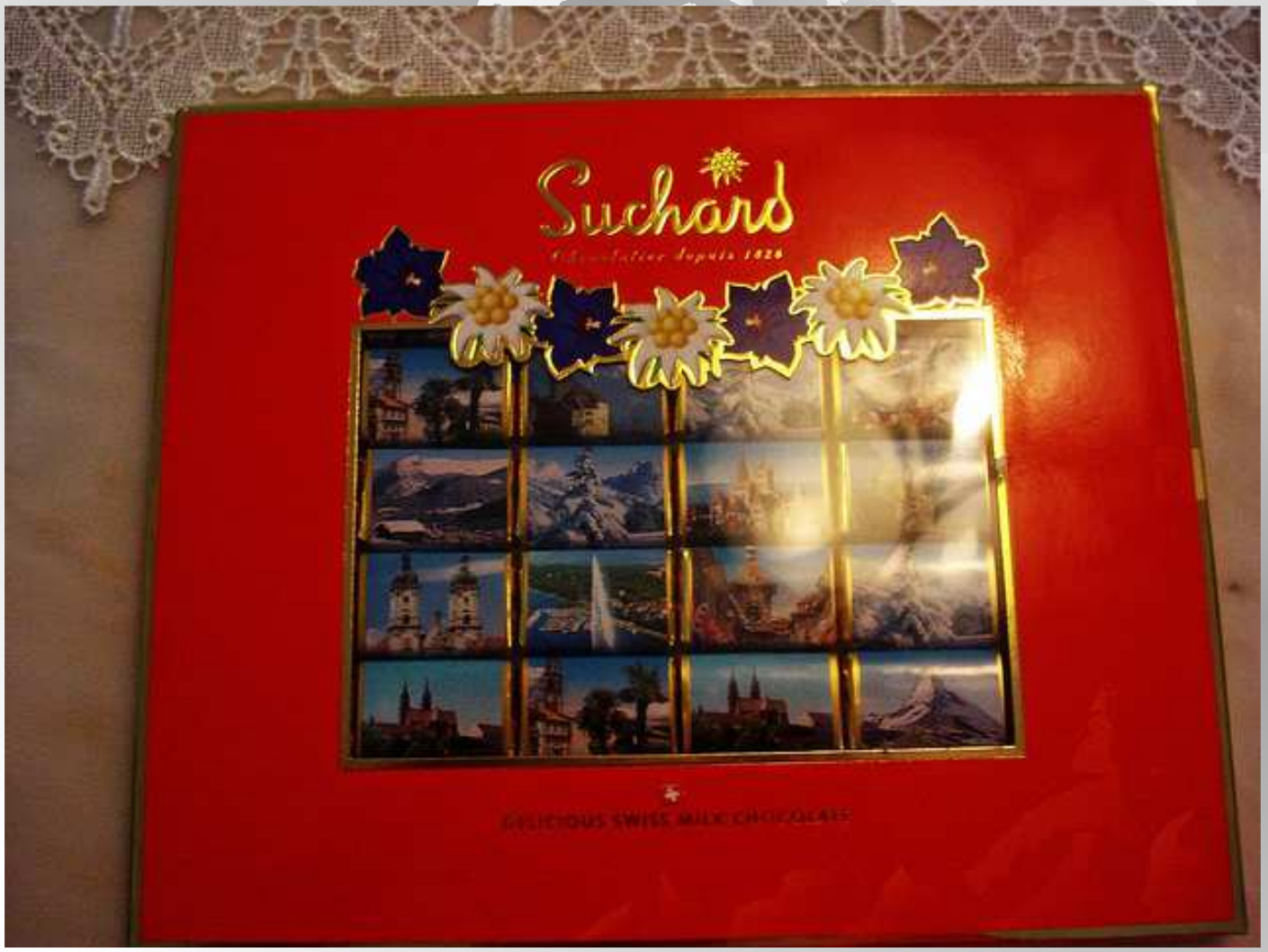
IT BITES INTO YOU

- Malaria
- Yellow Fever
- Rabies
- Ladies o.t. Night : HIV/AIDS
- Sleeping Sickness
- Dengue
- River Blindness
- Etc.

IT HITS YOU

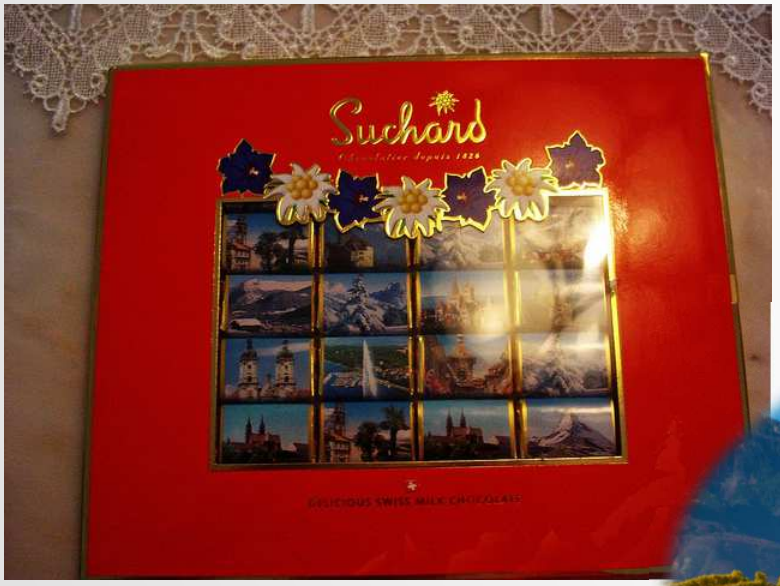
- Injury On Duty
- Road Traffic Accident
- Interpersonal Violence

In the Beginning…



In the Beginning…

- Switzerland 1980's
- Squeaky clean
- Fully vaccinated
- No (little) infectious disease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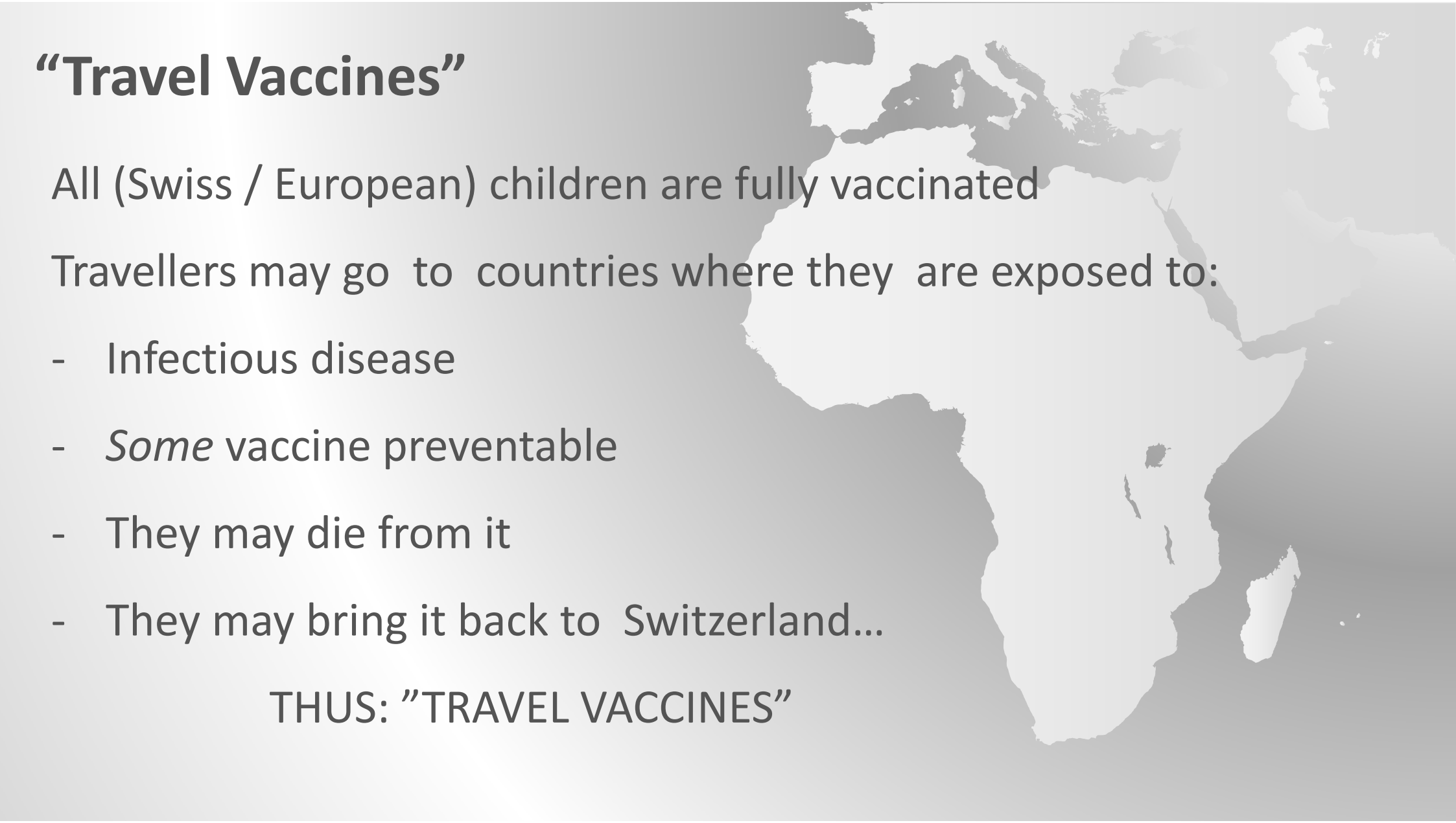
“Travel Vaccines”



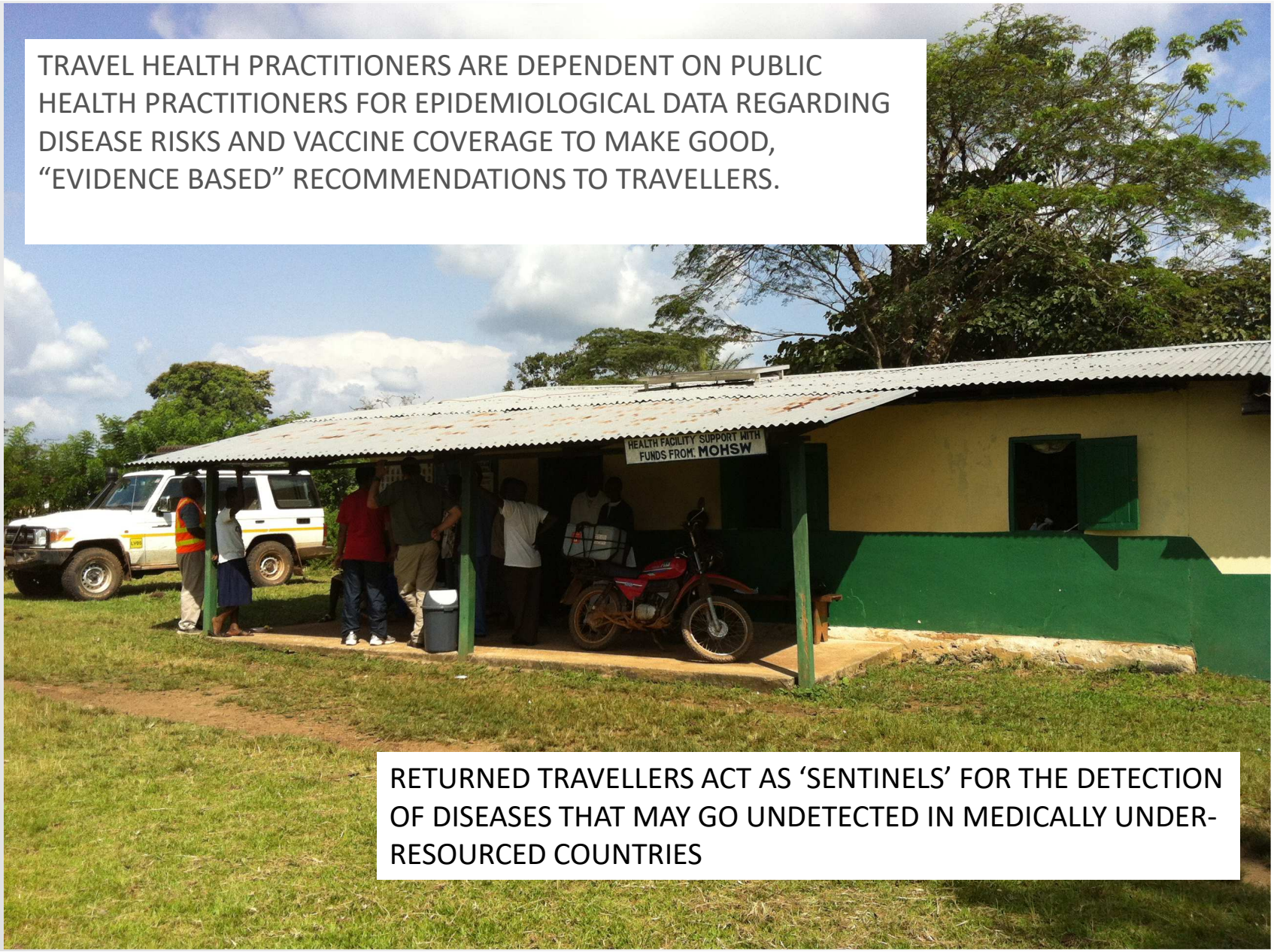
All (Swiss / European) children are fully vaccinated

Travellers may go to countries where they are exposed to:

- Infectious disease
- *Some* vaccine preventable
- They may die from it
- They may bring it back to Switzerland…

THUS: ”TRAVEL VACCINES”

TRAVEL HEALTH PRACTITIONERS ARE DEPENDENT ON PUBLIC HEALTH PRACTITIONERS FOR EPIDEMIOLOGICAL DATA REGARDING DISEASE RISKS AND VACCINE COVERAGE TO MAKE GOOD, “EVIDENCE BASED” RECOMMENDATIONS TO TRAVELLERS.



RETURNED TRAVELLERS ACT AS ‘SENTINELS’ FOR THE DETECTION OF DISEASES THAT MAY GO UNDETECTED IN MEDICALLY UNDER-RESOURCED COUNTRIES

TRAVELLERS TO DRC SHOULD BE VACCINATED...

TRAVELLERS TO SOUTH AFRICA SHOULD BE VACCINATED???

MEASLES ALERT

10 November , 2020

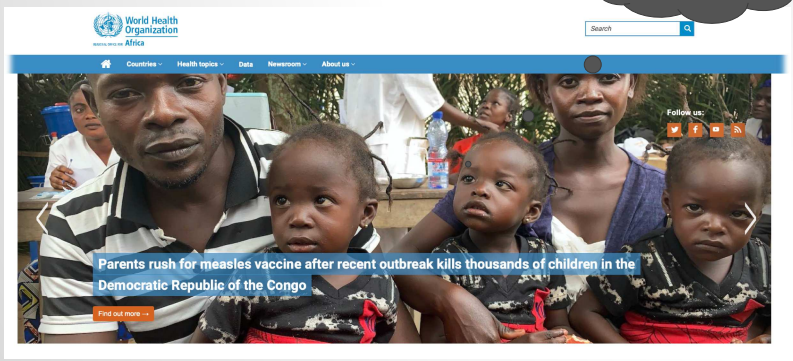
Three laboratory-confirmed measles cases have been de
October to the 5th of November in two provinces (Eastern
the National Institute for Communicable Diseases (NICL
comprise a cluster or outbreak (defined as 3 cases within one health district within one month) but warrant heightened attention.

MEASLES OUTBREAK UPDATE GREATER SEKHUKHUNE DISTRICT, LIMPOPO PROVINCE (27 OCTOBER 2022)

27 October , 2022

NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES
Division of the National Health Laboratory Service

TRAVELLERS TO DRC SHOULD BE VACCINATED...



TRAVELLERS TO SOUTH AFRICA SHOULD BE VACCINATED???

MEASLES ALERT

10 November , 2020

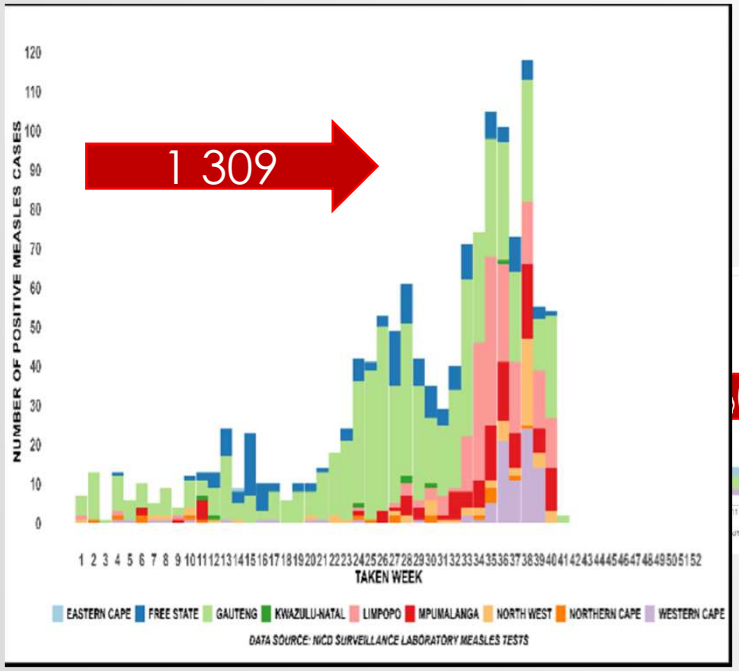
Three laboratory-confirmed measles cases have been detected between the 30th of October to the 5th of November in two provinces (Eastern Cape and KwaZulu-Natal) by the National Institute for Communicable Diseases (NICD). These cases do not yet comprise a cluster or outbreak (defined as 3 cases within one health district within one month) but warrant heightened attention.

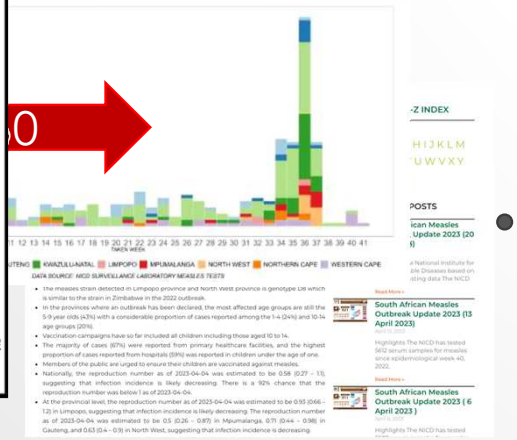
NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES
Division of the National Health Laboratory Service

TRAVELLERS TO DRC SHOULD BE VACCINATED...

TRAVELLERS TO SOUTH AFRICA SHOULD BE VACCINATED???

WHY ARE SOUTH AFRICANS not VACCINATED???



