United Nations
Educational, Scientific and
Cultural Organization

UNESCO Chair on Training and Empowering
Human Resources for Health Development
in Resource-Limited Countries
University of Brescia

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DEGLI STUDI
DI BRESCIA

Le sfide della salute nell'epoca della globalizzazione (25-30')

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Ordinario di Malattie Infettive

Delegato del Rettore per la Cooperazione allo Sviluppo

Direttore, Centro di Ricerca e di Documentazione per la Agenda 2030

Titolare Cattedra UNESCO

Salute in Comune, Brescia 24 giugno 2019

Globalization?

Globalization is the word used to describe the growing interdependence of the world's economies, cultures, and populations, brought about by cross-border trade in goods and services, technology, and flows of investment, people, and information. Countries have built economic partnerships to facilitate these movements over many centuries

Globalization?

Human societies across the globe have established progressively closer contacts over many centuries, but recently the pace has dramatically increased. Jet airplanes, cheap telephone service, email, computers, huge oceangoing vessels, instant capital flows, all these have made the world more interdependent than ever. Multinational corporations manufacture products in many countries and sell to consumers around the world. Money, technology and raw materials move ever more swiftly across national borders. Along with products and finances, ideas and cultures circulate more freely. As a result, laws, economies, and social movements are forming at the international level. Many politicians, academics, and journalists treat these trends as both inevitable and (on the whole) welcome. But for billions of the world's people, business-driven globalization means uprooting old ways of life and threatening livelihoods and cultures. The global social justice movement, itself a product of globalization, proposes an alternative path, more responsive to public needs. Intense political disputes will continue over globalization's meaning and its future direction.

Globalisation

- **Definition:**
  - An economic phenomenon?
  - A social phenomenon?
  - A cultural phenomenon?

- The movement towards the expansion of economic and social ties between countries through the spread of corporate institutions and the capitalist philosophy that leads to the shrinking of the world in economic terms.

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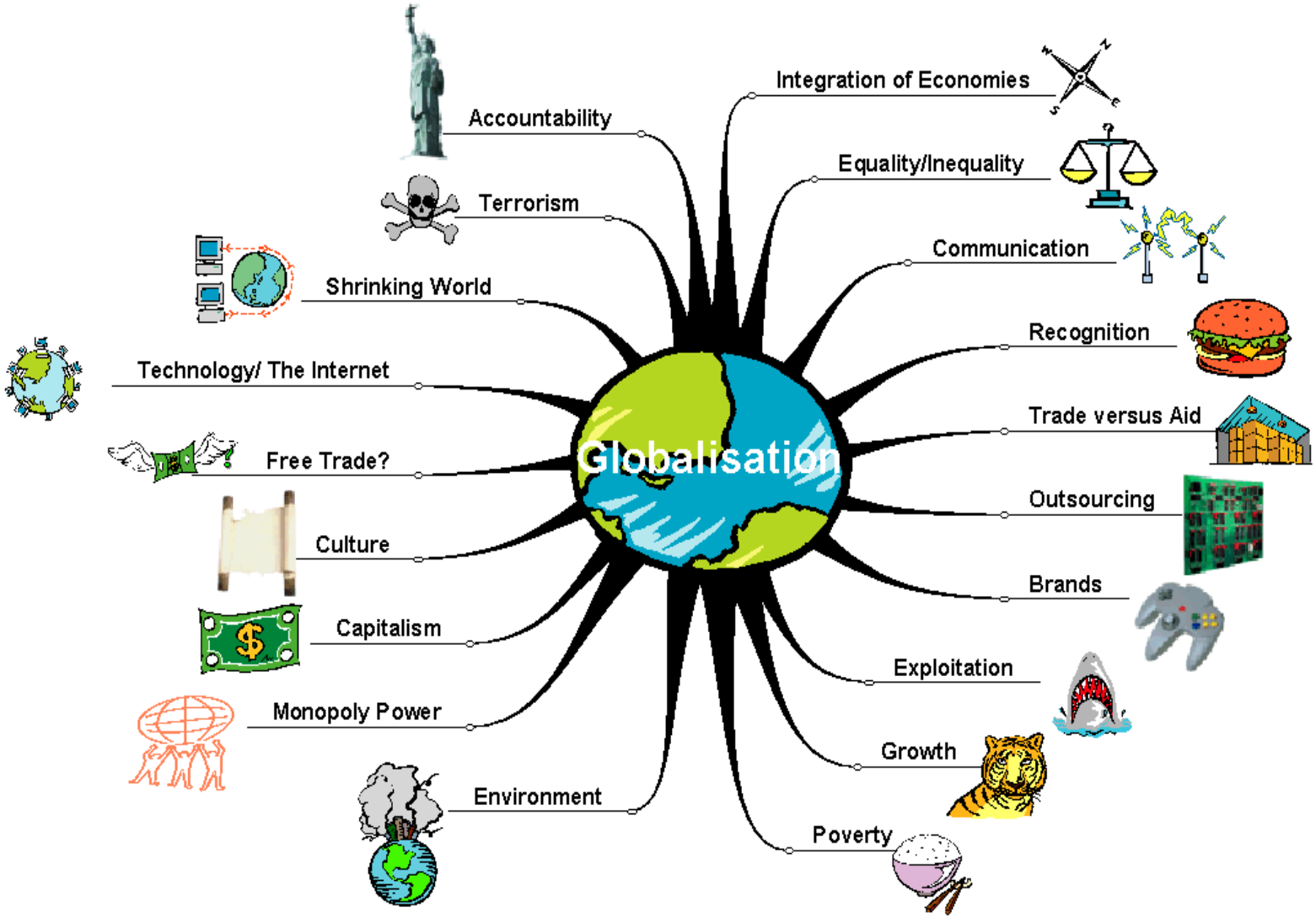

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What is “Global Health”?

Viewpoint

Towards a common definition of global health

*Jeffrey P Koplan, T Christopher Bond, Michael H Merson, K Srinath Reddy, Mario Henry Rodriguez, Nelson K Sewankambo, Judith N Wasserheit, for the Consortium of Universities for Global Health Executive Board**

Global health is fashionable. It provokes a great deal of media, student, and faculty interest, has driven the establishment or restructuring of several academic programmes, is supported by governments as a crucial component of foreign policy,[1] and has become a major

communicable infections, the education of the individual in personal hygiene, the organization of medical and nursing services for the early diagnosis and preventive treatment of disease, and the development of social machinery which will ensure every individual in the

Lancet 2009; 373: 1993–95
Published Online
June 2, 2008
DOI:10.1016/S0140-6736(09)60332-9

*“**Global health** is an area for study, research, and practice that places a priority on improving health and achieving equity in health for all people worldwide. Global health emphasises transnational health issues, determinants, and solutions; involves many disciplines within and beyond the health sciences and promotes interdisciplinary collaboration; and is a synthesis of population-based prevention with individual-level clinical care.” (2009)*

journal of global health

PAPERS

Moving global health forward in academic institutions

Didier Wernli[1], Marcel Tanner[2,3], Ilona Kickbusch[4], Gérard Escher[5], Fred Paccaud[6], Antoine Flahault[7]

[1] Global Studies Institute, University of Geneva, Switzerland

Global health has attracted growing attention from academic institutions. Its emergence corresponds to the increasing interdependence that characterizes our time and provides a new worldview to address health challenges globally. There is still a large potential to better delineate the limits of the field, drawing on a wide perspective across

“Within the normative framework of human rights, global health is a system–based, ecological and transdisciplinary approach to research, education, and practice which seeks to provide innovative, integrated, and sustainable solutions to address complex health problems across national boundaries and improve health for all”. (2016)

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Where is the globality in this new vision?