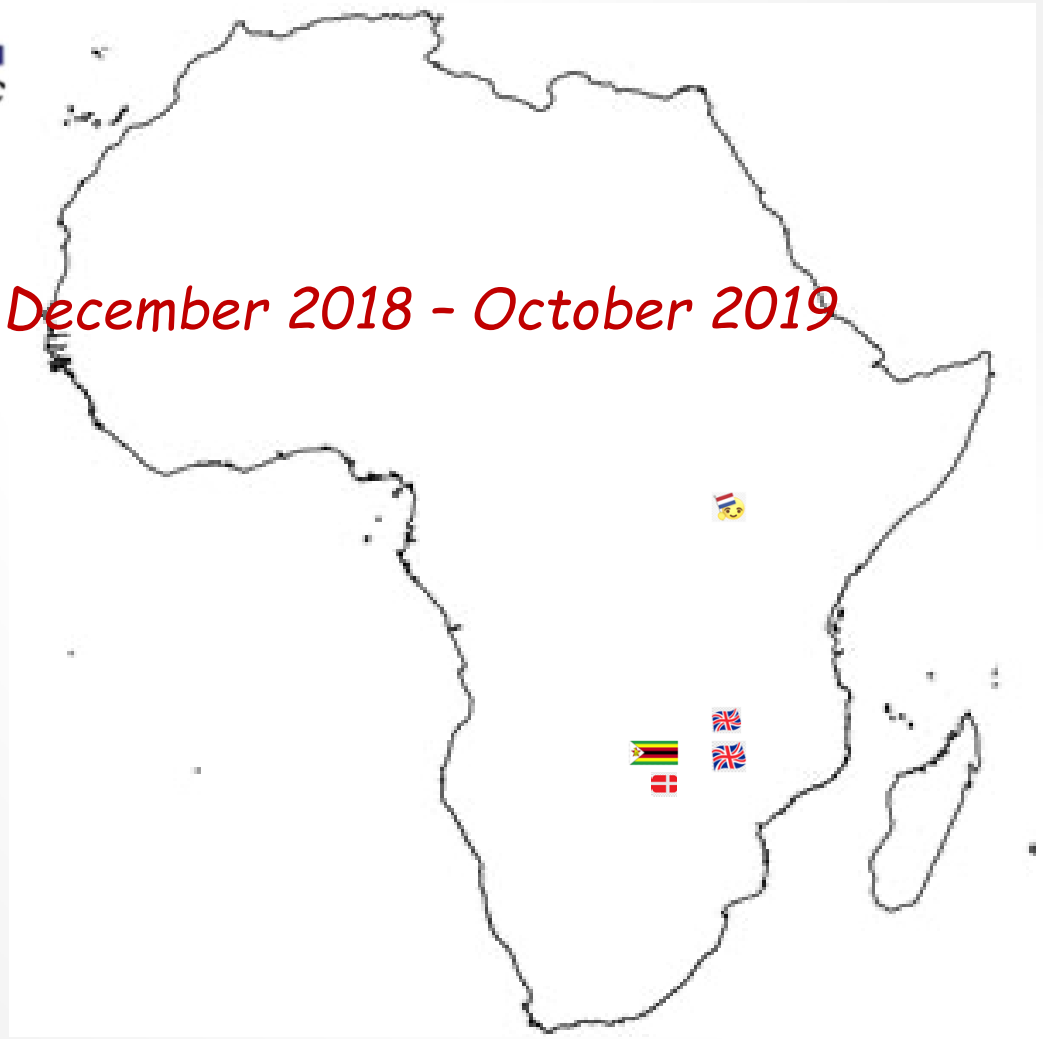


NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES
Division of the National Health Laboratory Service

GEOSENTINEL

The Global Surveillance Network of the ISTM in Partnership with the CDC

EAST AFRICAN TRYPANOSOMIASIS



Uganda

Malawi

Zambia

Travellers act as sentinels….

GEOSENTINEL
The Global Surveillance Network of the ISTM in Partnership with the CDC

EAST AFRICAN TRYPANOSOMIASIS

Uganda

Malawi

Zambia

Travellers act as sentinels...

September 2024
- Two cases from Zimbabwe

2025
- Two cases from Zambia

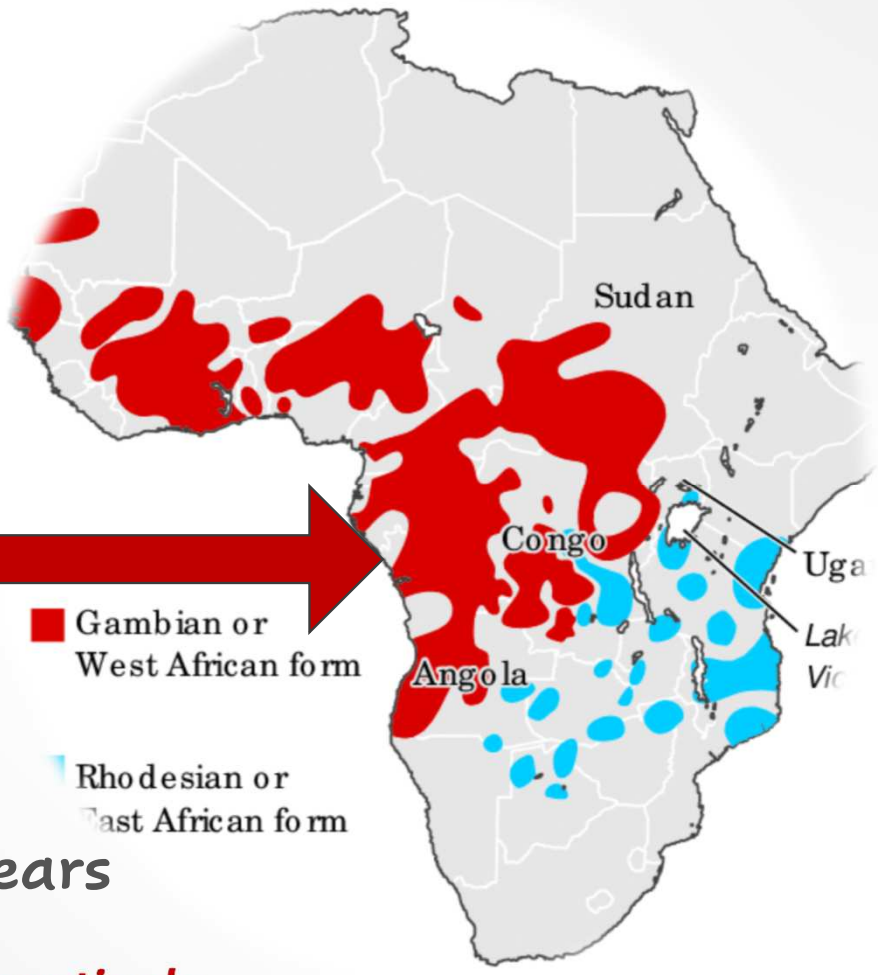
GEOSENTINEL

The Global Surveillance Network of the ISTM in Partnership with the CDC

WEST AFRICAN TRYPANOSOMIASIS

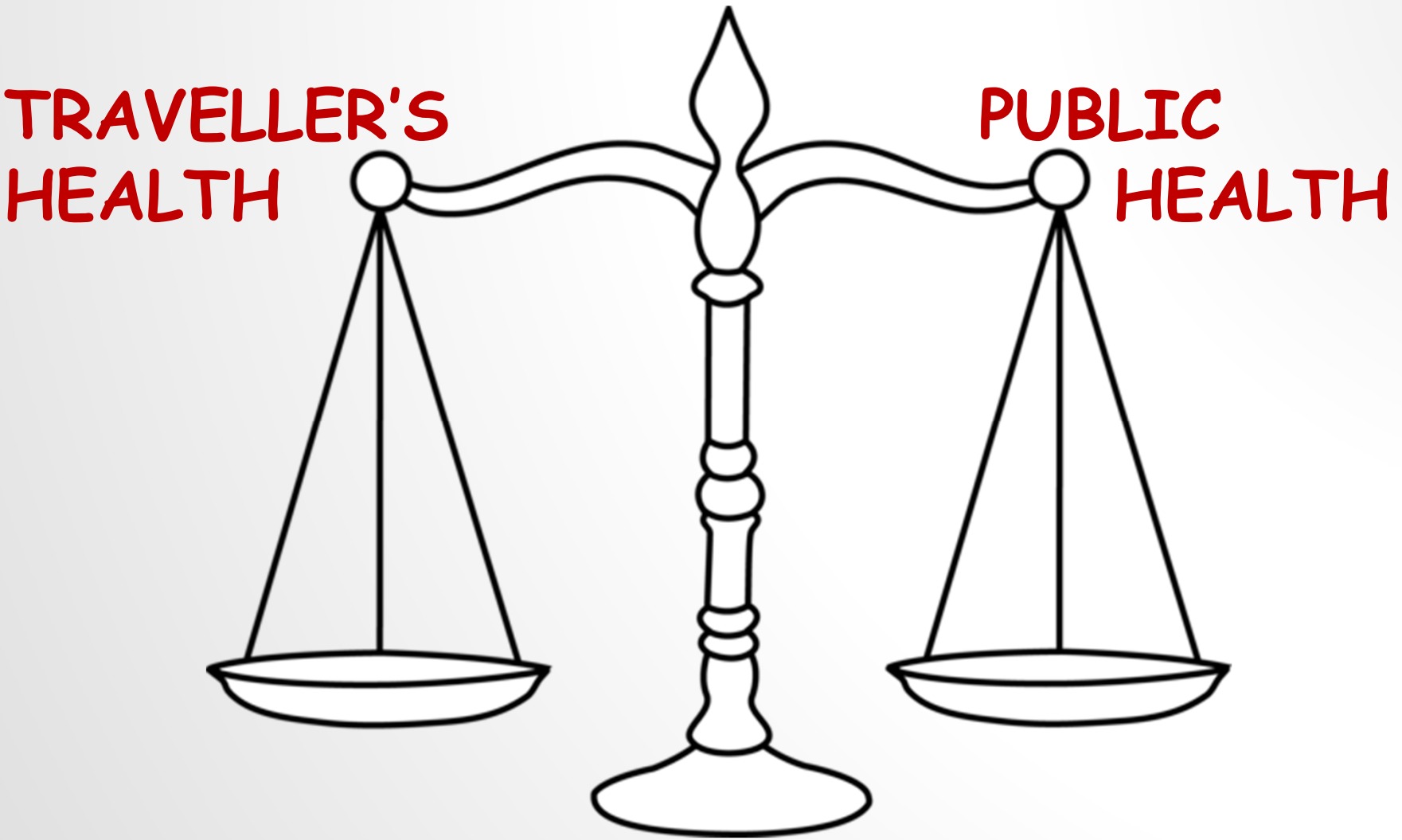
5 November 2023

Kinshasa
DRC



University lecturer – had been ill for 2 years

Travellers act as sentinels….


TRAVELLER'S HEALTH
PUBLIC HEALTH

“TRAVEL MEDICINE”

- What you bite into – % = VACCINE PREVENTABLE
- What bites into you – Only protects against 5% of travel related diseases
- What hits you - TRAUMA
  - Does NOT cover malaria…
  - DOES cover COVID…

“TRAVEL MEDICINE”

- What you bite into – % = VACCINE PREVENTABLE
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  - ~~DOES cover COVID…~~

“Travel Vaccines”

Where do we begin?

VACCINES

- **CHILDHOOD**
  - Must be up to date
  - BCG, DTP, Polio, Hep B, HiB, Pneumococcus, Rotavirus, M(MR), Chickenpox

- **COMPULSORY**
  - Yellow fever
  - Meningococcal disease

- RECOMMENDED / **“Travel Vaccines”**
  - Hepatitis A, Typhoid, Rabies, Japanese Encephalitis, European TBE

Routine EPI schedule used in most African countries

Age of child	Vaccine

Vaccination schedules by region

Worldwide

Africa

We only list vaccination schedules that come from reliable sources, such as a country's government, or from a UN agency such as UNICEF or the WHO. The countries listed below are where it has been possible to find reliable schedules. If your country isn't listed and you are located there, please do check with your local healthcare provider.

Nigeria
The national immunisation schedule for Nigeria can be found on the UNICEF Nigeria site.

South Africa
The childhood immunisation schedule for South Africa can be found on UNICEF South Africa's website.

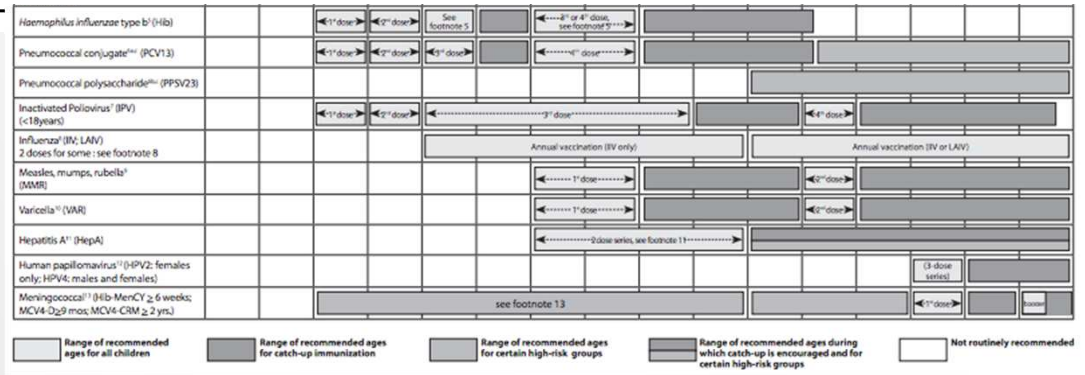
Kenya
The childhood immunisation schedule for Kenya (Kenya Expanded Programme for Immunization, or KEPI) is available here.

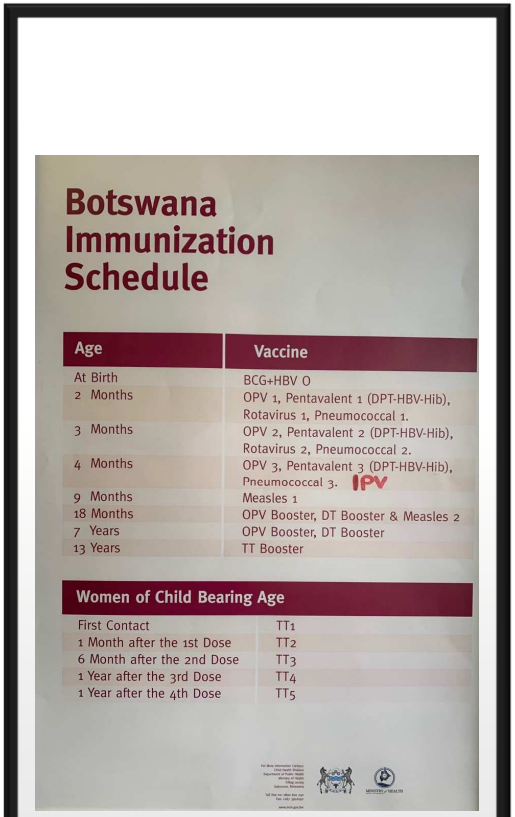
Uganda
Uganda's immunisation schedule can be found here on UNICEF's website.

ıalitis

NOT ALL EPI'S

ARE EQUAL…

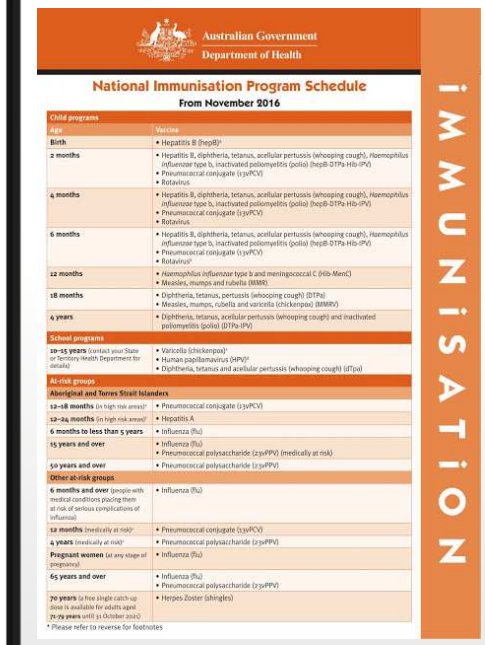




Botswana Immunization Schedule

Age	Vaccine
At Birth	BCG+HBV 0
2 Months	OPV 1, Pentavalent 1 (DPT-HBV-Hib), Rotavirus 1, Pneumococcal 1.
3 Months	OPV 2, Pentavalent 2 (DPT-HBV-Hib), Rotavirus 2, Pneumococcal 2.
4 Months	OPV 3, Pentavalent 3 (DPT-HBV-Hib), Pneumococcal 3. IPV
9 Months	Measles 1
18 Months	OPV Booster, DT Booster & Measles 2
7 Years	OPV Booster, DT Booster
13 Years	TT Booster

Women of Child Bearing Age	
First Contact	TT1
1 Month after the 1st Dose	TT2
6 Month after the 2nd Dose	TT3
1 Year after the 3rd Dose	TT4
1 Year after the 4th Dose	TT5



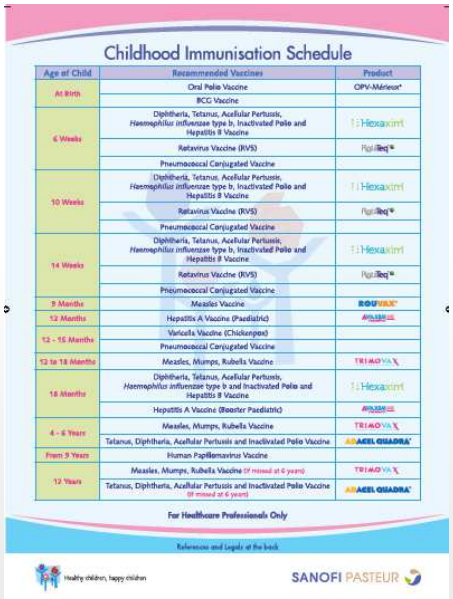
Australian Government
Department of Health

National Immunisation Program Schedule
From November 2016

Age	Vaccine
Child programs	
Birth	• Hepatitis B (hepB)[1]
2 months	• Hepatitis B, diphtheria, tetanus, acellular pertussis (whooping cough), *Haemophilus influenzae* type b, inactivated poliomyelitis (polio) (hepB-DTPa-Hib-IPV) • Pneumococcal conjugate (13vPCV) • Rotavirus
4 months	• Hepatitis B, diphtheria, tetanus, acellular pertussis (whooping cough), *Haemophilus influenzae* type b, inactivated poliomyelitis (polio) (hepB-DTPa-Hib-IPV) • Pneumococcal conjugate (13vPCV) • Rotavirus
6 months	• Hepatitis B, diphtheria, tetanus, acellular pertussis (whooping cough), *Haemophilus influenzae* type b, inactivated poliomyelitis (polio) (hepB-DTPa-Hib-IPV) • Pneumococcal conjugate (13vPCV) • Rotavirus[1]
12 months	• *Haemophilus influenzae* type b and meningococcal C (Hib-MenC) • Measles, mumps and rubella (MMR)
18 months	• Diphtheria, tetanus, pertussis (whooping cough) (DTPa) • Measles, mumps, rubella and varicella (chickenpox) (MMRV)
4 years	• Diphtheria, tetanus, acellular pertussis (whooping cough) and inactivated poliomyelitis (polio) (DTPa-IPV)
School programs	
10–15 years (contact your State or Territory Health Department for details)	• Varicella (chickenpox)[1] • Human papillomavirus (HPV)[2] • Diphtheria, tetanus and acellular pertussis (whooping cough) (dTpa)
At-risk groups	
Aboriginal and Torres Strait Islanders	
12–18 months (in high risk areas)[3]	• Pneumococcal conjugate (13vPCV)
12–24 months (in high risk areas)[3]	• Hepatitis A
6 months to less than 5 years	• Influenza (flu)
15 years and over	• Influenza (flu) • Pneumococcal polysaccharide (23vPPV) (medically at risk)
50 years and over	• Pneumococcal polysaccharide (23vPPV)
Other at-risk groups	
6 months and over (people with medical conditions placing them at risk of serious complications of influenza)	• Influenza (flu)
12 months (medically at risk)[4]	• Pneumococcal conjugate (13vPCV)
4 years (medically at risk)[4]	• Pneumococcal polysaccharide (23vPPV)
Pregnant women (at any stage of pregnancy)	• Influenza (flu)
65 years and over	• Influenza (flu) • Pneumococcal polysaccharide (23vPPV)
70 years (a free single catch-up dose is available for adults aged **71-79 years** until 31 October 2021)	• Herpes Zoster (shingles)

* Please refer to reverse for footnotes

IMMUNISATION



Childhood Immunisation Schedule

Age of Child	Recommended Vaccines	Product
At Birth	Oral Polio Vaccine	OPV-Mérieux®
	BCG Vaccine	
6 Weeks	Diphtheria, Tetanus, Acellular Pertussis, *Haemophilus influenzae* type b, Inactivated Polio and Hepatitis B Vaccine	Hexaxim
	Rotavirus Vaccine (RVS)	RotaTeq®
	Pneumococcal Conjugated Vaccine	
10 Weeks	Diphtheria, Tetanus, Acellular Pertussis, *Haemophilus influenzae* type b, Inactivated Polio and Hepatitis B Vaccine	Hexaxim
	Rotavirus Vaccine (RVS)	RotaTeq®
	Pneumococcal Conjugated Vaccine	
14 Weeks	Diphtheria, Tetanus, Acellular Pertussis, *Haemophilus influenzae* type b, Inactivated Polio and Hepatitis B Vaccine	Hexaxim
	Rotavirus Vaccine (RVS)	RotaTeq®
	Pneumococcal Conjugated Vaccine	
9 Months	Measles Vaccine	ROUVAX®
12 Months	Hepatitis A Vaccine (Paediatric)	AVAXIM 80 U
12 - 15 Months	Varicella Vaccine (Chickenpox)	
	Pneumococcal Conjugated Vaccine	
12 to 18 Months	Measles, Mumps, Rubella Vaccine	TRIMOVAX
18 Months	Diphtheria, Tetanus, Acellular Pertussis, *Haemophilus influenzae* type b and Inactivated Polio and Hepatitis B Vaccine	Hexaxim
	Hepatitis A Vaccine (Booster Paediatric)	AVAXIM 80 U
4 - 6 Years	Measles, Mumps, Rubella Vaccine	TRIMOVAX
	Tetanus, Diphtheria, Acellular Pertussis and Inactivated Polio Vaccine	ADACEL QUADRA®
From 9 Years	Human Papillomavirus Vaccine	
12 Years	Measles, Mumps, Rubella Vaccine (If missed at 6 years)	TRIMOVAX
	Tetanus, Diphtheria, Acellular Pertussis and Inactivated Polio Vaccine (If missed at 6 years)	ADACEL QUADRA®

For Healthcare Professionals Only

References and Legals at the back

Healthy children, happy children

SANOFI PASTEUR

VACCINES

- **CHILDHOOD**
  - Must be up to date
  - BCG, DTP, Polio, Hep B, HiB, Pneumococcus, Rotavirus, M(MR), Chickenpox

- **COMPULSORY**
  - Yellow fever
  - Meningococcal disease

- RECOMMENDED / **“Travel Vaccines”**
  - Hepatitis A, Typhoid, Rabies, Japanese Encephalitis, European TBE


1 Dose
Yellow
Fever
Vaccine
Live

YELLOW FEVER

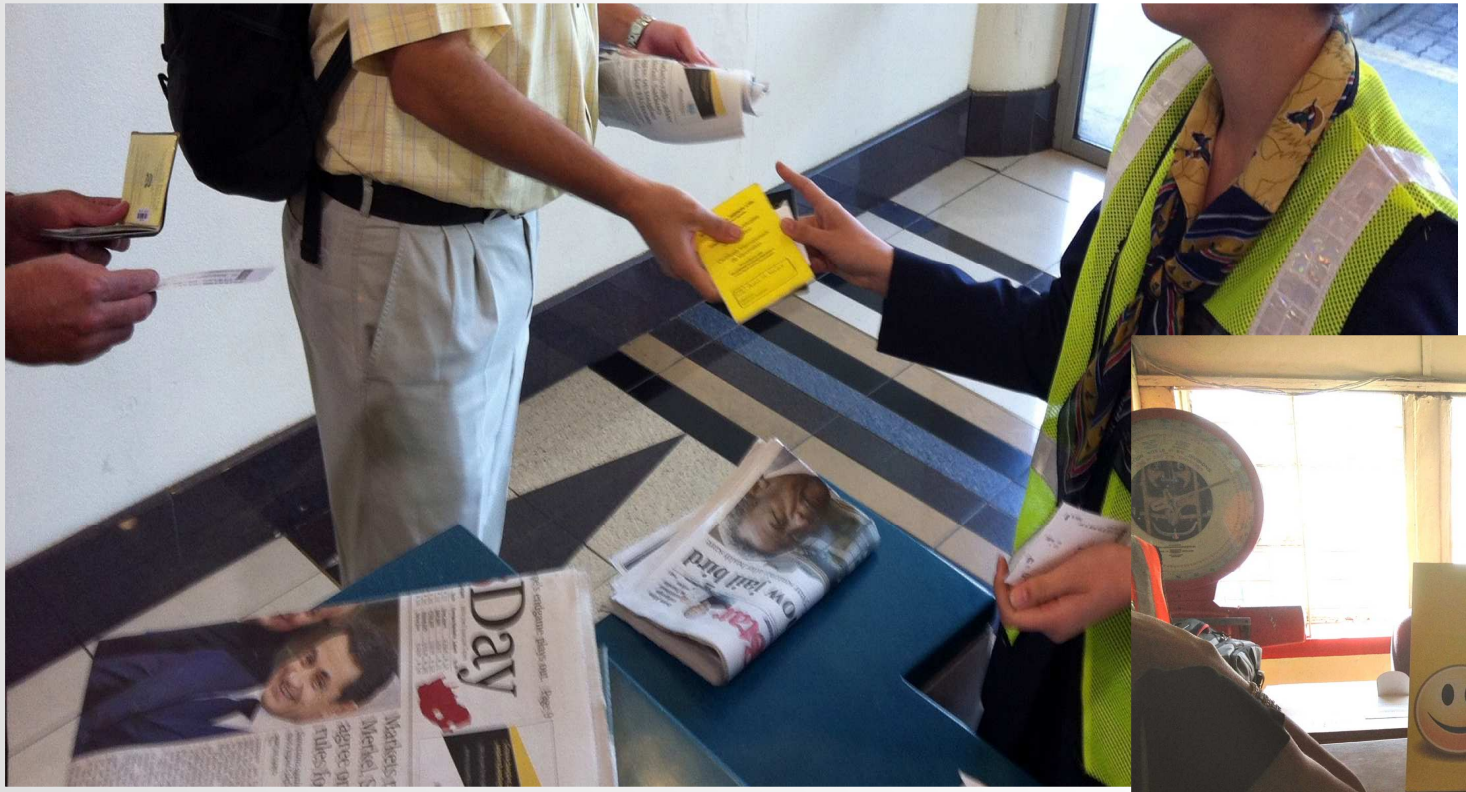
- **THE "ONLY" COMPULSORY TRAVEL VACCINE**
  - INTERNATIONAL HEALTH REGULATIONS (WHO)

- ***A PUBLIC HEALTH MEASURE***
  - TO PREVENT THE SPREAD OF YF
    TO OTHER COUNTRIES

  - RSA / (Country X) harbours the *A. aegypti* mosquito
    - Vector for Yellow Fever
    - *To prevent the introduction of the virus*

2024
17 countries in Africa – 248 cases
5 countries in Central & South America affected – 61 cases
235 this year

CURBING THE SPREAD OF YELLOW FEVER



YELLOW FEVER

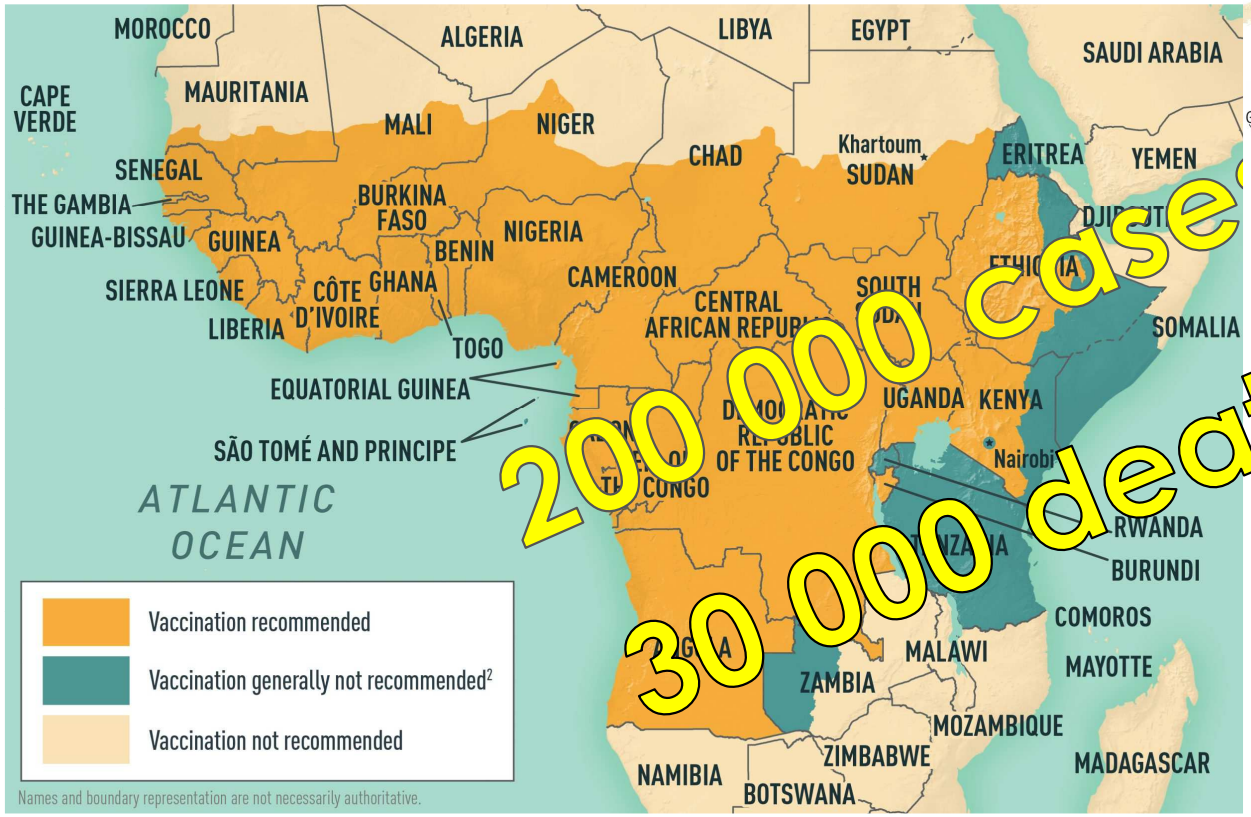
PERSONAL RISK

- Yellow fever is a viral haemorrhagic fever transmitted by day biting mosquitoes (*Aedes* spp)

- ± 150 000 cases per year
- ± 50 000 deaths per year

- **Vaccine preventable**
  - Safe and affordable
  - LIVE vaccine;
    - Some precautions / contra-inidications

YELLOW FEVER VACCINE RECOMMENDATIONS



200 000 cases

30 000 deaths p.a.

https://www.cdc.gov/yellow-fever/south-america/

YELLOW FEVER is alive and well and...

Yellow Fever - Africa Update

36 yellow fever deaths confirmed in Africa:
According to an update recently published by the Africa Centres for Disease Control and Prevention (Africa CDC), yellow fever outbreaks continue across the continent in 2023.
As of 28 Oct 2023, the Africa CDC reported a total of 2779 yellow fever cases, and 36 deaths (CFR: 1.3%) have been reported in 7 African Union countries this year [2023]. The impacted countries are: Cameroon (41 cases; 4 deaths), CAR (326; 5), Congo (324; 2), Gabon (79; 0), Guinea (178; 4),Nigeria (1,819; 21), and Uganda (12; 0).

In 2022, 12 countries in the African Region reported confirmed yellow fever cases.

Yellow fever is an epidemic-prone, vaccine-preventable disease transmitted to humans by mosquitoes. The incubation period ranges from 3 to 6 days. While many people do not experience symptoms, individuals can have more severe symptoms. Death can occur within 7-10 days in about half of cases with severe symptoms.

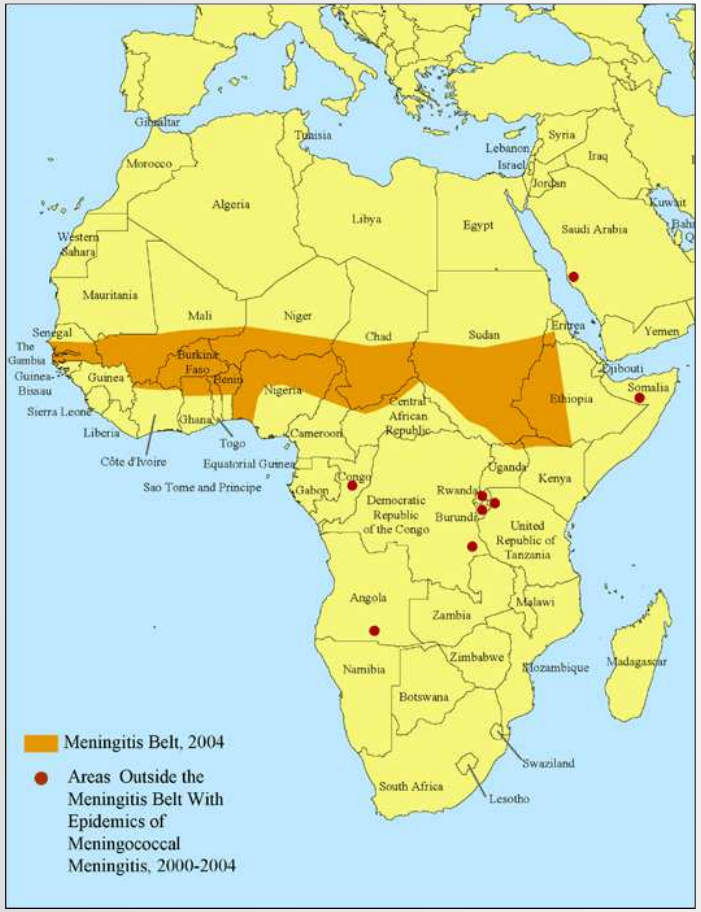
According to the WHO/UNICEF Estimates of National Immunization Coverage in 2021, routine immunization coverage against yellow fever in the African Region for childhood vaccinations was 48%, much lower than the threshold required to confer population immunity.
In reaction to these data, the WHO and Africa CDC re-assessed the health risk at the regional level in 2022 as moderate.

For many international travelers, proof of yellow fever vaccination is a requirement to visit at-risk countries, such as Brazil.

The above report indicates that yellow fever (YF) virus transmission remains active in Sub-Saharan Africa this year (2023). Since 4 Aug 2023 when a total of 289 cases (29 confirmed; 260 suspected) with 7 deaths of YF was reported in 4 African Union Member States, the number of cases has increased to 2779 yellow fever cases, with 36 deaths reported above.

The fact that only 48% of children are being vaccinated is of concern when the WHO minimum for population coverage is at least 80%. No figures are provided for current overall vaccination coverage of the populations of the affected countries. It would be interesting to know if all of these cases are due to sylvan (forest) transmission cycles or to urban transmission involving _Aedes aegypti_ mosquitoes, especially for Nigeria, the Central African Republic and the Congo [which Congo?], the countries with the highest numbers of YF cases this year (2023). Low vaccination coverage coupled with abundant _Aedes aegypti_ vectors can lead to massive YF outbreaks.