- **Global scope:** any health concern involving multiple countries and affected by **trans-national determinants** (e.g.: climate change, urbanization, migration) and solutions

- **Globality in confronting the problem:** not only in a geographic sense, but focusing on domestic disparities and inequities to ensure fair and equal access to health in all societies

- **Globality in envisioning health priorities:** in addition to maternal & child health and major epidemics, embracing the epidemiological transition in consideration of the global burden of mortality and morbidity

- **Globality in disciplines and sectors:** seeking multi-disciplinary and multi-sectoral solutions in prevention and care, going beyond the health sector

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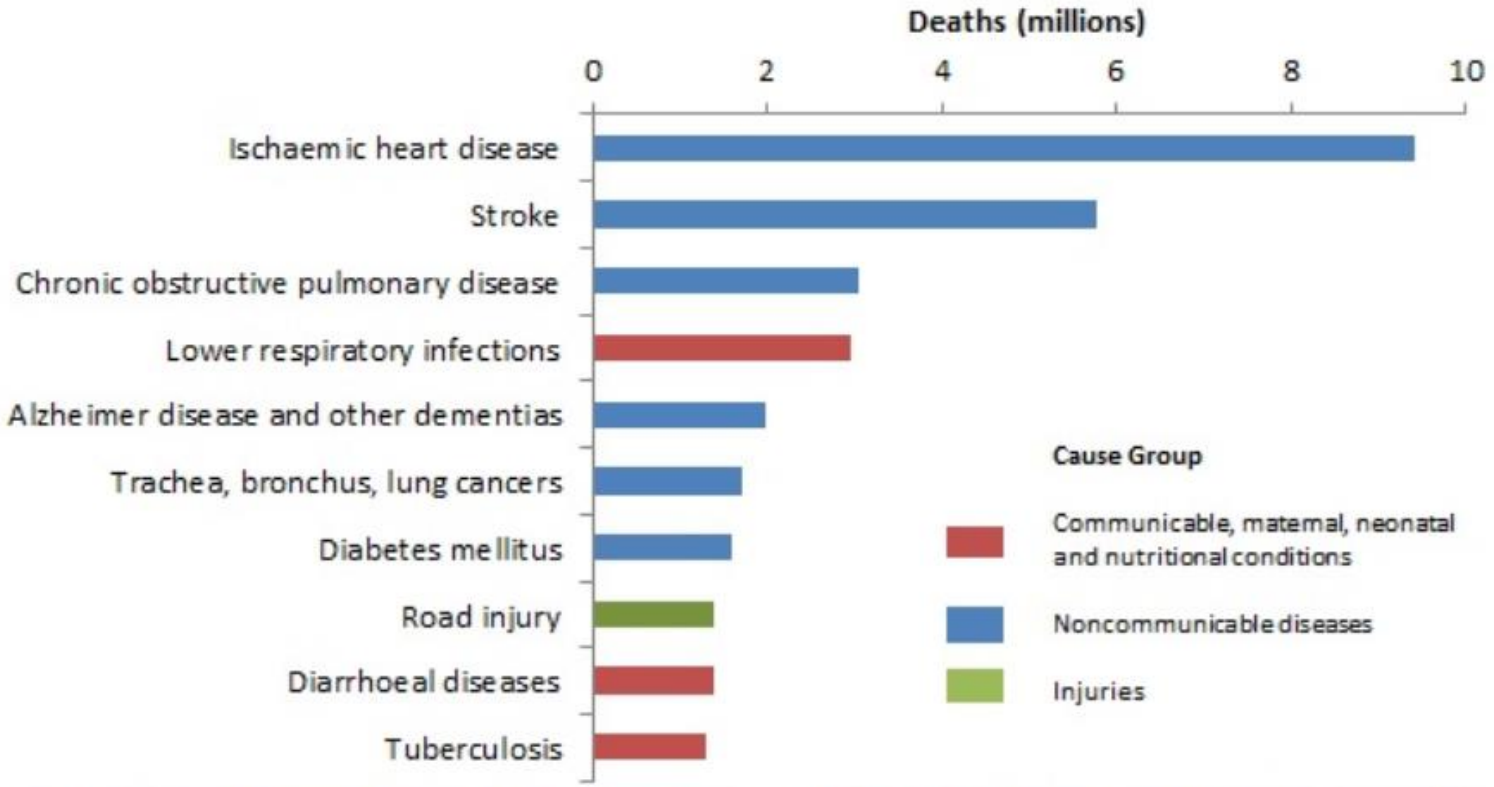
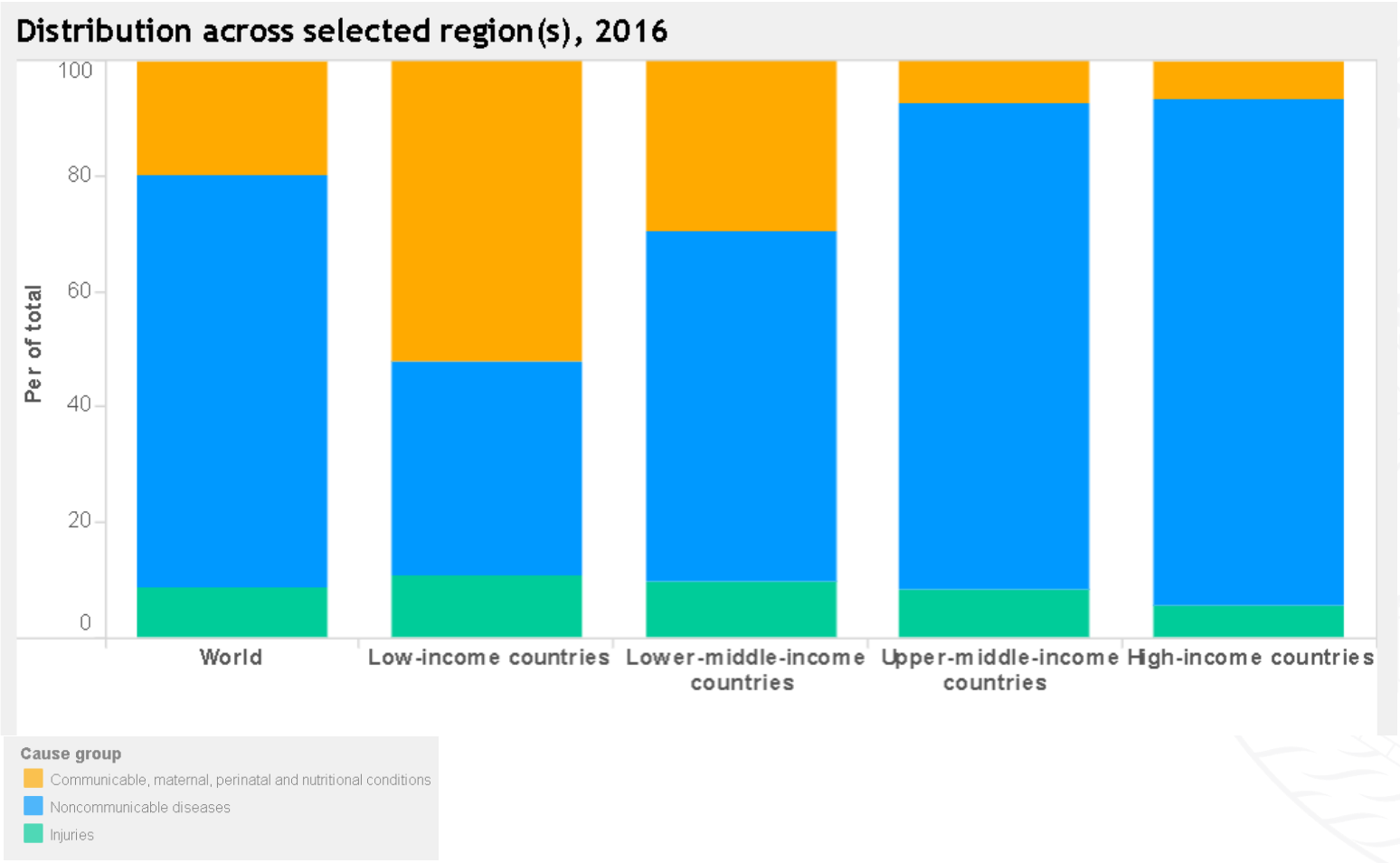
Global burden of disease – Top 10 Causes of Deaths, 2016 (N= 56.9M)



Source: Global Health Estimates 2016: Deaths by Cause, Age, Sex, by Country and by Region, 2000-2016. Geneva, World Health Organization; 2018.