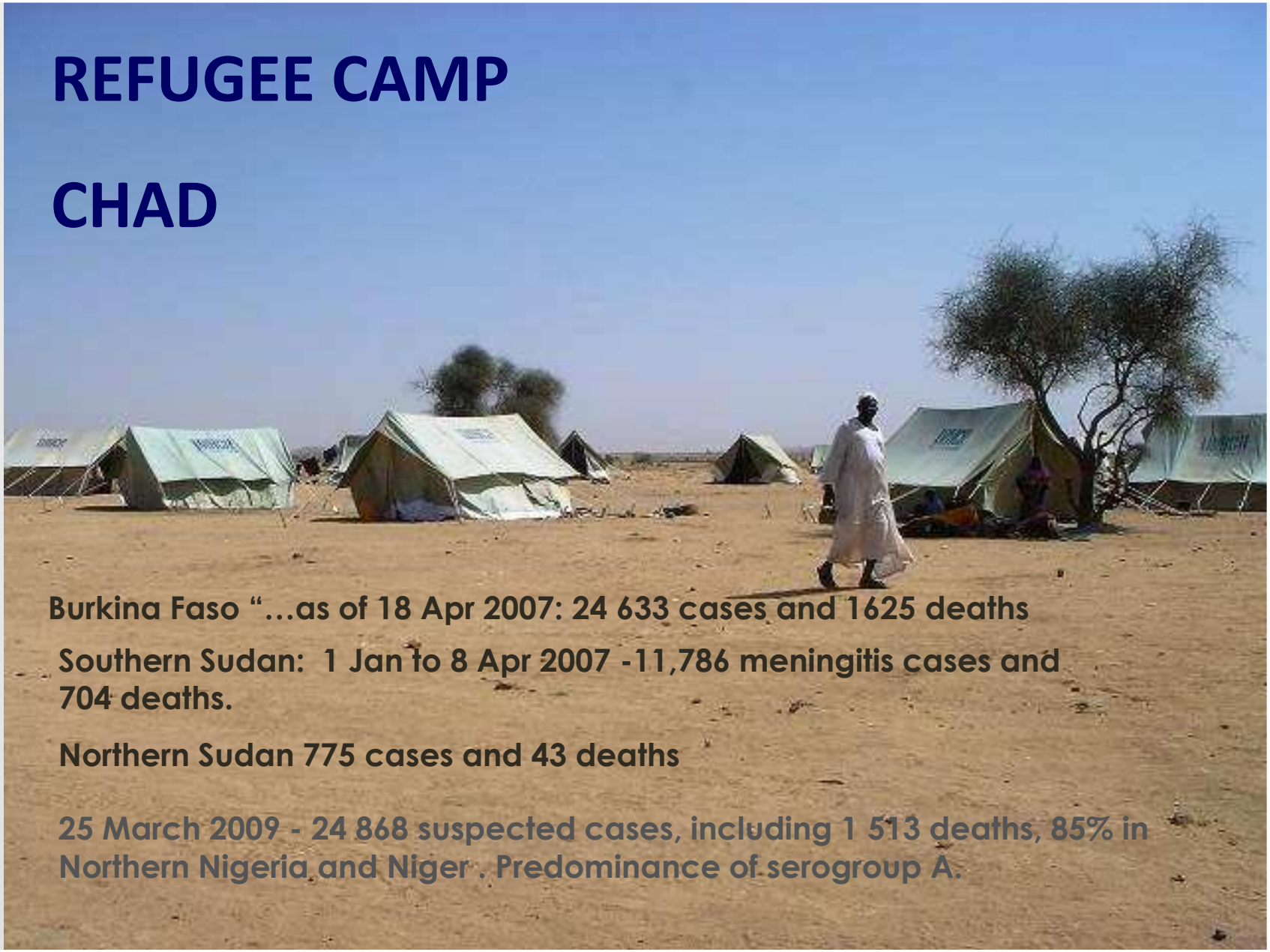
MENINGITIS BELT



https://www.cdc.gov/yellow-book/hcp/travel-associated-infections-diseases/meningococcal-disease.html

REFUGEE CAMP

CHAD



Burkina Faso "…as of 18 Apr 2007: 24 633 cases and 1625 deaths

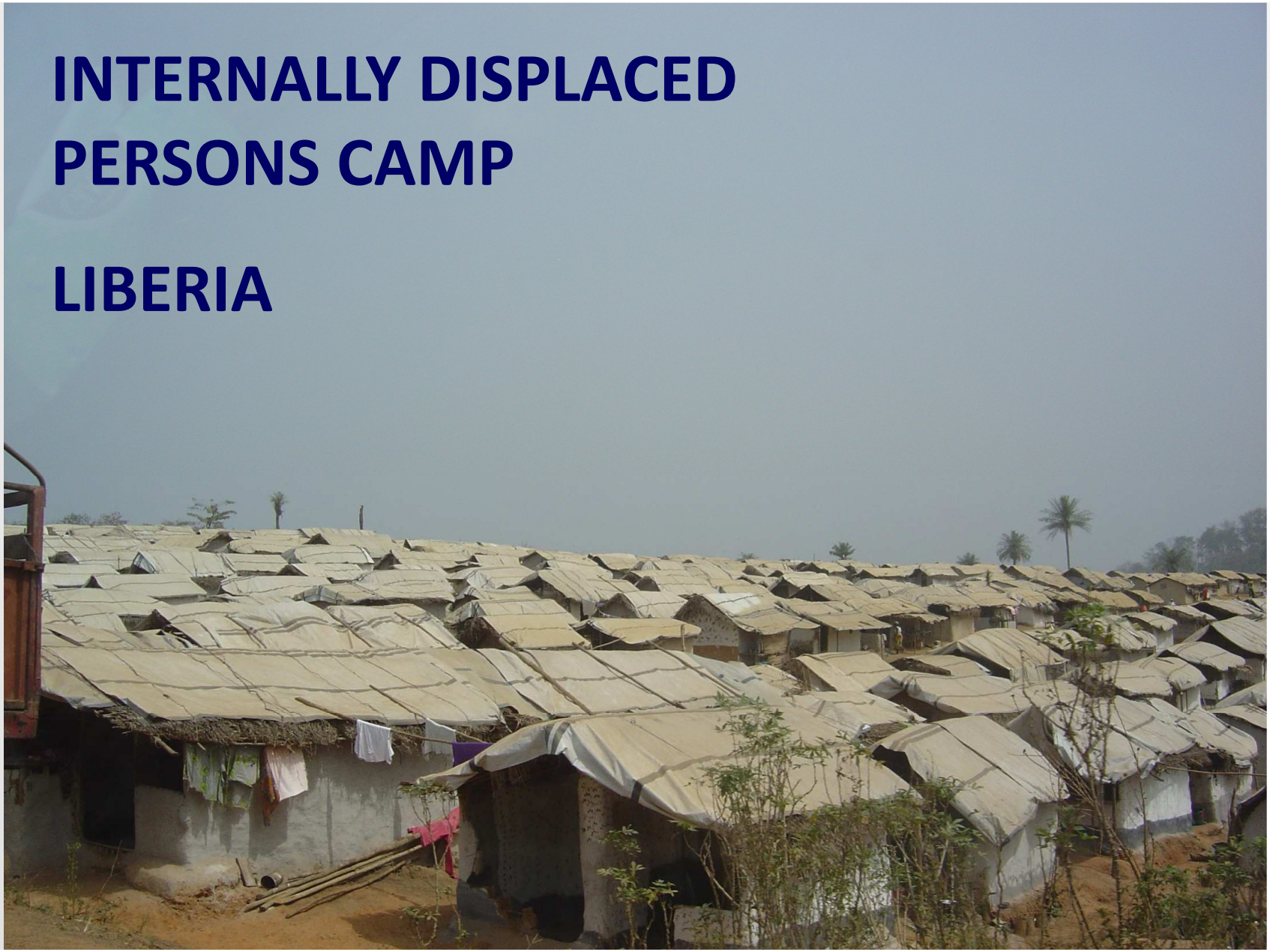
Southern Sudan: 1 Jan to 8 Apr 2007 -11,786 meningitis cases and 704 deaths.

Northern Sudan 775 cases and 43 deaths

25 March 2009 - 24 868 suspected cases, including 1 513 deaths, 85% in Northern Nigeria and Niger . Predominance of serogroup A.

INTERNALLY DISPLACED PERSONS CAMP

LIBERIA



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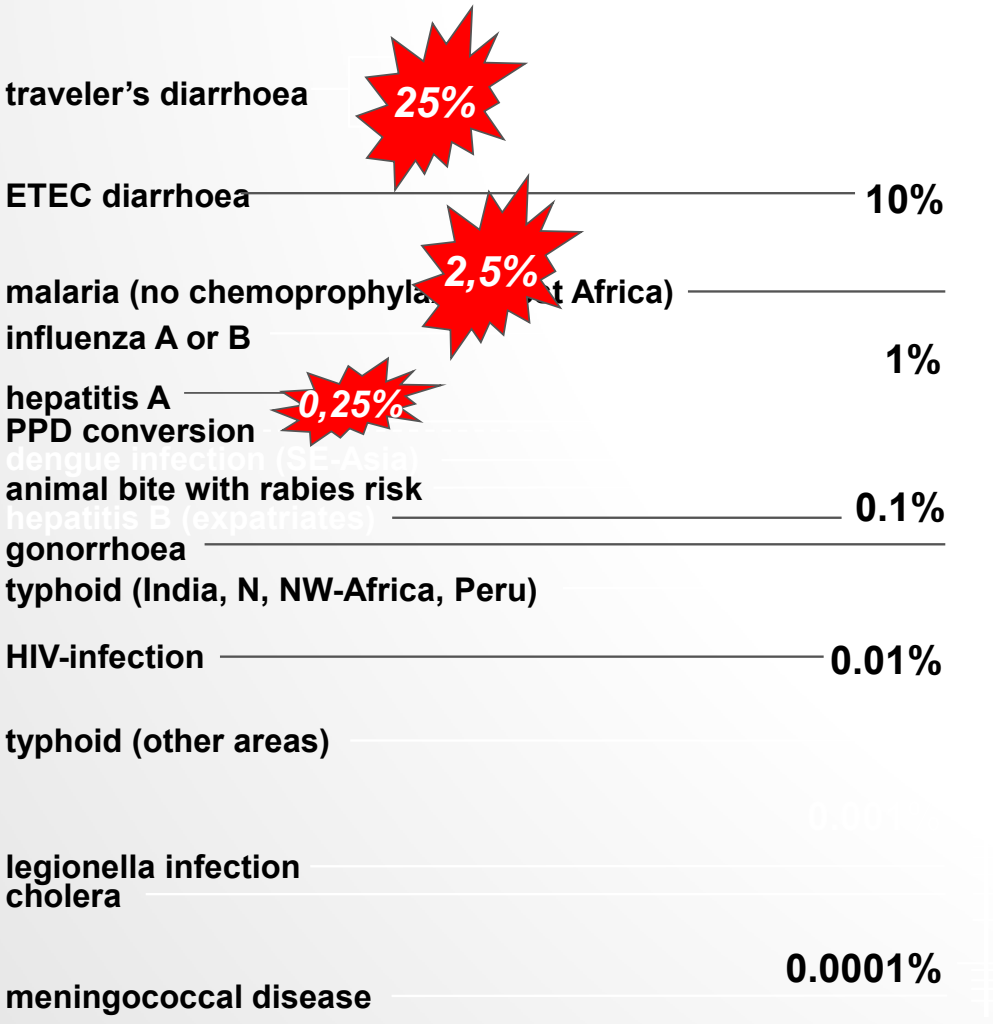
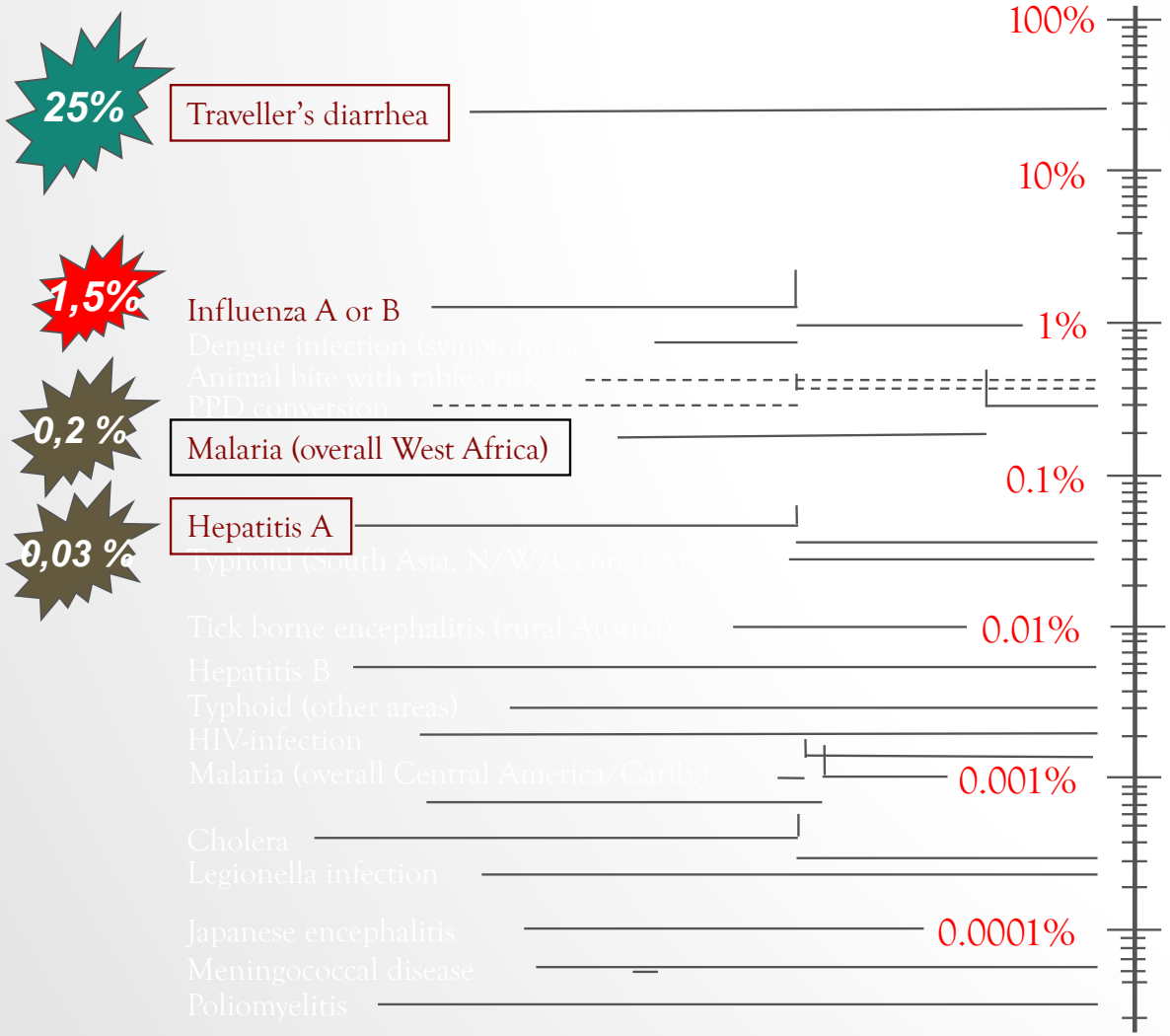
- **COMPULSORY**
  - Yellow fever
  - Meningococcal disease

- RECOMMENDED / **“Travel Vaccines”**
  - Hepatitis A, Typhoid, Rabies, Japanese Encephalitis, European TBE

Incidence rate / month of health problems during a stay in developing countries



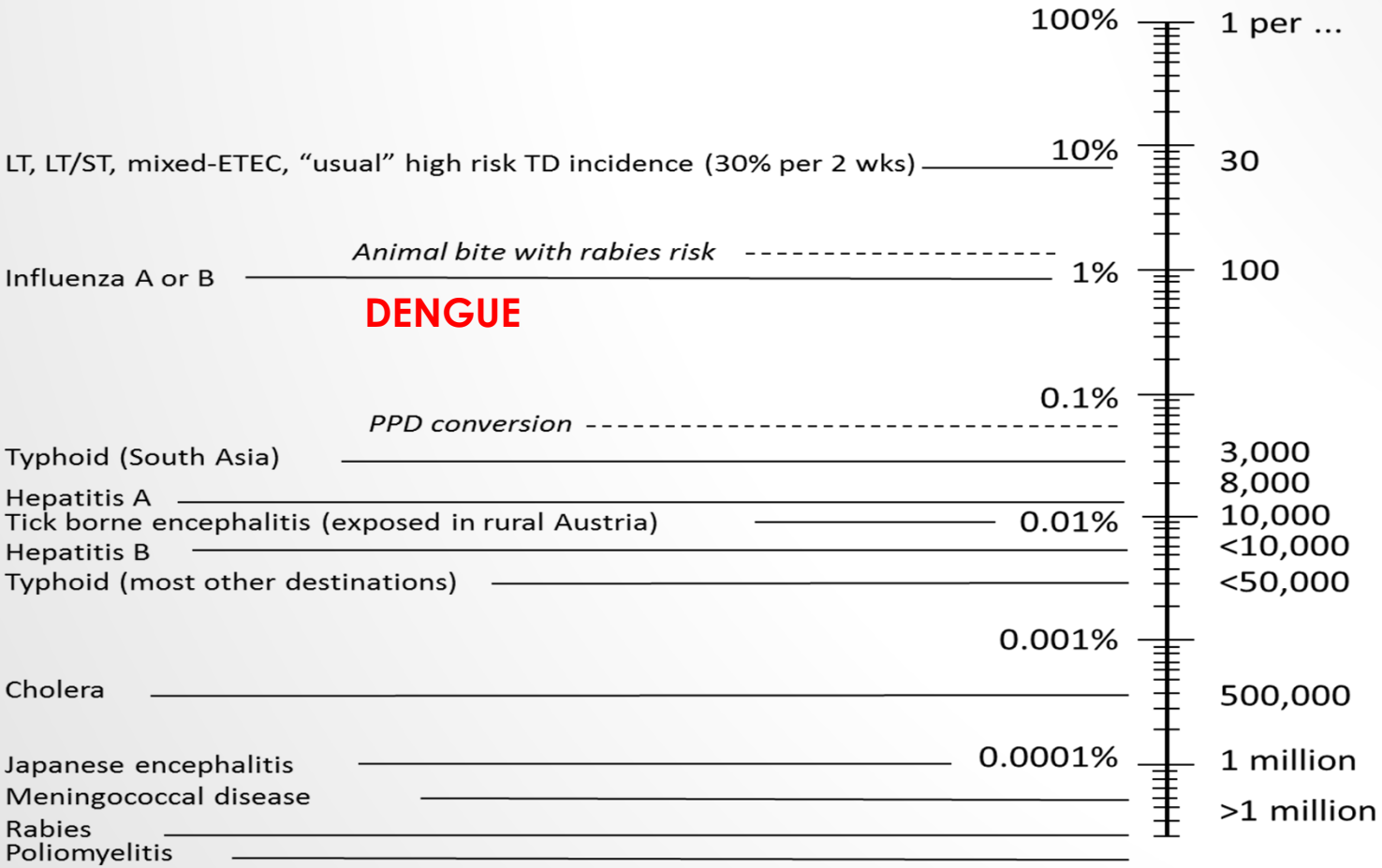
STEFFANOGRAM 2011



Steffen R et al.
J Travel Med
2008;15:145-6

Western Travelers to Tropical and Subtropical Destinations

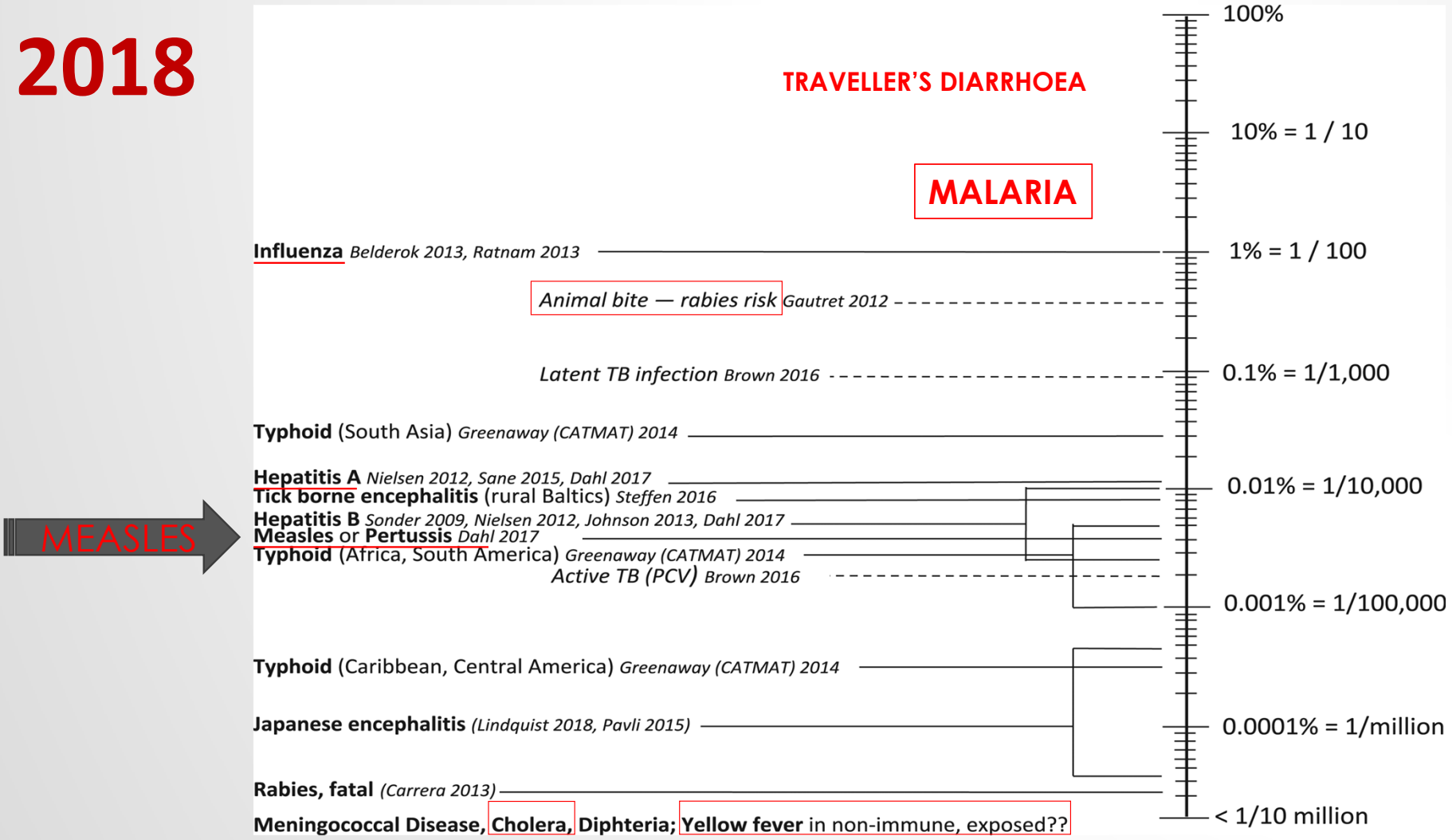
Vaccine Preventable Diseases — Estimates of incidence rate per month