Global burden of deaths by causes and income groups, 2016



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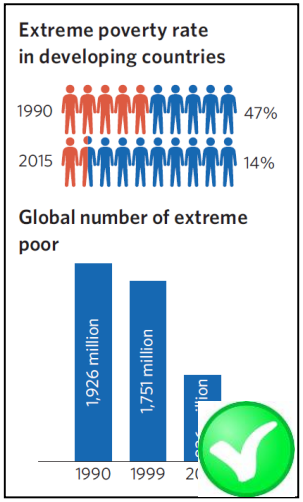
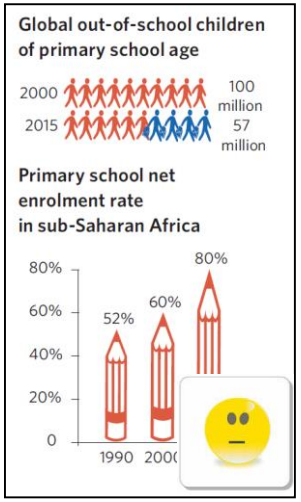
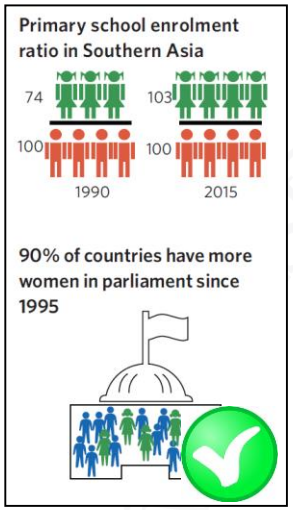
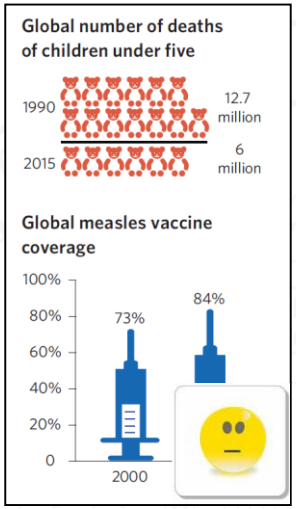
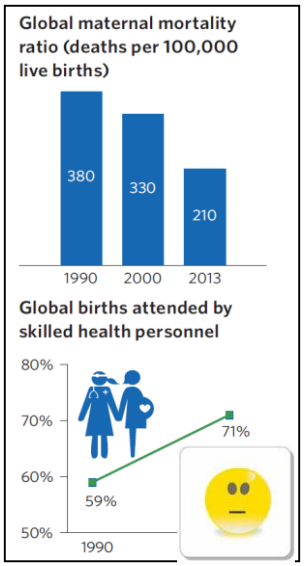
1. Eradicate Extreme poverty and hunger (50% reduction)
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality (66% reduction)
5. Improve maternal health (75% reduction)
6. Combat HIV, malaria and other diseases
7. Ensure environmental sustainability (50% reduction of people without access)
8. Develop a global partnership for development

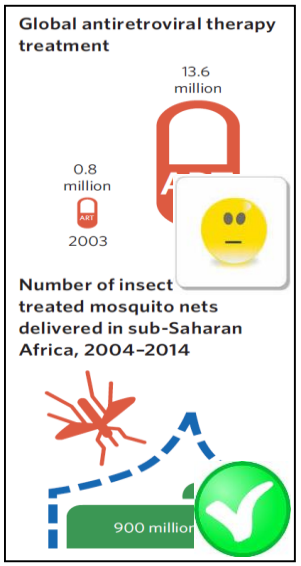


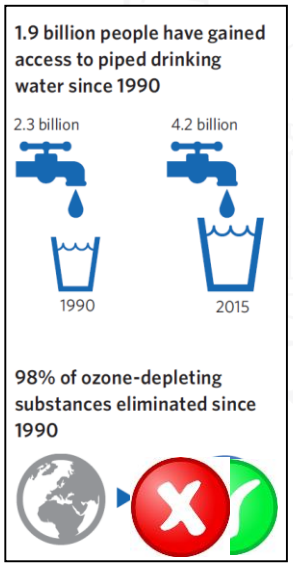


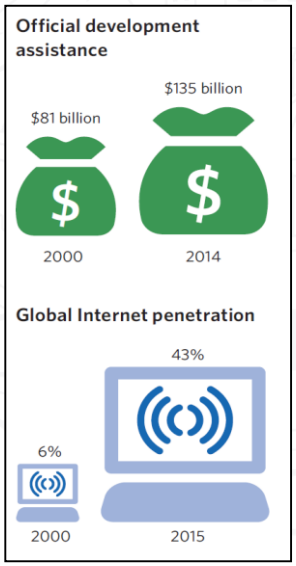












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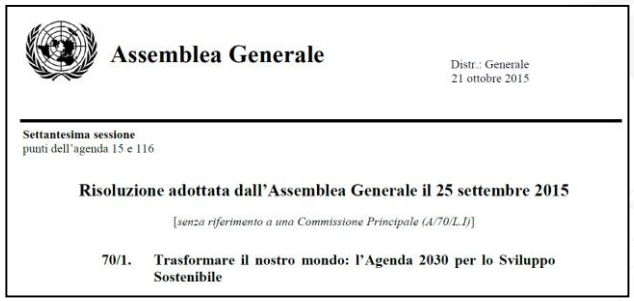

Assemblea Generale

Distr.: Generale
21 ottobre 2015

Settantesima sessione
punti dell'agenda 15 e 116

Risoluzione adottata dall'Assemblea Generale il 25 settembre 2015

[*senza riferimento a una Commissione Principale (A/70/L.1)*]

70/1. Trasformare il nostro mondo: l'Agenda 2030 per lo Sviluppo Sostenibile

Dichiarazione

Introduzione

1. Noi, Capi dello Stato e del Governo e Alti Rappresentanti, riuniti al Quartier Generale delle Nazioni Unite di New York dal 25 al 27 settembre 2015 per la celebrazione del settantesimo anniversario dell'ONU, oggi abbiamo stabilito i nuovi Obiettivi globali per lo Sviluppo Sostenibile.

2. Nell'interesse dei popoli che serviamo, abbiamo preso una decisione storica su una serie completa e lungimirante di Obiettivi e traguardi universali, trasformativi e incentrati sulle persone. Noi ci impegniamo a lavorare instancabilmente per la piena implementazione di quest'Agenda entro il 2030. Riconosciamo che sradicare la povertà in tutte le sue forme e dimensioni, inclusa la povertà estrema, è la sfida globale più grande ed un requisito indispensabile per lo sviluppo sostenibile. Ci impegnamo nel raggiungere lo sviluppo sostenibile nelle sue tre dimensioni – economica, sociale e ambientale – in maniera equilibrata e interconnessa. Partiremo inoltre dalle conquiste degli Obiettivi di Sviluppo del Millennio e mireremo a portare a termine le loro questioni irrisolte.

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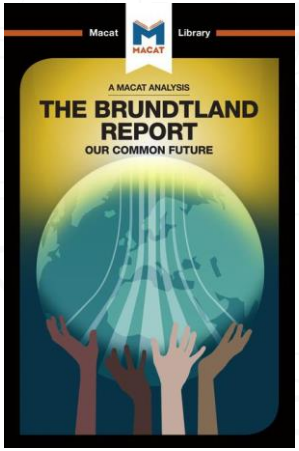
Definizione di «Sviluppo Sostenibile»

Commissione Bruntland (1987):

Sviluppo in grado di assicurare «*il soddisfacimento dei bisogni della generazione presente senza compromettere la possibilità delle generazioni future di realizzare i propri*»



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Not only generations. Trade versus Aid?

- Benefits of Trade:
  - Increased choice
  - Greater potential for growth
  - Increase international economies of scale
  - Greater employment opportunities

Trade has led to massive increases in wealth for many countries.

Corporate Expansion

No matter where you go in the world, certain businesses will always have a presence.

- Multi-national or trans-national corporations (MNCs or TNCs) – businesses with a headquarters in one country but with business operations in a number of others.

Trade versus Aid?

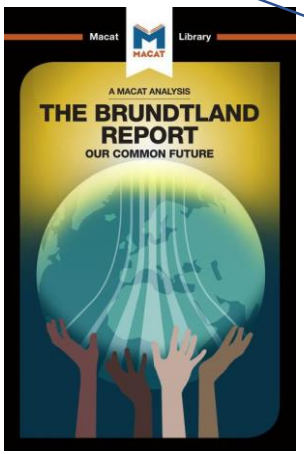
- Disadvantages of trade:
  - Increase in gap between the rich and the poor
  - Dominance of global trade by the rich, northern hemisphere countries
  - Lack of opportunities for the poor to be able to have access to markets
  - Exploitation of workers and growers

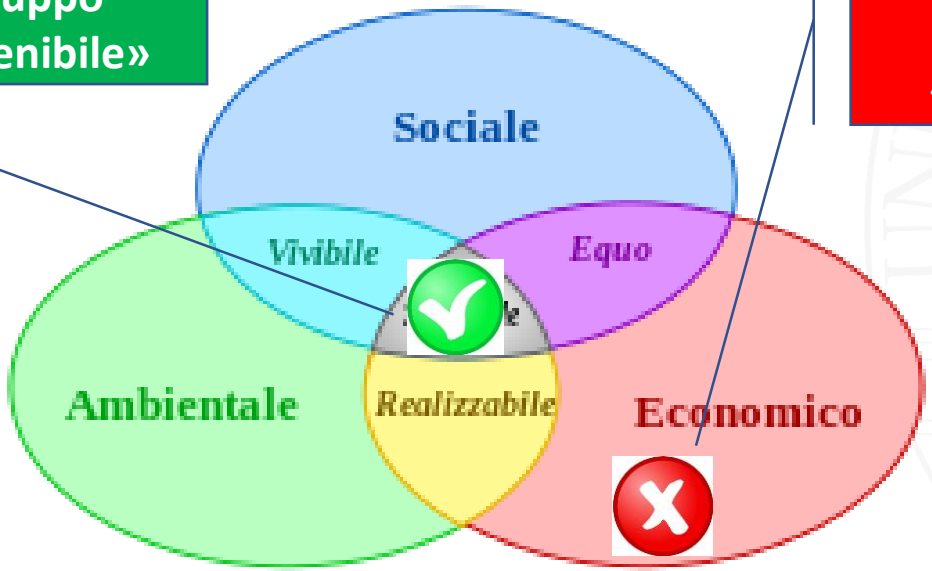
How far does trade help children like these?

Economics, Equity, Environment (le 3«E»)

Sviluppo «sostenibile»

Sviluppo «tradizionale»





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The SDGs are …

- A set of 17 goals for the world's future, through 2030
- Backed up by a set of 169 detailed Targets
- Negotiated over a two-year period at the United Nations
- Agreed to by nearly all the world's nations, on 25 Sept 2015

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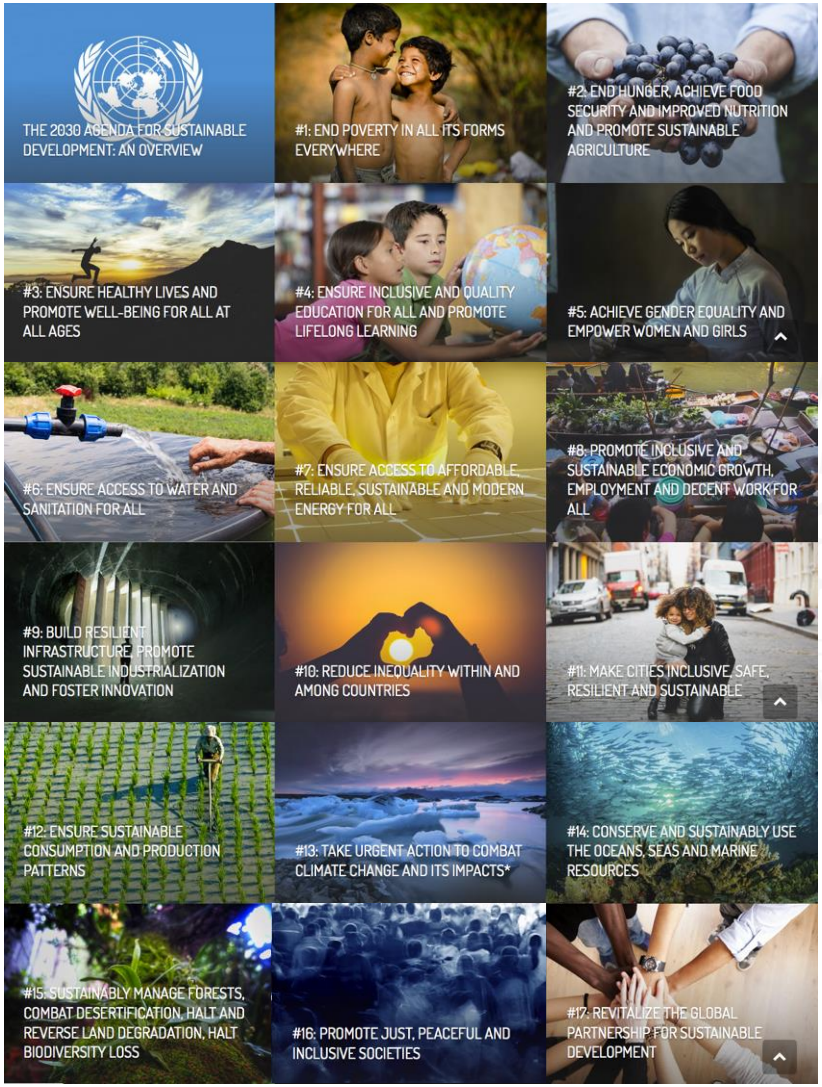
Each goal is important in itself …



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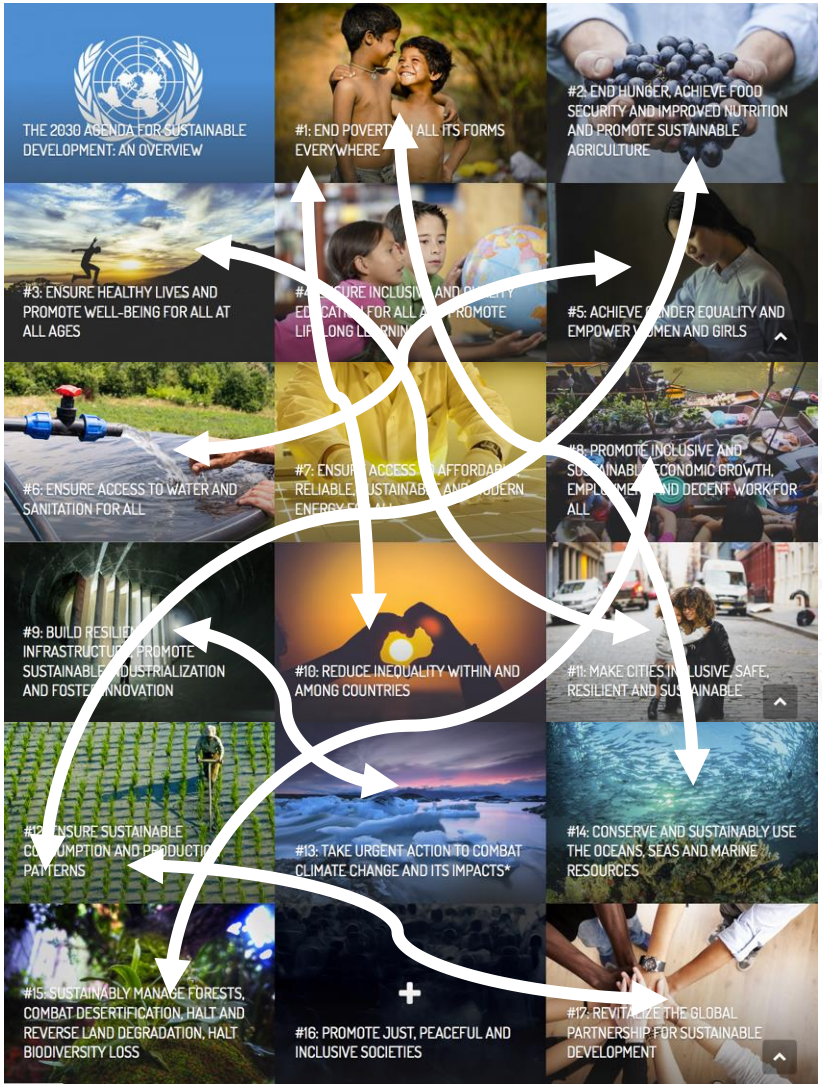