ETEC, Enterotoxigenic *Escherichia coli*; LT, Labile enterotoxin; ST, Heat stable enterotoxin, PPD, purified protein derivative

Steffen R et al. J Travel Med. 2015; 22:1-12.

2018



From: Travel vaccine preventable diseases—updated logarithmic scale with monthly incidence rates
J Travel Med. 2018;25(1). doi:10.1093/jtm/tay046


TRAVELLERS TO SOUTH AFRICA SHOULD BE VACCINATED???
MEASLES ALERT
10 November , 2020
Three laboratory-confirmed measles cases have been detected between the 30th of October to the 5th of November in two provinces (Eastern Cape and KwaZulu-Natal) by the National Institute for Communicable Diseases (NICD). These cases do not yet comprise a cluster or outbreak (defined as 3 cases within one health district within one month) but warrant heightened attention.
NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES
detected by Trendolizer™
Larry Rice
Health Officials in Japan Battle Measles Outbreak in a Decade in the news on this Friday Febr 22, 2019
Français
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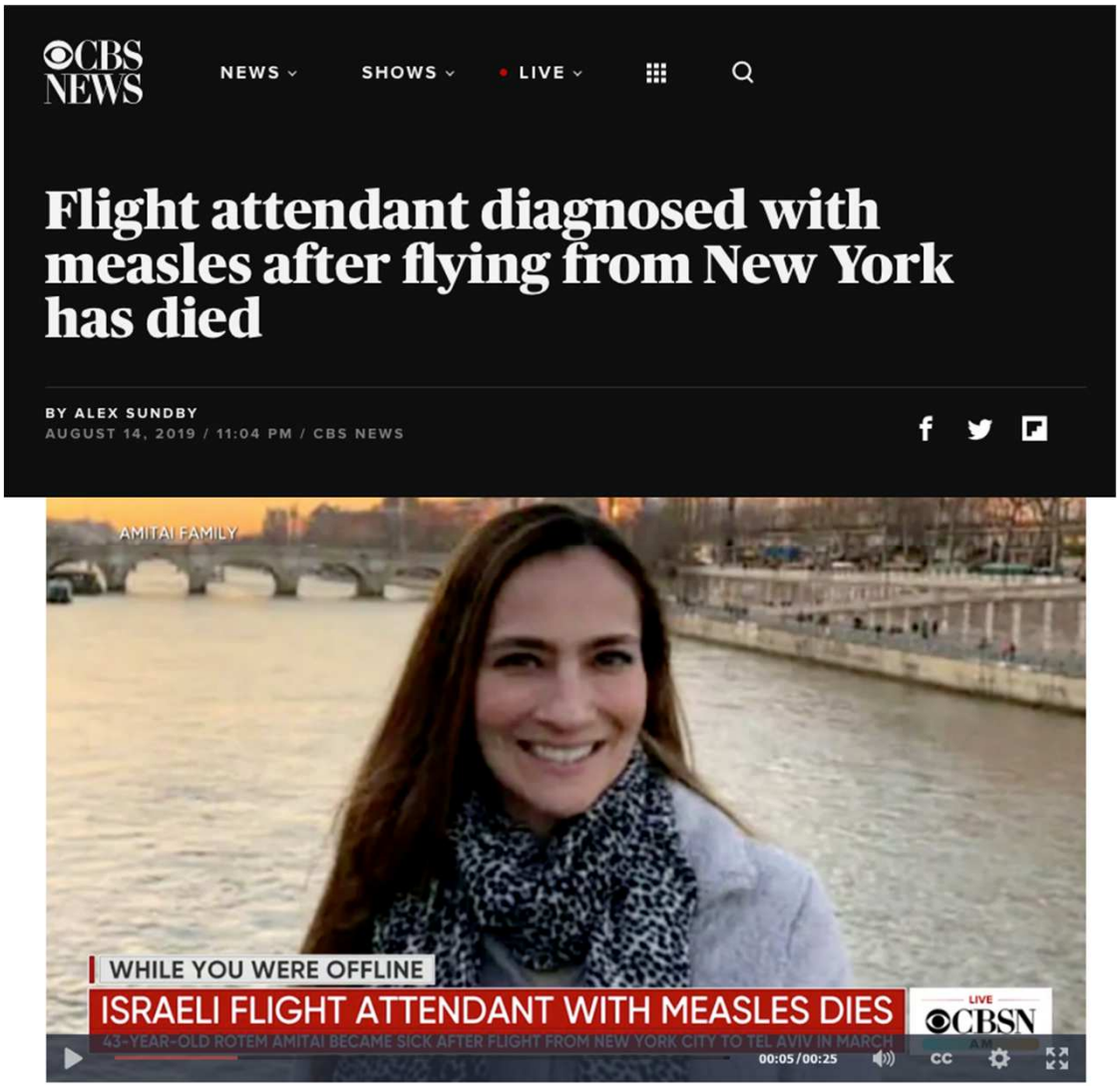
Accueil > Infos > Monde > La rougeole revient en force dans le monde
MONDE
La rougeole revient en force dans le monde
Par Euronews • Dernière MAJ: 15/04/2019
12 DE VOLKSKRANT VRIJDAG 19 APRIL 2019
Ten eerste
Vaccinatieplicht verdeelt coalitie
Thomas Borst
Den Haag
De Tweede Kamer is ongerust over het groeiende aantal ouders dat
Measles outbreaks a global
Confirmed measles cases, 2018-2019
1
3,000
6,000
9,000
78,537
Ukraine
High: 78,537
BREAKING NEWS
MEASLES OUTBREAK
Measles or "Tigdas" is a respiratory infection that causes red rashes on the body, often accompanied by fever. An estimate of 2 million unvaccinated children in the Philippines may be at risk.
MB
#BeFullyInformed

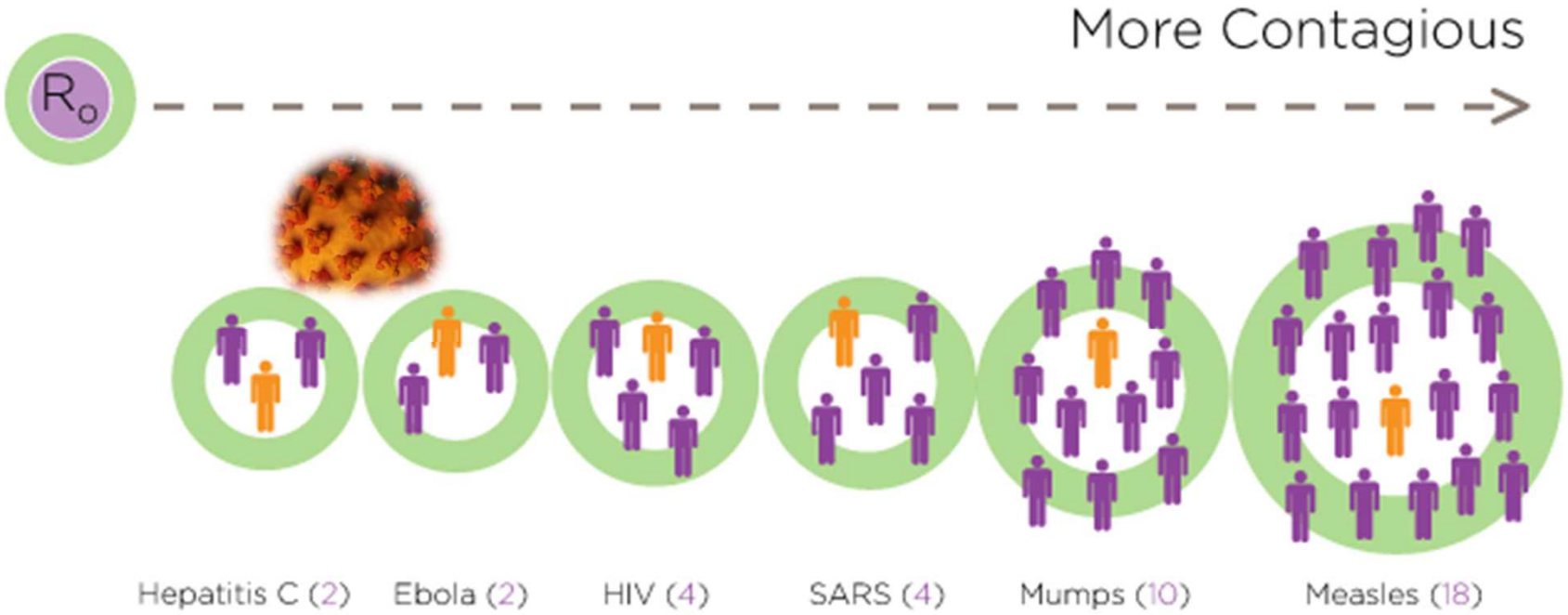
MEASLES

Measles is not “just” a childhood disease…

Measles has the highest *Rate of Infection* of all infectious diseases



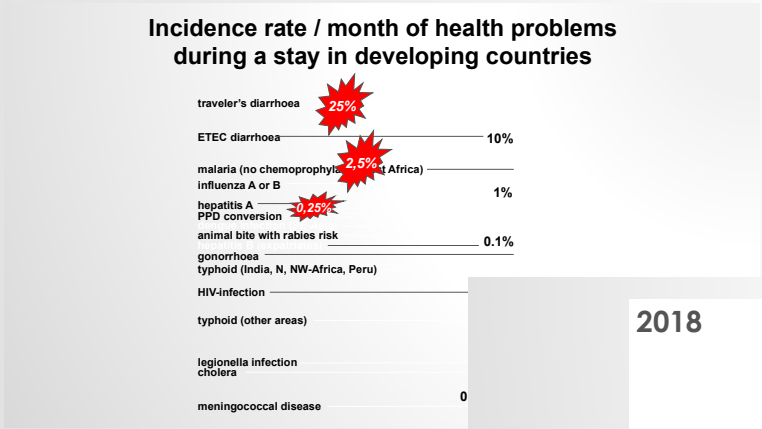
https://www.cbsnews.com/news/flight-attendant-dies-from-measles-rotem-amitai-israeli-airline-el-al-symptons-march-flight-new-york-to-tel-aviv/

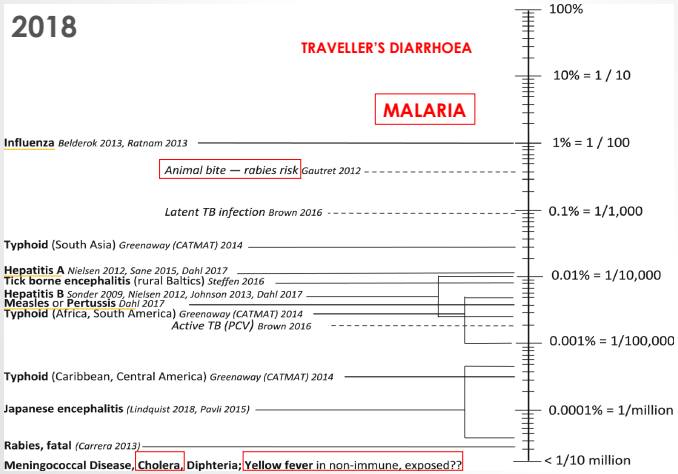


The Reproduction Number of ID

https://www.healthline.com/health/r-nought-reproduction-number

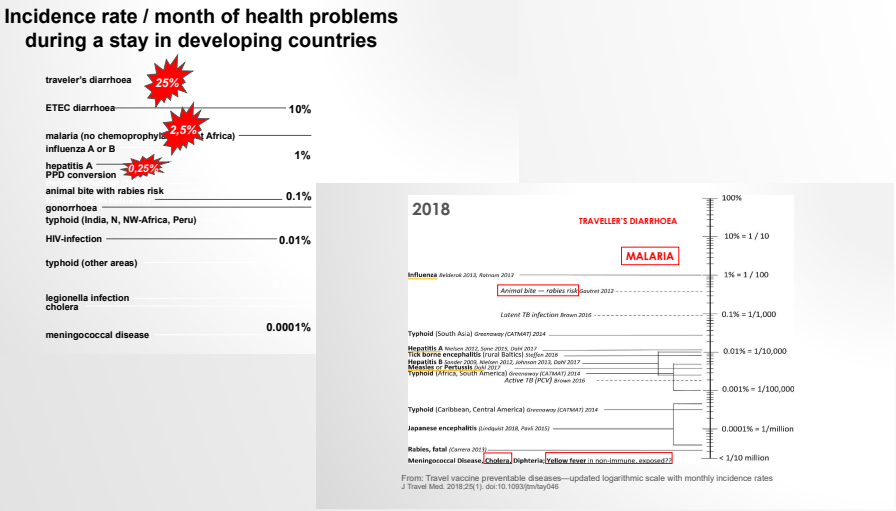
NEED TO REMAIN UP TO DATE
- DISEASE PATTERNS CHANGE OVER TIME





From: Travel vaccine preventable diseases—updated logarithmic scale with monthly incidence rates
J Travel Med. 2018;25(1). doi:10.1093/jtm/tay046

WHAT IS WRONG WITH THESE SLIDES?



- **EUROPEAN Statistics**
- **EUROPEAN Travellers…**

- **EUROPEAN Epidemiology**

WE DON'T HAVE….

- AFRICAN Statistics
- AFRICAN Travellers…

- NO AFRICAN Epidemiology

NO EVIDENCE BASED (Vaccine) RECOMMENDATIONS FOR AFRICAN TRAVELLERS …

SO WHO GETS WHAT?

- CONSIDER:
  - The Destination
  - The Disease Risk
  - The Traveller

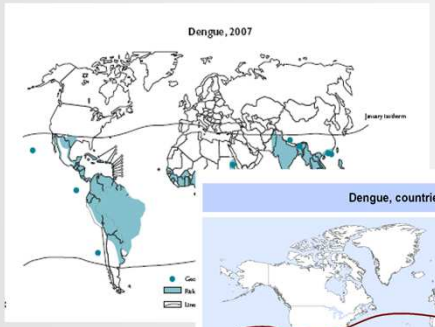
  - The Cost
  - The Vaccine

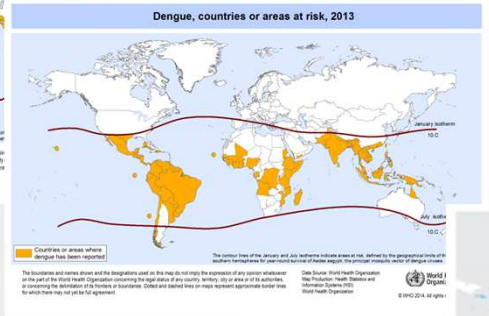
DDT CV

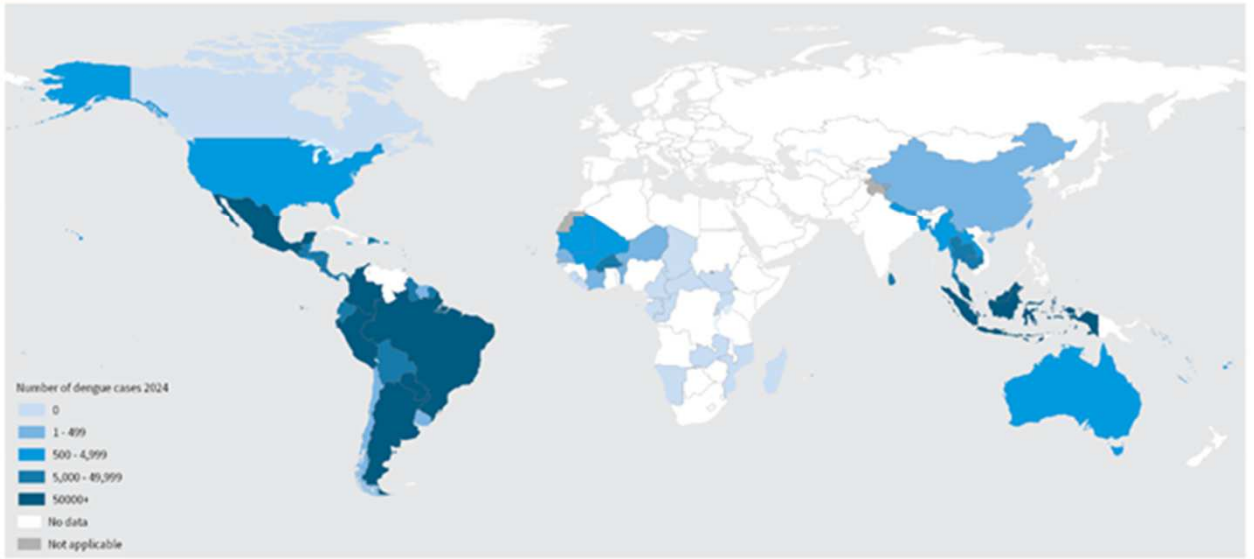
DESTINATION

- WHERE IS HE GOING?
- TO DO WHAT?