And they are all connected

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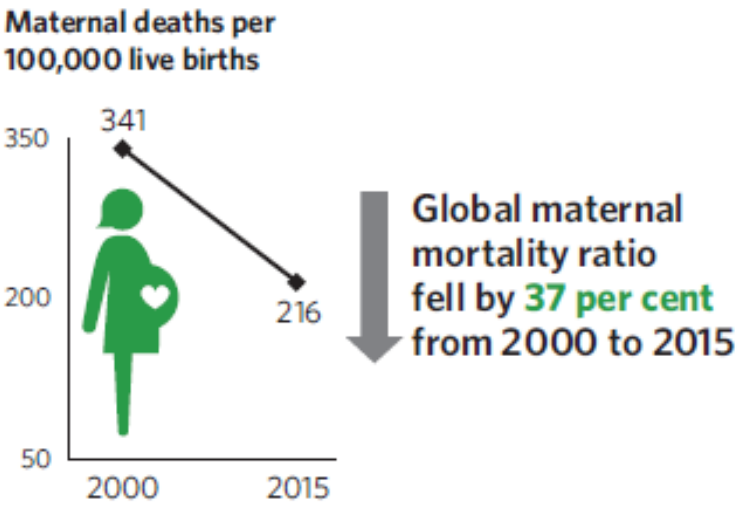
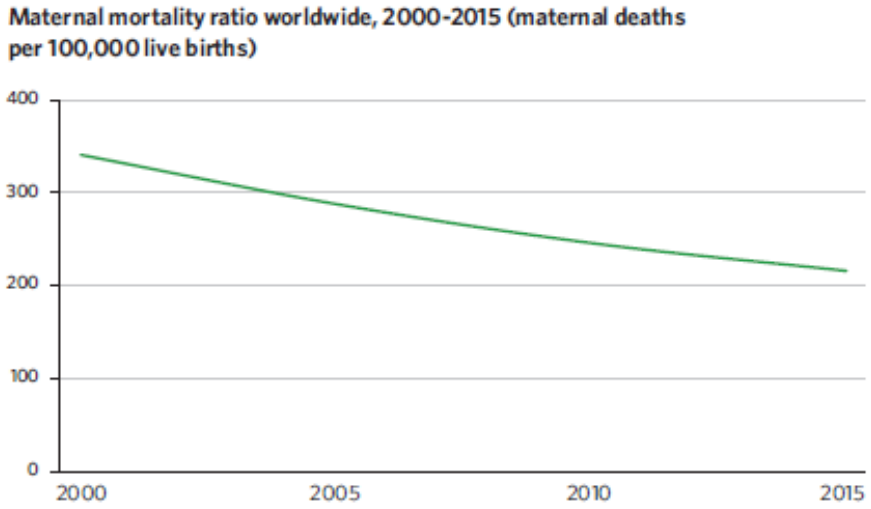
3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births





MDG target was to reduce by ¾ in 1990-2015
The final reduction was 45%

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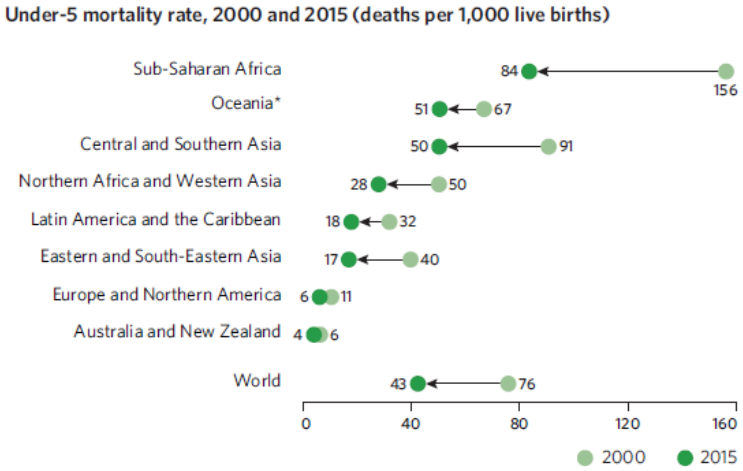
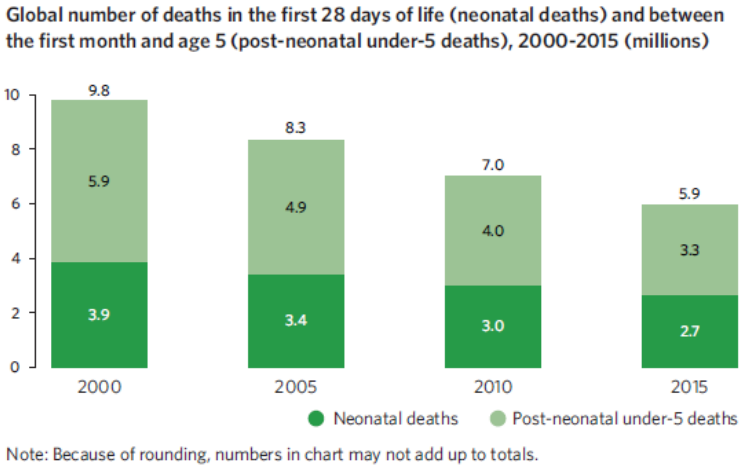
World Health Organization

3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 live births and under-5 mortality to at least as low as 25 per 1000 live births.





MDG target was to reduce by 2/3 in 1990-2015
The final reduction was 53%

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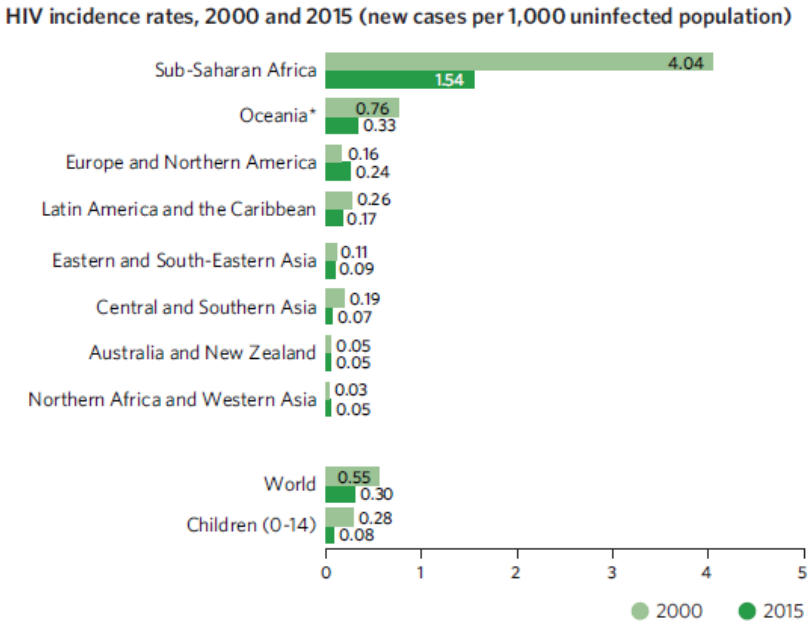
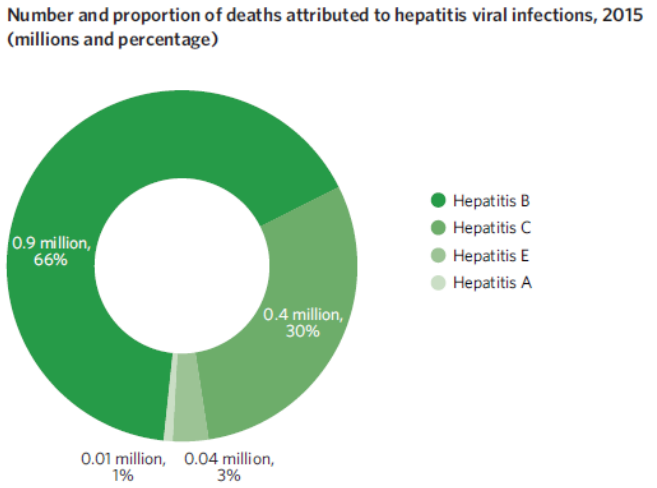
World Health Organization

3.3 By 2030, end the epidemics of **AIDS**, TB, malaria and neglected tropical diseases and **combat hepatitis**, water-born diseases and other communicable diseases.