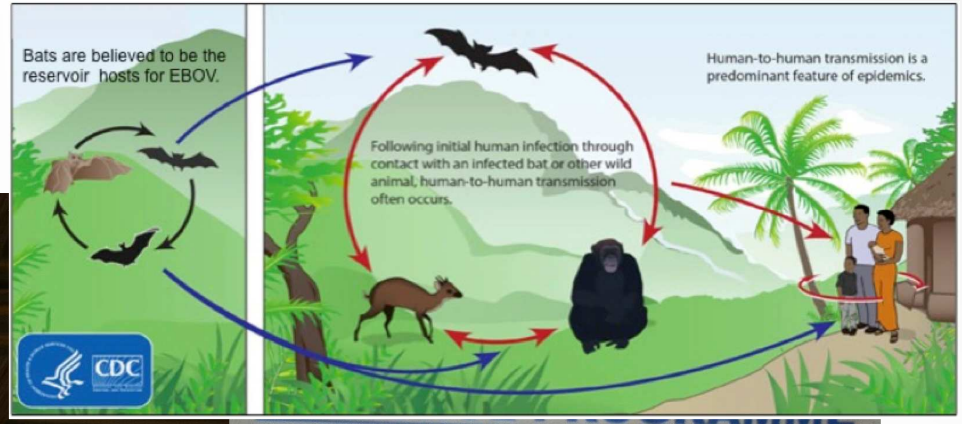
Geographical Spread of Disease







DISEASE


Bats are believed to be the reservoir hosts for EBOV.
Following initial human infection through contact with an infected bat or other wild animal, human-to-human transmission often occurs.
Human-to-human transmission is a predominant feature of epidemics.
CDC


Clinical Chart
CHC
DIC
TTM
CHW
RATS CARRY LASSA FEVER
LASSA FEVER IS A BAD SICKNESS
LASSA FEVER KILLS CHILDREN AND ADULTS
AVOID CATCHING AND EATING RATS
WORLD HEALTH ORGANIZATION
ECHO
NO SEX FOR GRADE... SEX TRADE IS
STOP ABUSING
EPI
DEPARTMENT
Africare
LET YOUR CHILDREN TAKE ALL VACCINES BEFORE THE AGE OF ONE


RIVER BLINDNESS CAN BE CONTROLLED AND TREATED
DON'T BE LIKE THIS
TAKE YOUR FREE TREATMENT
GOOD HEALTH IS HAPPINESS
WHO
Sightsavers
MOHASW

THE TRAVELLER

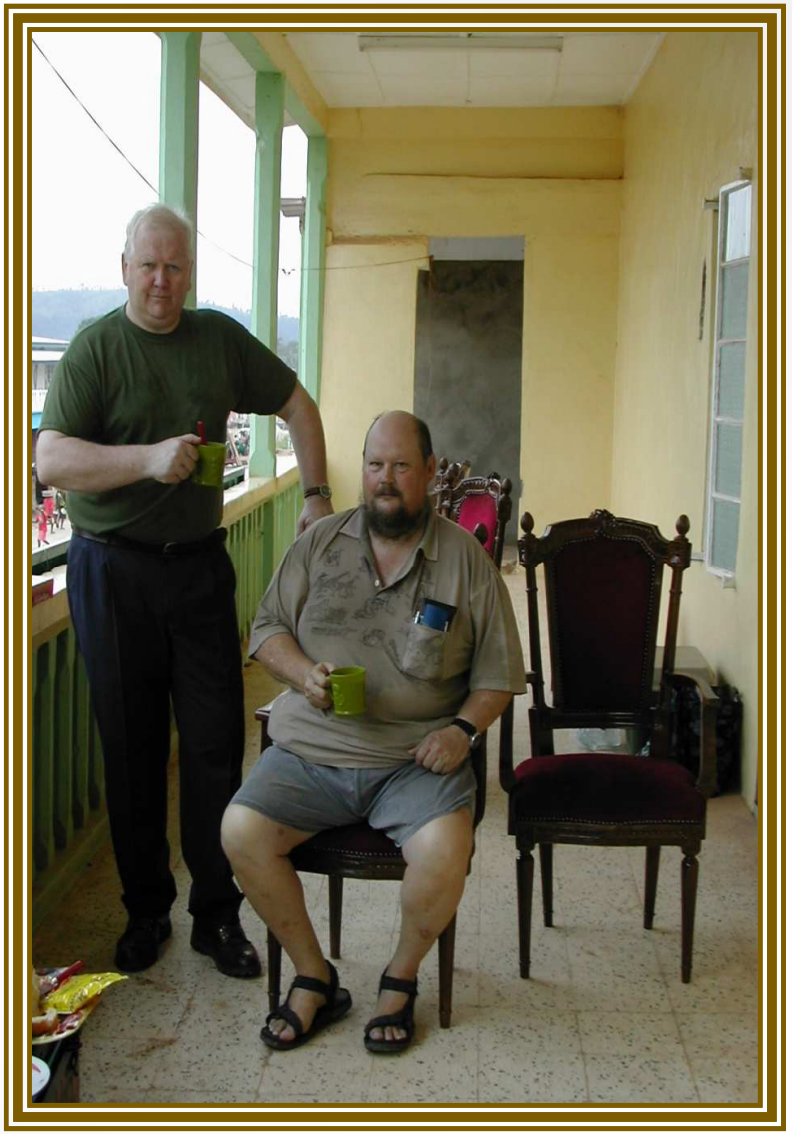
PRE-POSTING MEDICAL SCREENING

Determine pre-existing illness

- Unacceptable risk to traveller's health
- Medico-legal and / or

  financial risk to employer

- Travel Health Education
- Appropriate Vaccination
- Preventive and Prophylactic Measures



CV

- **COST**
  - Of the DISEASE
  - Of the Vaccine
- **VACCINE**
  - Availability?
  - Efficacy?
  - Side-effects?

World Health Organization

Health Topics

Home / News / Nearly 40 million ch

Nearl
dang
growi

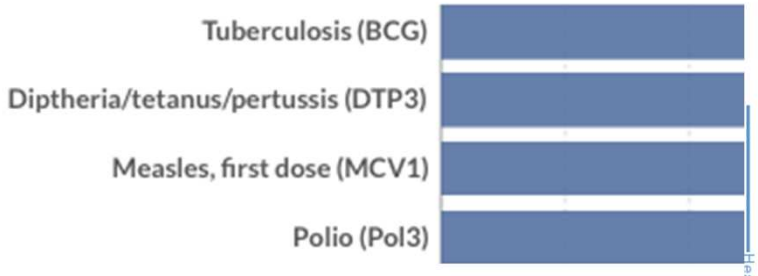
23 November 2022 |

Global vaccination coverage, World, 2021

Share of one-year-olds who have been immunized against a disease or a pathogen.

Our World in Data

Change country



COVI pandemic f
ackslide in
in three decades

Health Science Reports
Open Access

Health Sci Rep. 2022 Mar; 5(2): e00516.
Published online 2022 Feb 18. doi: 10.1002/hsr2.516
PMCID: PMC8855492
PMID: 35224217

Impact of COVID-19 pandemic on routine vaccination coverage of children and adolescents: A systematic review

SeyedAhmad SeyedAlinaghi, [1] Amirali Karimi, [2] Hengameh Mojdeganlou, [3] Sanam Alilou, [2] Seyed Peyman Mirghaderi, [2] Tayebeh Noori, [4] Ahmadreza Shamsabadi, [5] Omid Dadras, [6] Farzin Vahedi, [2] Parsa Mohammadi, [2] Alireza Shojaei, [1] Sara Mahdiabadi, [2] Nazanin Janfaza, [7] Abolfath Keshavarzpoor Lonbar, [8] Esmaeil Mehraeen, [8] and Jean-Marc Sabatier [9]

Table 1: Countries with the greatest increase in children not receiving a first dose of diphtheria-tetanus-pertussis combined vaccine (DTP-1)

	2019	2020
India	1'403'000	3'038'000
Pakistan	567'000	968'000
Indonesia	472'000	797'000
Philippines	450'000	557'000
Mexico	348000	454'000
Mozambique	97'000	186'000
Angola	399'000	482'000
United Republic of Tanzania	183'000	249'000
Argentina	97'000	156'000

The Reproduction Number of ID

https://www.healthline.com/health/r-nought-reproduction-number

alarm as new data shows global
ed to decline in 2021, with 25 mill
ng vaccines

Reading time: 6 min (1581 words)

0% 10% 20% 30% 40% 50

CEF (2022)

1980

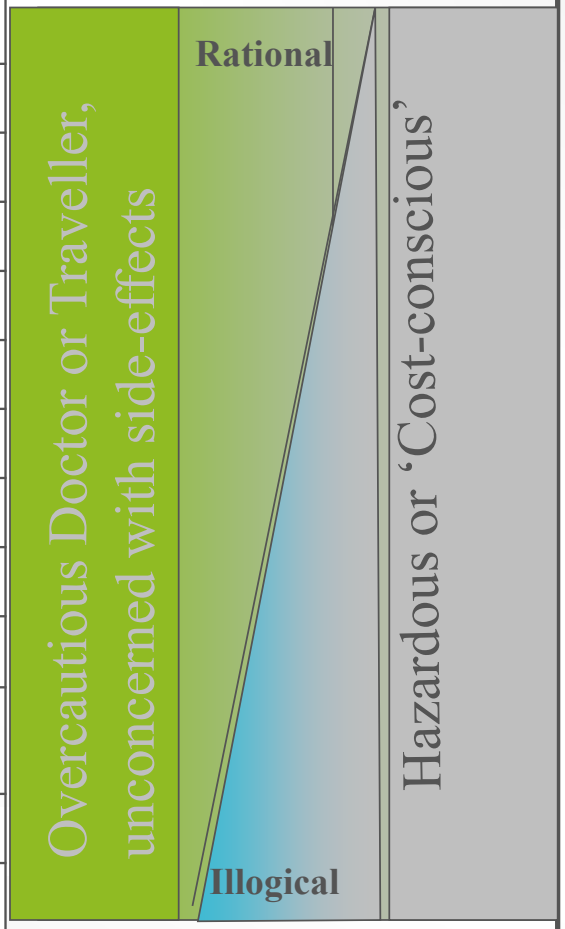
CHART TABLE SOURCES

THINGS THEY ARE A CHANGING!

- **HEPATITIS A**
- ***MEASLES***
- ***POLIO***
- **DIPHTHERIA…**
- ***PERTUSSIS….***

TRAVELLER'S RISK ASSESMENT

INFECTION	INCIDENCE	IMPACT	TOTAL	IMMUNISATION	
				YES	NO
Hepatitis A	+++	++	+++++		
Hepatitis B	++	+++	+++++		
Rabies	++	++	++++		
Polio	(+)	+++	+++(+)		
Yellow Fever	(+)	+++	+++(+)		
Typhoid	++	+	+++		
Influenza	++(+)+?	(+) +	+++++		
Diphtheria	(+)	++	++(+)		
Tetanus	(+)	++	++(+)		
Meningococcus	(+)	++	++(+)		
Jap B Encephalitis	(+)	++	++(+)		
Cholera	+	+	++		
Measles	(+)	+	+(+)		

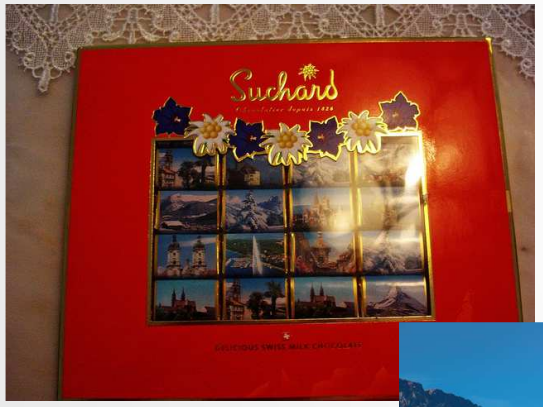


STEFFEN &DuPONT

NON-VACCINE PREVENTABLE DISEASES

- HIV/AIDS
- African Tick Bite Fever
- Sleeping sickness
- Schistosomiasis
- Injuries
- Pre-existing / age relater disease
- Travel insurance cover

Etc.


Suchard


P


8. Februar
Freipass für alle?
Nein
SVP

INFECTIOUS DISEASE KNOWS NO BORDERS

NO MORE CASTLES …

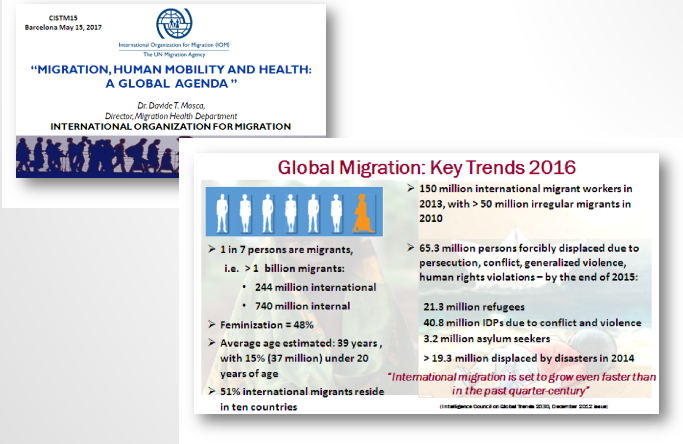
WE ALL LIVE IN A GLOBAL VILLAGE

- ONE VIRUS AFFECTS ALL…
- ONE VACCINE PROTECTS ALL!

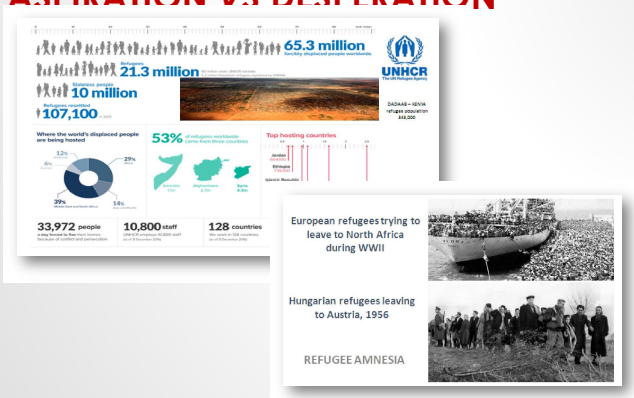
MIGRANTS ARE TRAVELLERS…

IMAGINARY THREATS

UNITED IN MIGRATION



ASPIRATION VS DESPERATION



Vaccin

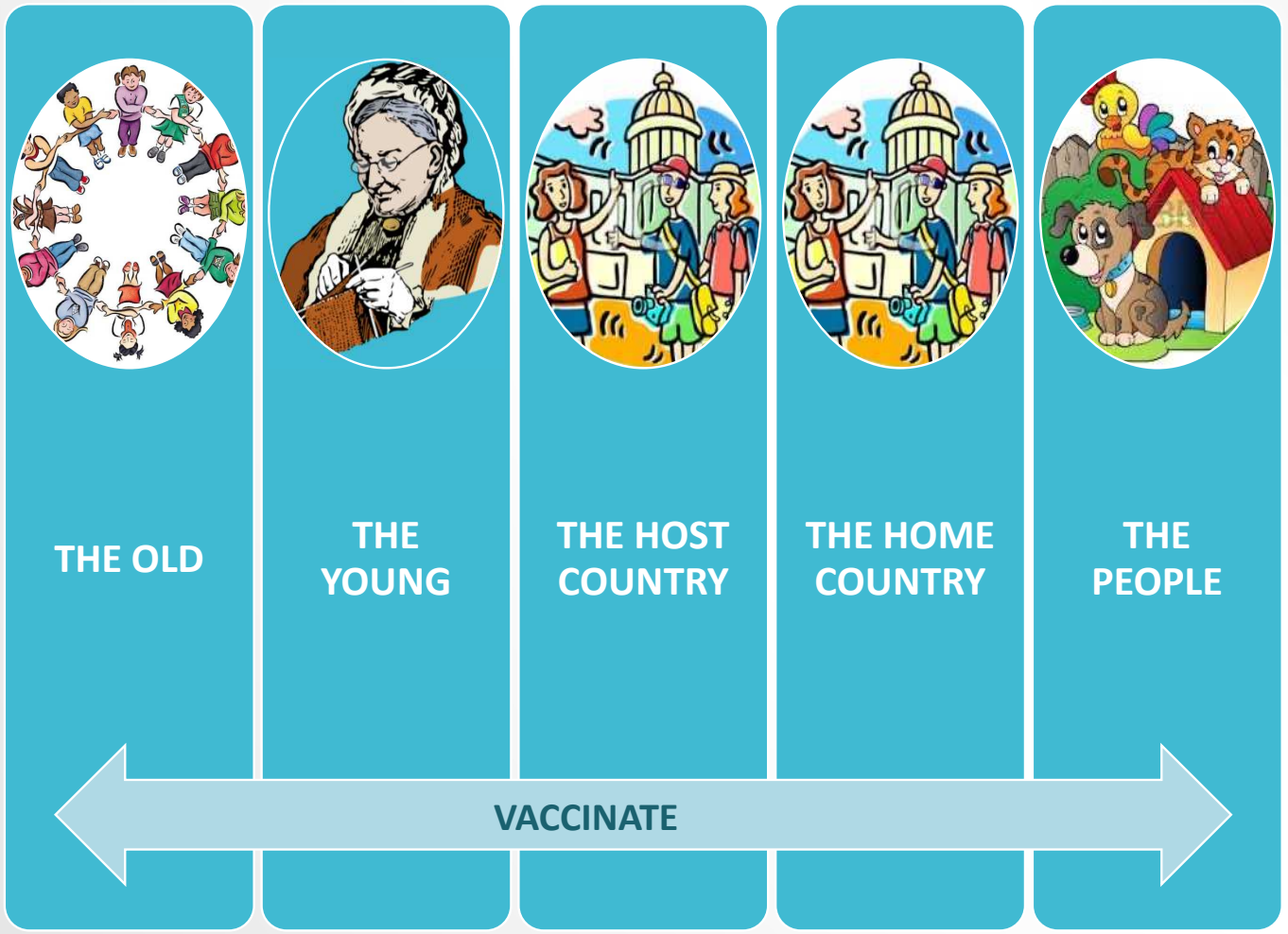
Vaccin

NOT just "Public sector"....