325 millions with HBV or HCV 1.34 million deaths

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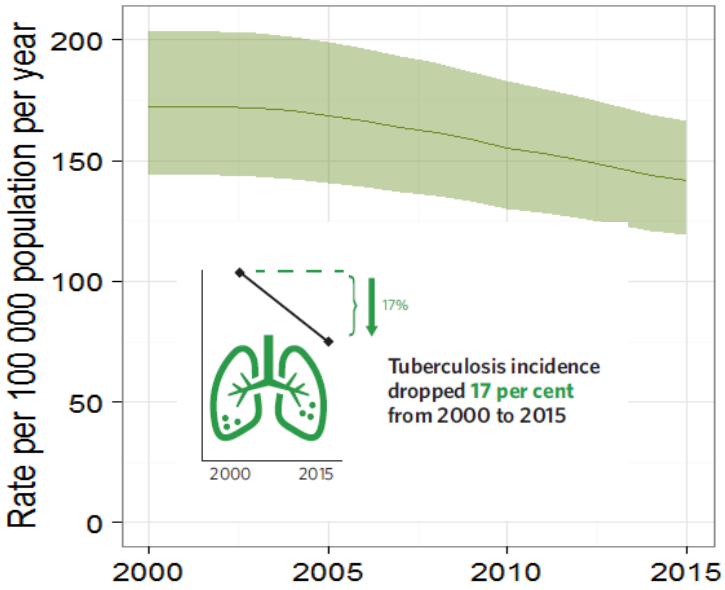
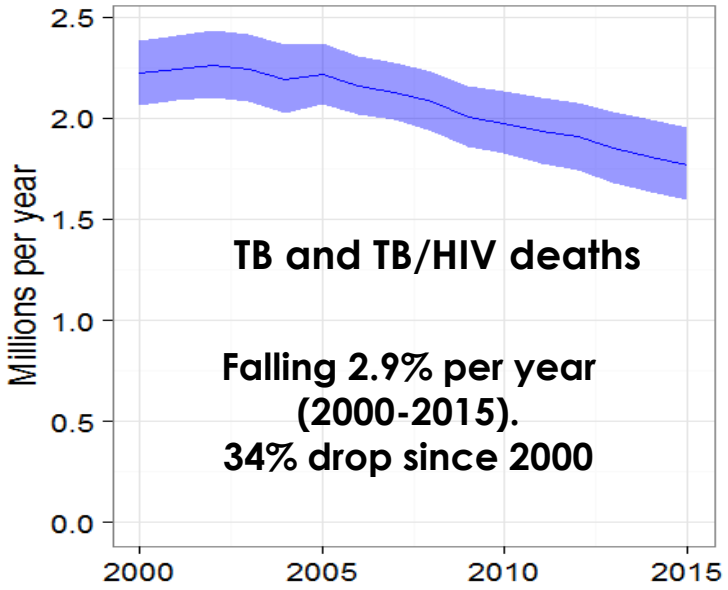
World Health Organization

3.3 By 2030, end the epidemics of AIDS, **TB**, malaria and neglected tropical diseases and combat hepatitis, water-born diseases and other communicable diseases.





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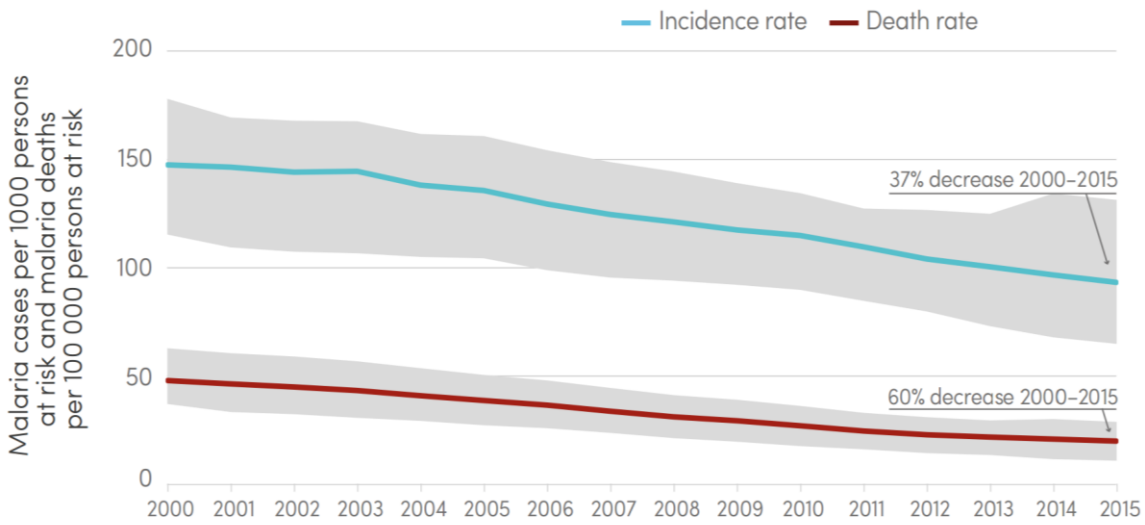
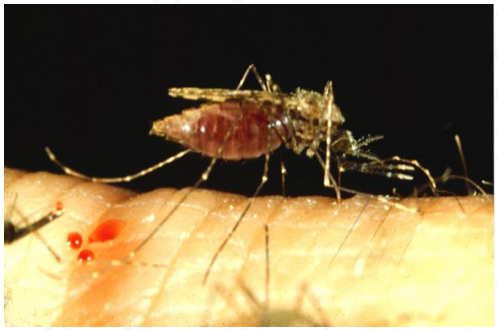
World Health Organization

3.3 By 2030, end the epidemics of AIDS, TB, **malaria** and neglected tropical diseases and combat hepatitis, water-born diseases and other communicable diseases.





- **Reductions in mortality rate even larger in children < 5: 69% globally and 71% in sub-Saharan Africa**
- **2001-2015 a cumulative total of 6.8 million lives saved**