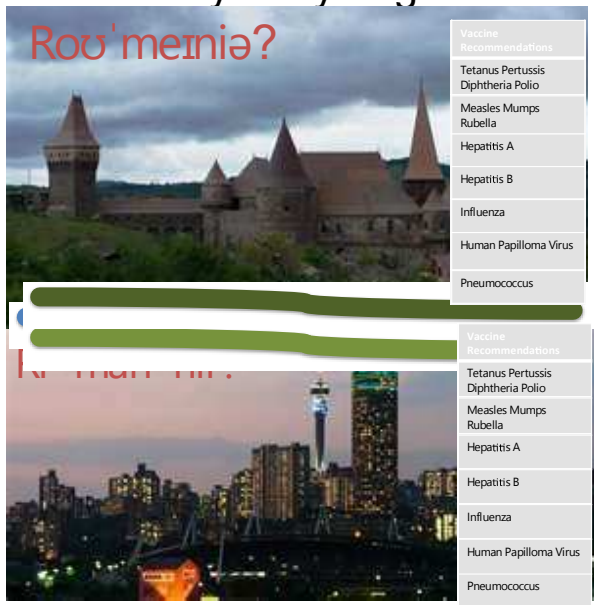
VACCINES ARE NOT JUST FOR…

- The Small Fry
- The Traveller
- The Elderly
- The Infirm

IF WE VACCINATE…



This holiday will you go to…



Whether your STAY or STRAY, you should consider having your travel, teen and adult vaccinations updated!

0861 300 911 www.traveldoctor.co.za

TRAVEL DOCTOR

VACCINES FOR ALL

THINGS YOUR MOTHER NEVER TOLD YOU!

NOT ONLY YOUR FACE

WASH! If everyone had reliable sanitation and drinking water and practised appropriate hygiene, 4% of deaths and 7% of the global disease burden would disappear.

Not everybody has this!

BETTER HYGIENE

Better hygiene, sanitation & clean water protect people from infectious diseases, but many infections spread regardless...

Vaccines to the rescue!

MORTALITY

"The impact of vaccination on the health of the world's peoples is hard to exaggerate. Except for safe water, no other modality has had such a major effect on mortality reduction and population growth."

(Plotkin and Mortimer, 1988)

So, Mother had you vaccinated!

1 CHECK THE NEWS

If people are not vaccinated, diseases that have become uncommon such as measles, whooping cough, diphtheria and polio, will quickly reappear.

VACCINES ARE NOT JUST FOR CHILDREN

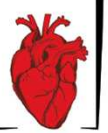
- *Immunity from vaccines may wane over time:* **Get a booster, e.g., tetanus, whooping cough**
- *Some diseases change all the time, e.g., influenza:* **Get an annual 'flu shot to protect against the latest virus strain**
- *Some diseases affect the elderly and immunocompromised adults more, e.g., shingles:* **Ask about the vaccine**

AVOID CANCER

- Human papilloma virus vaccine protects against female cervical and head and neck cancer in women and men
- Hepatitis B vaccine prevents liver cancer as well as cirrhosis

REDUCE CARDIO VASCULAR DISEASE RISK

Influenza associated inflammation increases your risk of heart attack and stroke! **An Influenza vaccine reduces this risk.**



www.traveldoccorp.co.za +27 11 888 5505 info@traveldoctor.co.za

SOUTH AFRICAN ADULT* VACCINE SCHEDULE

* Persons 19 years and older. List based on Amayeza-info.co.za schedule for 2023

FOR EVERYONE WHO MEETS THE AGE REQUIREMENT AND HAVE NO CONTRAINDICATIONS

Influenza	Every year
Tetanus, Diphtheria, Pertussis, (Polio)	Every ten years
Measles, Mumps, Rubella	One or two doses
Chickenpox	Two doses 6 weeks apart
Human Papilloma Virus	Three doses over 6 months
Hepatitis A	Two doses over 6-12 months
Hepatitis B	Three doses over 6 months
Rabies – Pre-exposure	Two dose over 1 week
Pneumococcal	Two doses over 2 years
Shingles (Herpes zoster)	One dose
Meningococcal	One dose

TAKE NOTE

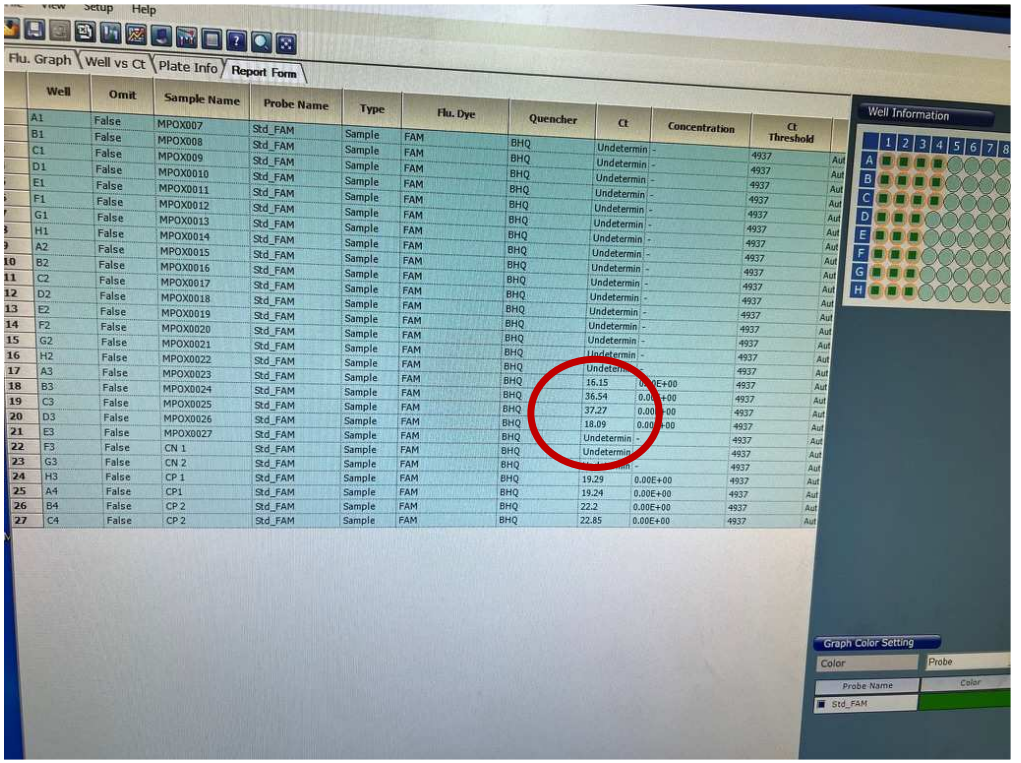
- Persons born after 1994 may have had a full course of Hepatitis B as part of the childhood vaccine schedule
- Persons who have had confirmed measles, mumps, rubella, chickenpox have lifelong immunity and do not need to be vaccinated
- Even if a person has had pertussis or diphtheria or had been vaccinated in childhood, they need boosters later in life
- All fully vaccinated adults need a single adult polio booster
- Infection with hepatitis A confers lifelong immunity - no vaccine needed
- Everyone who has had chickenpox are at risk of developing shingles later in life
- Persons living with chronic disease (Diabetes, cardiac, renal, respiratory, immune-suppression) are at increased risk and should receive a pneumococcal vaccine
- People who have had their spleen removed must always receive meningococcal and pneumococcal vaccine
- Bone marrow and some other cancer patients who have had chemotherapy must be vaccinated again against everything
- Rabies is endemic in South Africa and rabies vaccine and immunoglobulin are becoming more difficult to source. Certain workers, joggers and cyclists are at particular risk and should consider pre-exposure prophylaxis
- Yellow fever does not occur in South Africa, but travellers to yellow fever affected countries must be vaccinated for their own protection and / or to comply with the International Health Regulations (WHO)

TRAVELDOCTOR

CONTACT *your closest clinic!*

Is Mpox / should Mpox be a "Travel Vaccine" ????

Mpox



	Well	Omit	Sample Name	Probe Name	Type	Flu. Dye	Quencher	Ct	Concentration	Ct Threshold	
	A1	False	MPOX007	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
	B1	False	MPOX008	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
	C1	False	MPOX009	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
	D1	False	MPOX0010	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
	E1	False	MPOX0011	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
	F1	False	MPOX0012	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
	G1	False	MPOX0013	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
	H1	False	MPOX0014	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
	A2	False	MPOX0015	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
10	B2	False	MPOX0016	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
11	C2	False	MPOX0017	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
12	D2	False	MPOX0018	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
13	E2	False	MPOX0019	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
14	F2	False	MPOX0020	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
15	G2	False	MPOX0021	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
16	H2	False	MPOX0022	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
17	A3	False	MPOX0023	Std_FAM	Sample	FAM	BHQ	Undetermin		4937	Aut
18	B3	False	MPOX0024	Std_FAM	Sample	FAM	BHQ	16.15	0.00E+00	4937	Aut
19	C3	False	MPOX0025	Std_FAM	Sample	FAM	BHQ	36.54	0.00E+00	4937	Aut
20	D3	False	MPOX0026	Std_FAM	Sample	FAM	BHQ	37.27	0.00E+00	4937	Aut
21	E3	False	MPOX0027	Std_FAM	Sample	FAM	BHQ	18.09	0.00E+00	4937	Aut
22	F3	False	CN 1	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
23	G3	False	CN 2	Std_FAM	Sample	FAM	BHQ	Undetermin	-	4937	Aut
24	H3	False	CP 1	Std_FAM	Sample	FAM	BHQ	19.29	0.00E+00	4937	Aut
25	A4	False	CP1	Std_FAM	Sample	FAM	BHQ	19.24	0.00E+00	4937	Aut
26	B4	False	CP 2	Std_FAM	Sample	FAM	BHQ	22.2	0.00E+00	4937	Aut
27	C4	False	CP 2	Std_FAM	Sample	FAM	BHQ	22.85	0.00E+00	4937	Aut

Medical News in Brief

FREE

October 18, 2024

CDC Recommends Mpox Vaccine for Travelers to Central and Eastern Africa

Samantha Anderer

Article Information

JAMA. Published online October 18, 2024. doi:10.1001/jama.2024.21298

Mpox Resource Center

The US Centers for Disease Control and Prevention (CDC) issued an updated advisory outlining prevention strategies for people visiting countries with widespread clade I mpox virus outbreaks. These strategies include getting the modified vaccinia Ankara–Bavarian Nordic (JYNNEOS) vaccine, which the World Health Organization recently prequalified.

Currently, countries with clade I mpox outbreaks include the Democratic Republic of the Congo—where more than 21 000 cases are suspected—along with such neighboring countries as Burundi, Central African Republic, Rwanda, and Uganda. Clinicians should discuss mpox prevention and risk strategies with any traveler, regardless of sexual orientation or gender, anticipating sexual activity while visiting these countries, the CDC stated. This includes beginning the 2-dose JYNNEOS vaccine series at least 6 weeks before departure to build up immunity, the agency added.

Complementing these guidelines, the US National Institutes of Health released a new list of priorities for mpox research. The agenda includes several main priorities, including increasing knowledge of the different virus strains that cause mpox; advancing both existing and new treatments, such as monoclonal antibodies; and bolstering detection to make it easier to track the virus as well as care for those who have it.

MPOX IN MALAWI

District	Confirmed Cases
Lilongwe	93
Blantyre	3
Mangochi	3
Salima	3
Ntcheu	3
Likoma	2
Nkhatabay	1
Mzimba South	1
Ntchisi	1
Karonga	1
Zomba	1
Chitipa	1

Timeline of Confirmed Cases

September 8, 2025

Two new cases confirmed: A 40-year-old male from Area 36 and a 27-year-old female from Biwi, both in Lilongwe. This brought the total to 99 cases.

September 12, 2025

Three new cases confirmed: A 45-year-old female (Lilongwe), a 12-year-old male (Salima), and a 4-year-old female (Lilongwe). This updated the total to 102 cases.

September 13, 2025

Eight new cases confirmed: All from Lilongwe district, bringing the cumulative total to 110 cases. The cases included a 14-year-old female, a 22-year-old female, an 8-year-old male, a 4-year-old female, a 15-year-old female, a 4-year-old female, a 33-year-old male, and a 15-year-old female.

September 21, 2025

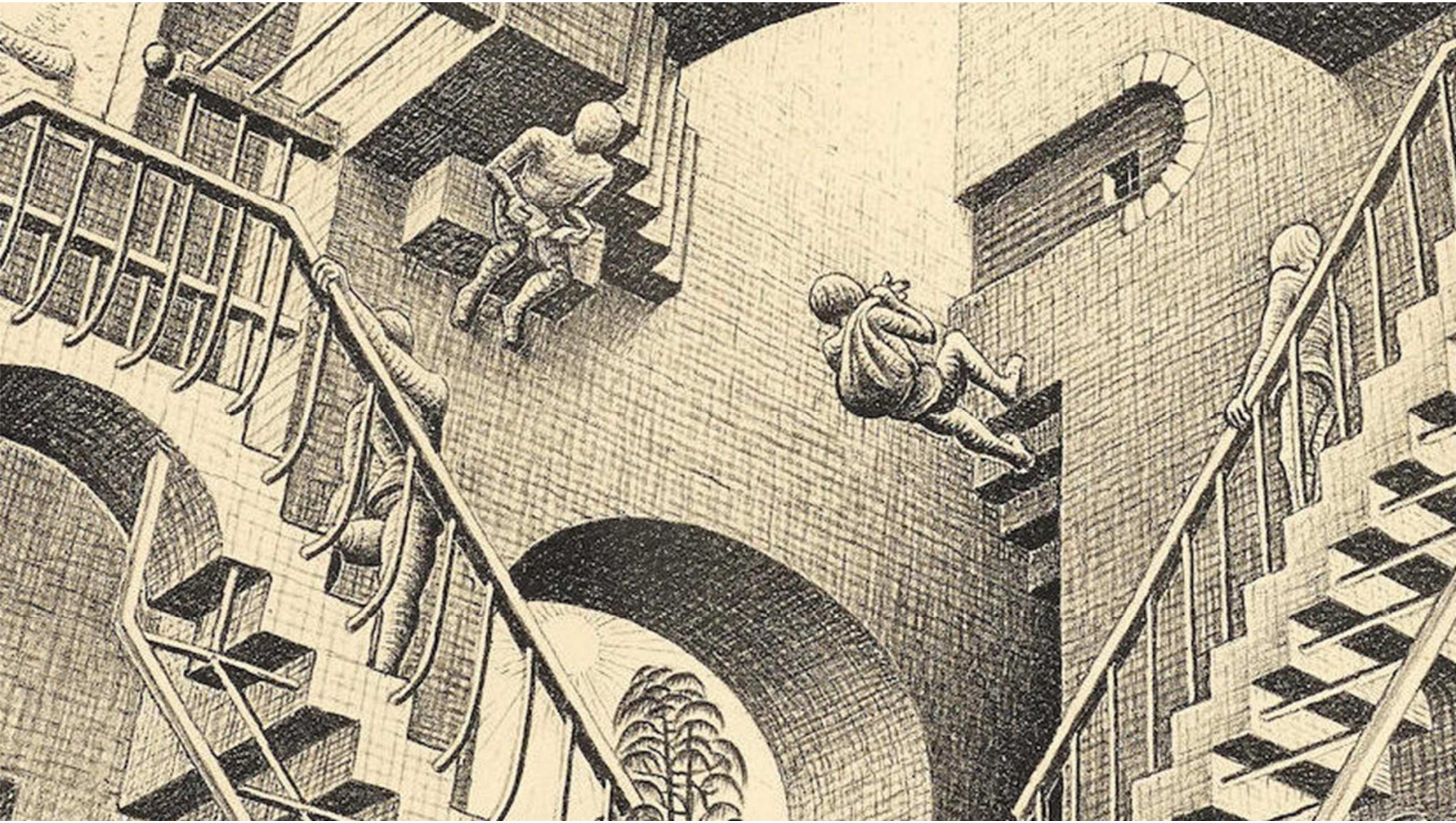
One new case confirmed: A 22-year-old male businessman from Lilongwe, bringing the total to 111 cases. He reported symptoms on September 15, and the infection was confirmed on September 17.

PRIVATE / PUBLIC DISCONNECT

- WE DON'T SPEAK (ANYMORE)
- PRIVATE / PUBLIC / ACADEMIC / PHARMA INDUSTRY

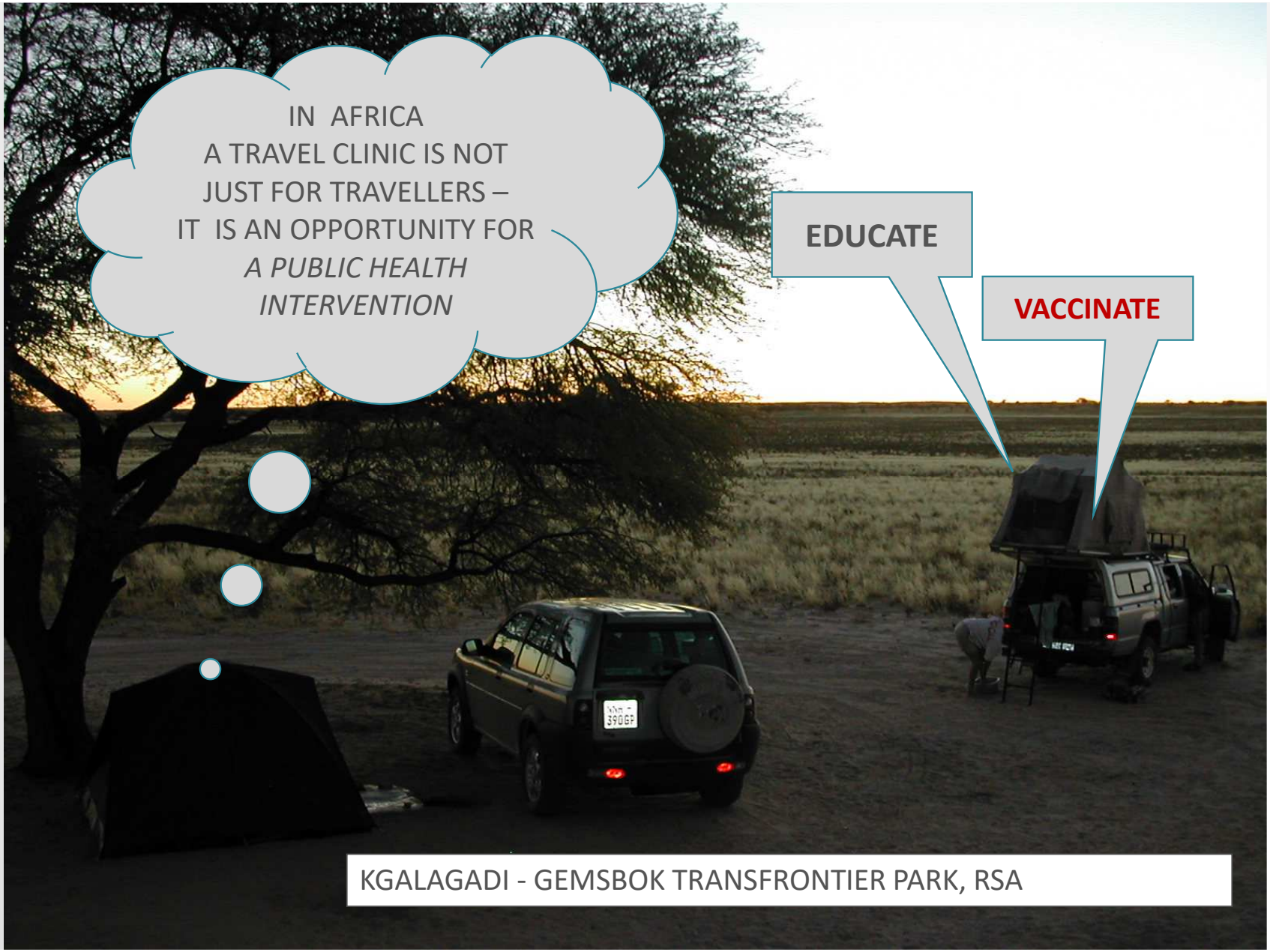
ONE PLANET, ONE HEALTH

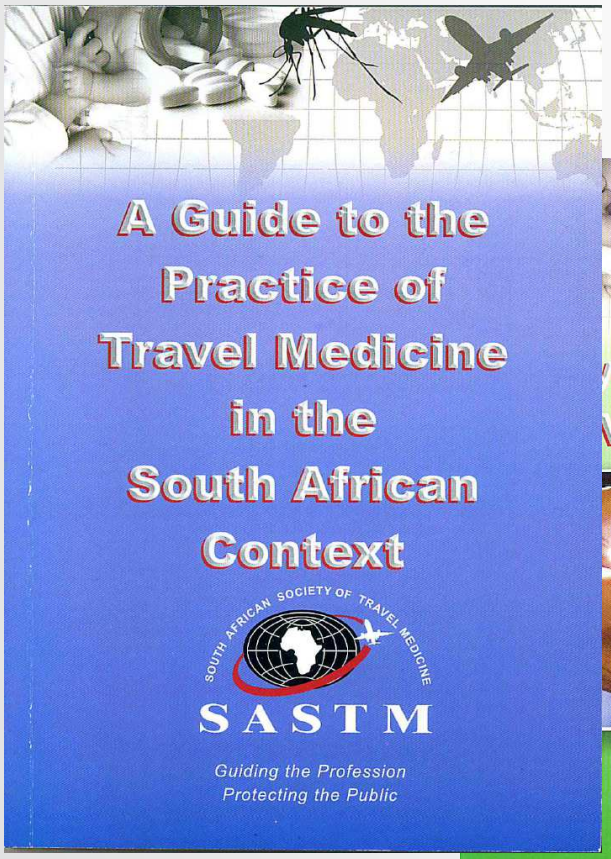
- **No animal vaccines**
  - **No food**
  - **Rabid dogs**
  - **Dead people**

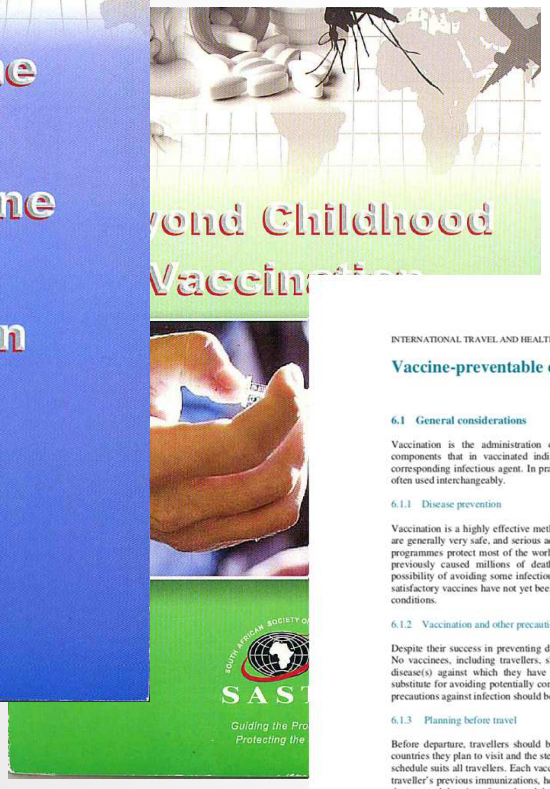


IT'S SIMPLE / STUPID...

- "INDIVIDUALISM" [IN THE PRIVATE SECTOR]
- A DISCONNECT BETWEEN THE PRIVATE & PUBLIC LEGS OF MEDICINE
- A LACK OF DATA
- BIG PHARMA
- TYDSGEES
- THE LAW


IN AFRICA
A TRAVEL CLINIC IS NOT
JUST FOR TRAVELLERS –
IT IS AN OPPORTUNITY FOR
A PUBLIC HEALTH
INTERVENTION
EDUCATE
VACCINATE
KGALAGADI - GEMSBOK TRANSFRONTIER PARK, RSA





INTERNATIONAL TRAVEL AND HEALTH - CHAPTER 6

Vaccine-preventable diseases and vaccines

6.1 General considerations

Vaccination is the administration of agent-specific, but relatively harmless, antigenic components that in vaccinated individuals can induce protective immunity against the corresponding infectious agent. In practice, the terms "vaccination" and "immunization" are often used interchangeably.

6.1.1 Disease prevention

Vaccination is a highly effective method of preventing certain infectious diseases. Vaccines are generally very safe, and serious adverse reactions are uncommon. Routine immunization programmes protect most of the world's children from a number of infectious diseases that previously caused millions of deaths each year. For travellers, vaccination offers the possibility of avoiding some infectious diseases that may be encountered abroad. However, satisfactory vaccines have not yet been developed against several of the most life-threatening conditions.

6.1.2 Vaccination and other precautions

Despite their success in preventing disease, vaccines rarely protect 100% of the recipients. No vaccinees, including travellers, should assume that there is no risk of contracting the disease(s) against which they have been vaccinated. For example, vaccination is not a substitute for avoiding potentially contaminated food and water. Consequently all additional precautions against infection should be carefully considered.

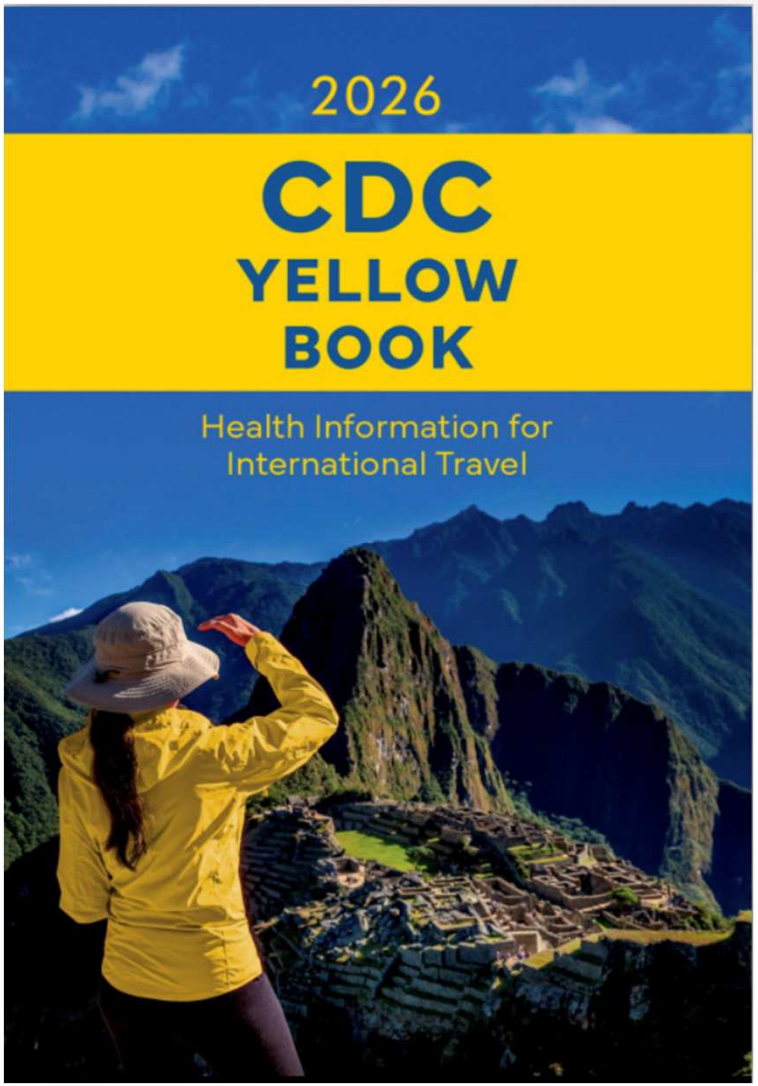
6.1.3 Planning before travel

Before departure, travellers should be advised about the risk of disease in the country or countries they plan to visit and the steps to be taken to prevent illness. No single vaccination schedule suits all travellers. Each vaccination schedule must be personalized according to the traveller's previous immunizations, health status and risk factors, the countries to be visited, the type and duration of travel, and the amount of time available before departure.

A medical consultation before departure is a good opportunity for the health-care provider to review routine immunizations and update them in addition to providing the travel immunizations indicated for the specific itinerary.

Following vaccination, the immune response of the vaccinated person varies according to the type of vaccine, the number of doses administered, and whether the person has been vaccinated previously against the same disease. For this reason, travellers are advised to consult a travel medicine practitioner or physician 4–8 weeks before departure in order to allow sufficient time for optimal immunization schedules to be completed. However, even

1



https://www.who.int/ith/ITH-Chapter6.pdf?ua=1

https://wwwnc.cdc.gov/travel/yellowbook/2018/infectious-diseases-related-to-travel/diphtheria

THE BASICS

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Poliomyelitis

1 March 2019

Key facts

- **Polio (poliomyelitis) mainly affects children under 5 years of age.**
- **1 in 200 infections leads to irreversible paralysis. Among those paralysed, 5% to 10% die when their breathing muscles become immobilized.**
- **Cases due to wild poliovirus have decreased by over 99% since 1988, from an estimated 350 000 cases then, to 33 (1) reported cases in 2018.**
- **As long as a single child remains infected, children in all countries are at risk of contracting polio. Failure to eradicate polio from these last remaining strongholds could result in as many as 200 000 new cases every year, within 10 years, all over the world.**
- **In most countries, the global effort has expanded capacities to tackle other infectious diseases by building effective surveillance and immunization systems.**

Symptoms

Polio is a highly infectious disease caused by a virus. It invades the nervous system, and can cause total paralysis in a matter of hours. The virus is transmitted by person-to-person spread mainly through the faecal-oral route or, less frequently, by a common vehicle (for example, contaminated water or food) and multiplies in the intestine. Initial symptoms are fever, fatigue, headache, vomiting, stiffness of the neck and pain in the limbs. 1 in 200 infections leads to irreversible paralysis (usually in the legs). Among those paralysed, 5% to 10% die when their breathing muscles become immobilized.

People most at risk

Polio mainly affects children under 5 years of age.

Prevention

There is no cure for polio, it can only be prevented. Polio vaccine, given multiple times, can protect a child for life.

Global caseload

Wild poliovirus cases have decreased by over 99% since 1988, from an estimated 350 000 cases in more than 125 endemic countries then, to 33 *(1)* reported cases in 2018.

Of the 3 strains of wild poliovirus (type 1, type 2, and type 3), wild poliovirus type 2 was eradicated in 1999 and no case of wild poliovirus type 3 has been found since the last reported case in Nigeria in November 2012.

WHO Response

Launch of the Global Polio Eradication Initiative

In 1988, the Forty-first World Health Assembly adopted a resolution for the worldwide eradication of polio. It marked the launch of the Global Polio Eradication Initiative (GPEI), spearheaded by national governments, WHO, Rotary International, the US Centers for Disease Control and Prevention (CDC), UNICEF, and supported by key partners including the Bill & Melinda Gates Foundation. This followed the certification of the eradication of smallpox in 1980, progress during the 1980s towards elimination of the poliovirus in the Americas, and Rotary International's commitment to raise funds to protect all children from the disease.

Progress

Overall, since the GPEI was launched, the number of cases has fallen by over 99%.

In 1994, the WHO Region of the Americas was certified polio-free, followed by the WHO Western Pacific Region in 2000 and the WHO European Region in June 2002. On 27 March 2014, the WHO South-East Asia Region was certified polio-free, meaning that transmission of wild poliovirus has been interrupted in this bloc of 11 countries stretching from Indonesia to India. This achievement marks a significant leap forward in global eradication, with 80% of the world's population now living in certified polio-free regions.

More than 16 million people are able to walk today, who would otherwise have been paralysed. An estimated 1.5 million childhood deaths have been prevented, through the systematic administration of vitamin A during polio immunization activities.

Opportunity and risks: an emergency approach

The strategies for polio eradication work when they are fully implemented. This is clearly demonstrated by India's success in stopping polio in January 2011, in arguably the most technically-challenging place, and polio-free certification of the entire South-East Asia Region of WHO occurred in March 2014.

Failure to implement strategic approaches, however, leads to ongoing transmission of the virus. Endemic transmission is continuing in Afghanistan, Nigeria and Pakistan. Failure to stop polio in these last remaining areas could result in as many as 200 000 new cases every year, within 10 years, all over the world.

Recognizing both the epidemiological opportunity and the significant risks of potential failure, the "*Polio Eradication and Endgame Strategic Plan*" was developed, in consultation with polio-affected countries, stakeholders, donors, partners and national and international advisory bodies. The new Plan was presented at a Global Vaccine Summit in Abu Dhabi, United Arab Emirates, at the end of April 2013. It is the first plan to eradicate all types of polio disease simultaneously – both due to wild poliovirus and due to vaccine-derived polioviruses.

Future benefits of polio eradication

Once polio is eradicated, the world can celebrate the delivery of a major global public good that will benefit all people equally, no matter where they live. Economic modelling has found that the eradication of polio would save at least US$ 40–50 billion, mostly in low-income countries. Most importantly, success will mean that no child will ever again suffer the terrible effects of lifelong polio-paralysis.

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

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Travelers' Health

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Poliomyelitis

Gregory S. Wallace, James P. Alexander, Steven G. F. Wassilak

PREVENTION

Vaccine

Recommendations for Health Protection

In the United States, infants and children should be vaccinated against polio as part of a routine immunization series (see Infants and Children below). Polio vaccination is recommended for all travelers to countries with wild poliovirus (WPV) circulation. Countries are considered to have WPV circulation if they have evidence during the previous 12 months of ongoing endemic circulation, a polio outbreak, or environmental evidence of wild poliovirus circulation. For additional information on countries with WPV circulation and vaccine recommendations, consult the travel notices on the CDC Travelers' Health website (www.cdc.gov/travel) or the weekly update of reported WPV cases at the GPEI website (www.polioeradication.org/Dataandmonitoring/Poliothisweek.aspx).

Before traveling to areas that have WPV circulation, travelers should ensure that they have completed the recommended age-appropriate polio vaccine series and that adults have received a single lifetime IPV booster dose. In addition, CDC recommends a single lifetime IPV booster dose for certain adult travelers to some countries that border areas with WPV circulation. These recommendations are based on evidence of historical cross-border transmission. The recommendations apply only to travelers with a high risk of exposure to someone with imported WPV infection. These travelers would include those working in health care settings, refugee camps, or other humanitarian aid settings. Since the situation is dynamic, refer to the CDC Travelers' Health website destination pages for the most up-to-date polio vaccine recommendations (wwwnc.cdc.gov/travel/destinations/list).

To eliminate the risk for VAPP, IPV has been the only polio vaccine available in the United States since 2000; however, OPV continues to be used in many countries and for global polio eradication activities. For complete information on recommendations for poliomyelitis vaccination, consult the Advisory Committee on Immunization Practices recommendations website (www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/polio.html).

Country Requirements

On May 5, 2014, the World Health Organization (WHO) declared the international spread of polio to be a public health emergency of international concern (PHEIC) under the authority of the International Health Regulations (2005) and issued temporary vaccination recommendations for travel to prevent further spread of the disease (www.who.int/mediacentre/news/statements/2014/polio-20140505/en/). WHO will be reassessing the situation periodically, so requirements may change. Refer to the Clinical Update: Interim CDC Guidance for Travel to and from Countries Affected by the New Polio Vaccine Requirements for a list of affected countries and for guidance on meeting the vaccination requirements.

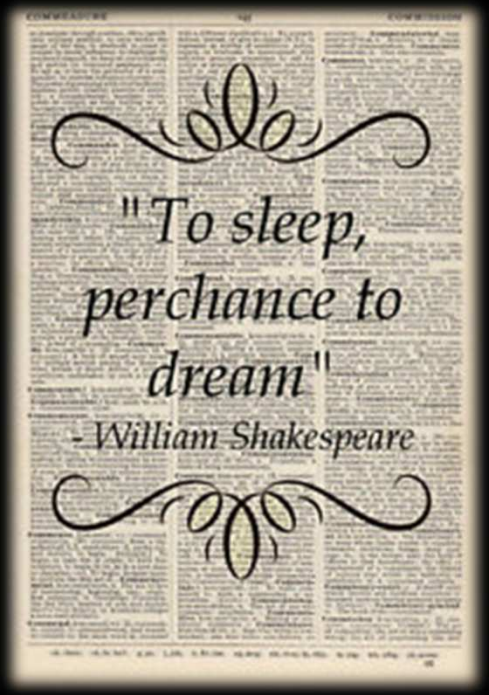
(Updated July 25, 2014)

Infants and Children

In the United States, all infants and children should receive 4 doses of IPV at ages 2, 4, and 6–18 months and 4–6 years. The final dose should be administered at age ≥4 years, regardless of the number of previous doses, and should be given ≥6 months after the previous dose. A fourth dose in the routine IPV series is not necessary if the third dose was administered at age ≥4 years and ≥6 months after the previous dose. If the routine series cannot be administered within the recommended intervals before protection is needed, the following alternatives are recommended:

- The first dose should be given to infants ≥6 weeks old.
- The second and third doses should be administered ≥4 weeks after the previous doses.
- The minimum interval between the third and fourth doses is 6 months.

www.sastm.org.za



"To sleep, perchance to dream:

That travel health in Africa will contribute
to creating a high level of awareness of
the importance of immunisation –
Not only amongst travellers
but also amongst the general public.

So that we can dream of a world
free of vaccine preventable
disease..."

Asante Sana
Thank You

Muito Obrigado

Merci Beaucoup

Zikomo Kwambiri

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شكرًا لك

Baie Dankie

Re a le Boga