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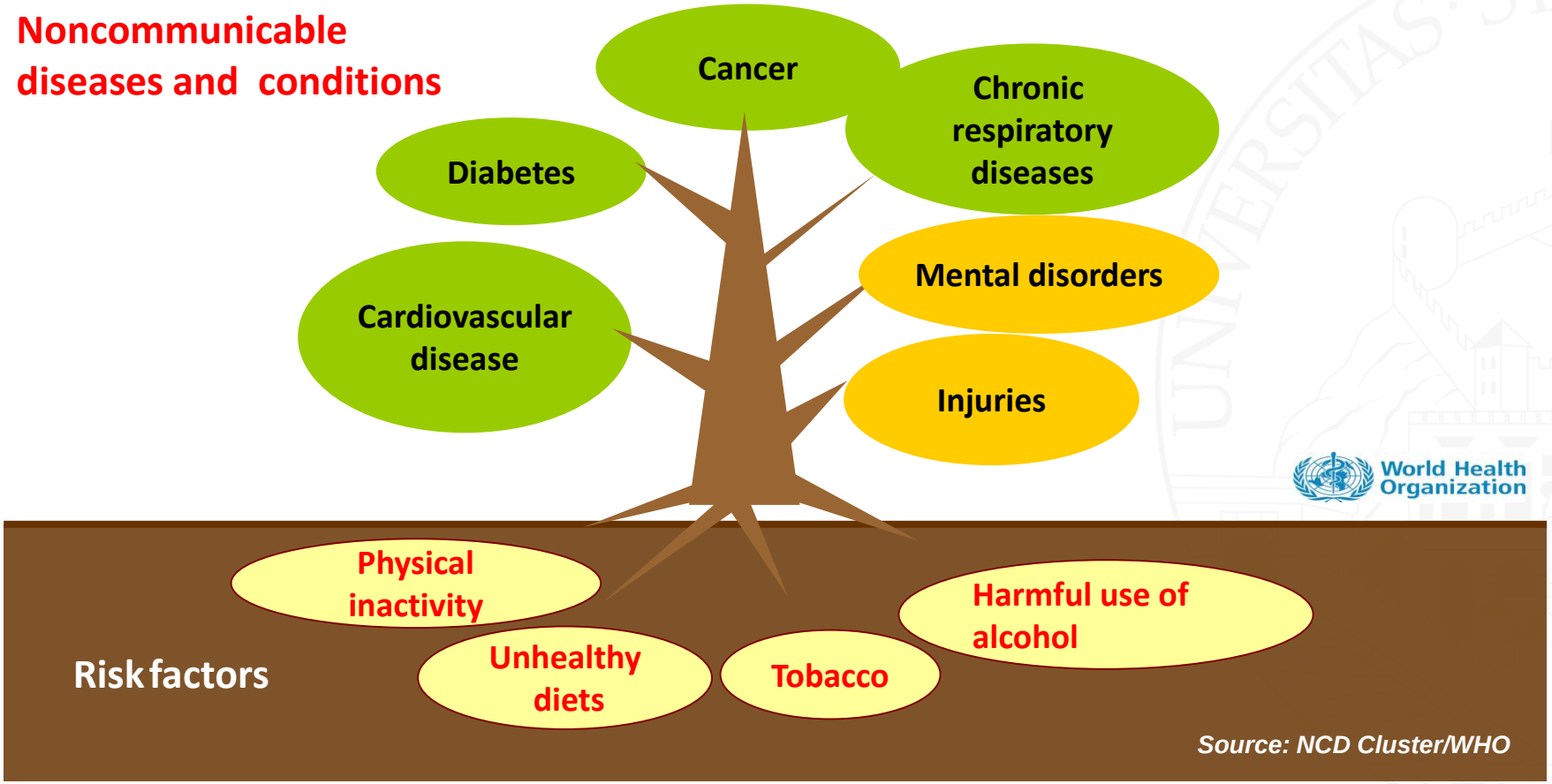
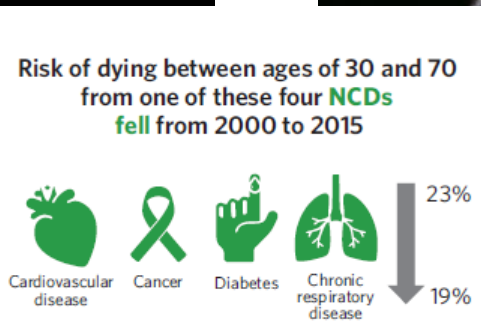
World Health Organization

Noncommunicable diseases (NCDs) and conditions



Plagues of civilization



World Health Organization

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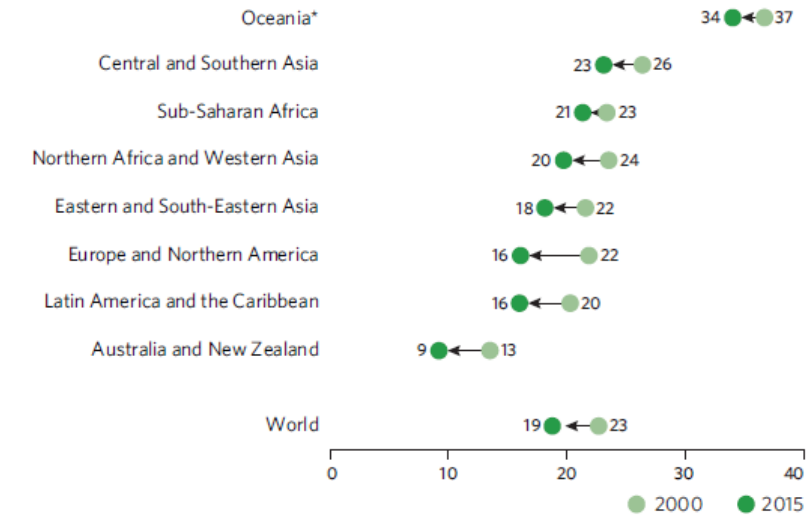
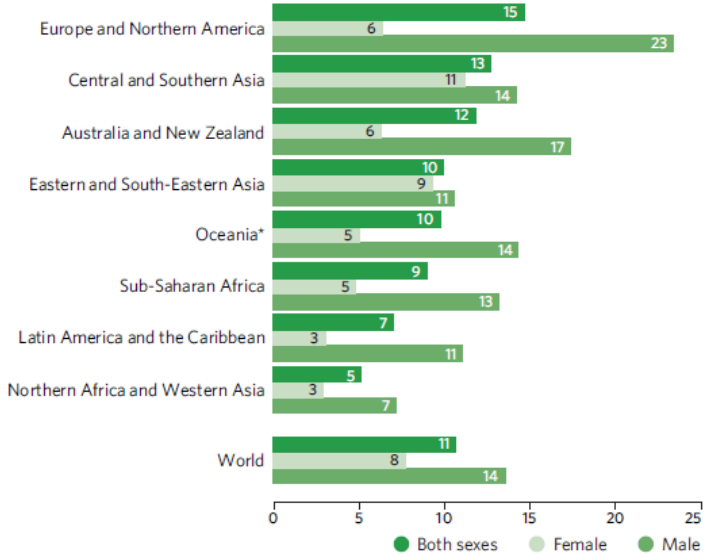
3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.

3.5 Strengthen the prevention and treatment of substance abuse including narcotic drug abuse and harmful use of alcohol.

Probability of dying between age 30 and 70 from cardiovascular disease, cancer, chronic respiratory disease or diabetes, 2000 and 2015 (percentage)



Suicide mortality rate by sex, 2015 (deaths per 100,000 population)



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World Health Organization

3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents.

3,400

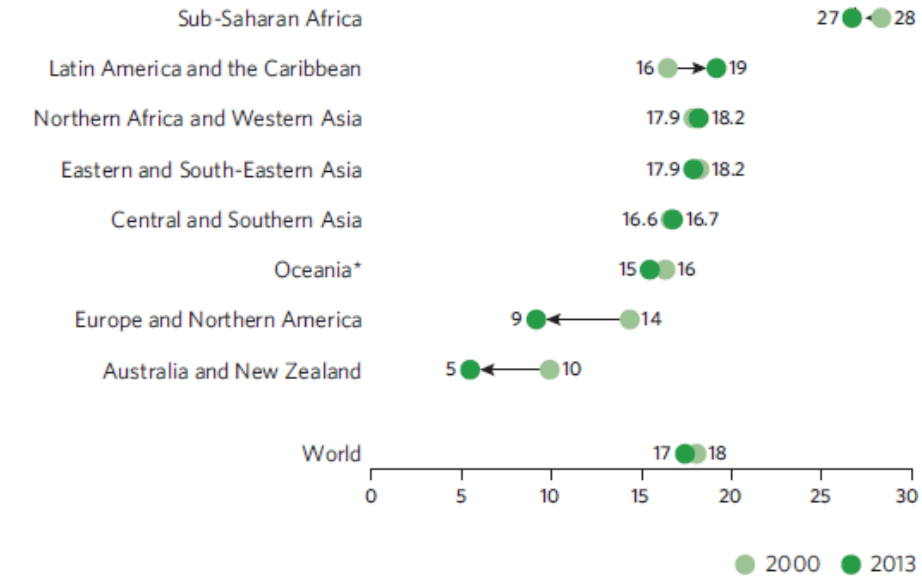
people die on the road every day

WHO/T. Pietrasik

Fact 1: Road traffic injuries are a global public health problem

Every year, there are approximately 1.3 million road traffic deaths worldwide. 93% of these road traffic deaths occur in low- and middle-income countries which only have 54% of the world's registered vehicles.

Mortality rate due to road traffic injuries, 2000 and 2013 (deaths per 100,000 population)



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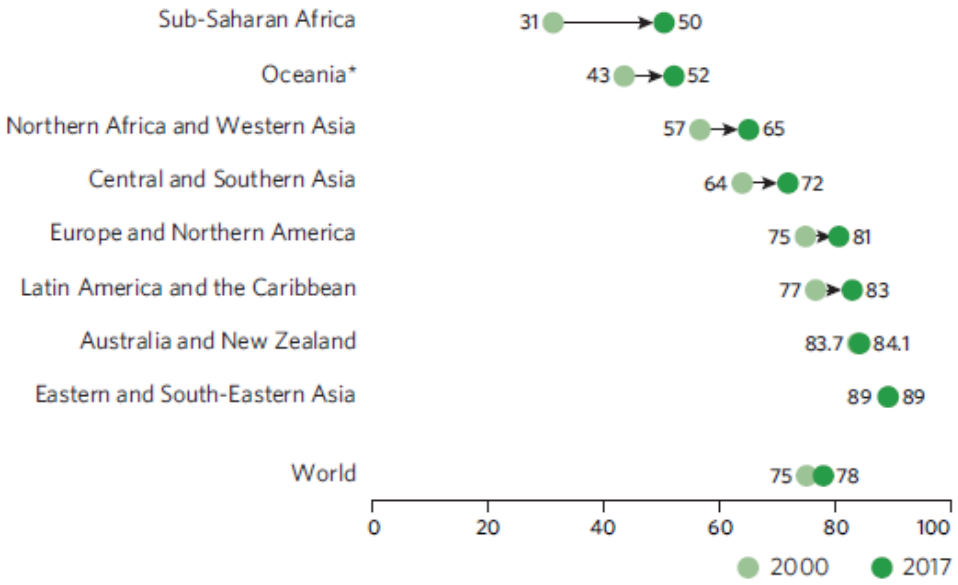
World Health Organization

3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.

Proportion of women aged 15-49, married or in union, who have their need for family planning satisfied through modern methods of contraception, 2000 and 2017 (estimated) (percentage)



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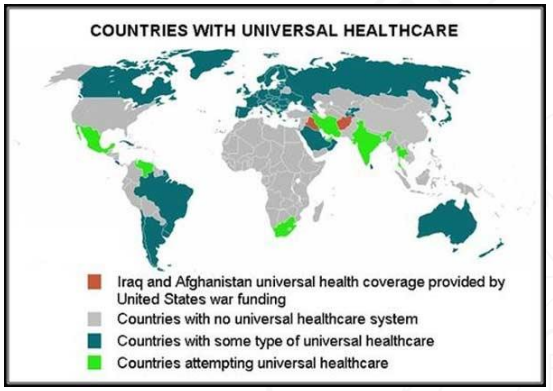
World Health Organization

3.8 Achieve universal health coverage, including financial risk protections, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.

- WHO definition: "Universal access to needed health services without financial hardship in paying for them“ (WHR 2010)

- Lack of health insurance and social risk protection inhibits access and use of health services and slows down progress towards SDGs



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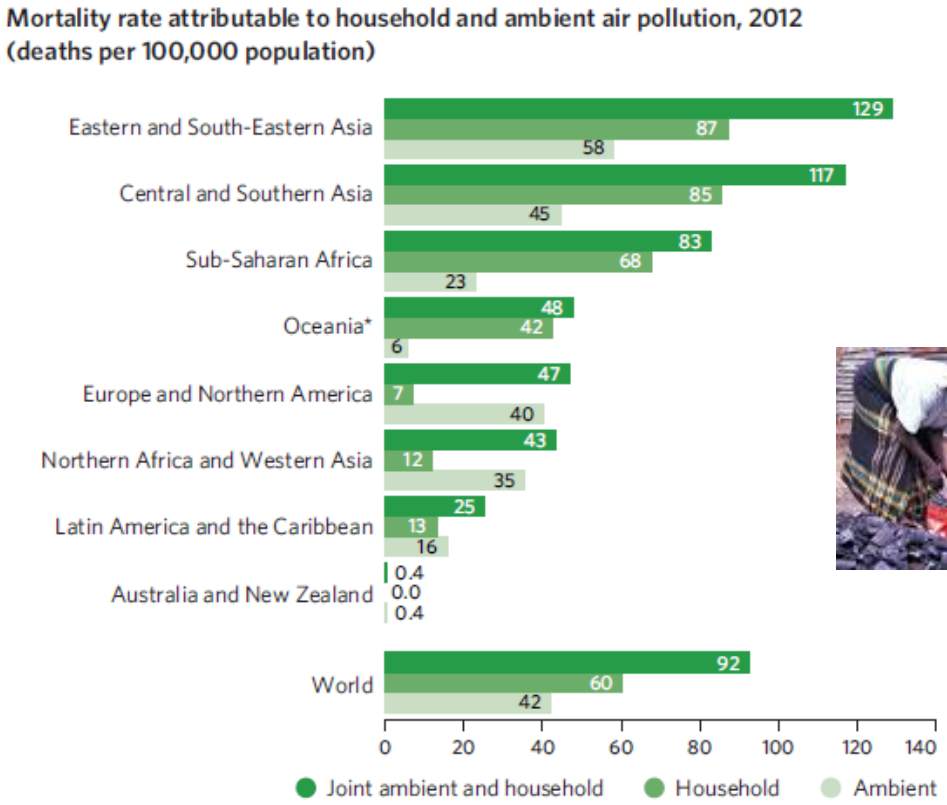
World Health Organization

3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.



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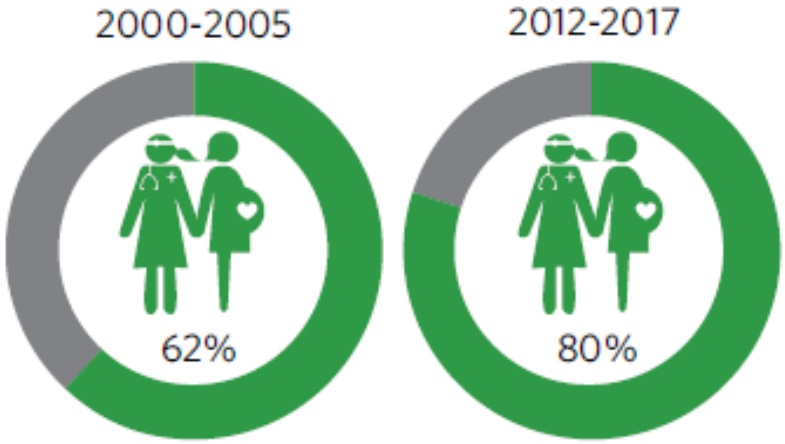
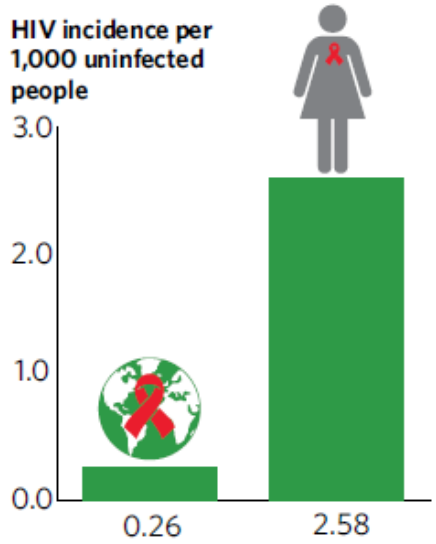
World Health Organization

Births attended by skilled health personnel increased globally

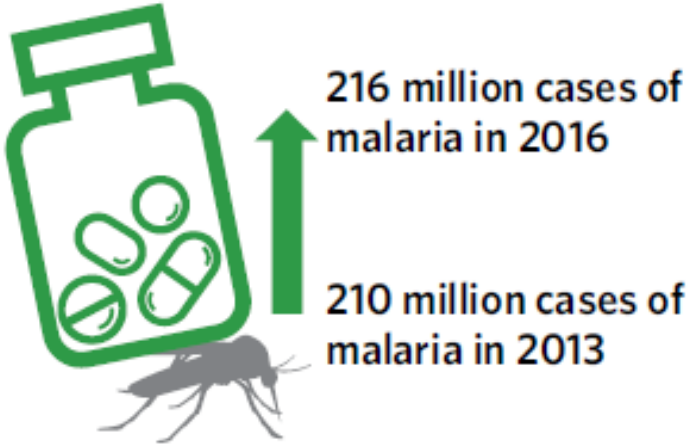


Under-5 deaths fell between 2000 and 2016

HIV incidence rate for women of reproductive age in sub-Saharan Africa is 10 times higher than the global average



The world is not on track to end malaria by 2030



Sustainable Development Report 2018

Special issues related to globalisation

1. Emerging infections
2. Antimicrobial resistance
3. Climate changes
4. Migration medicine
5. ……

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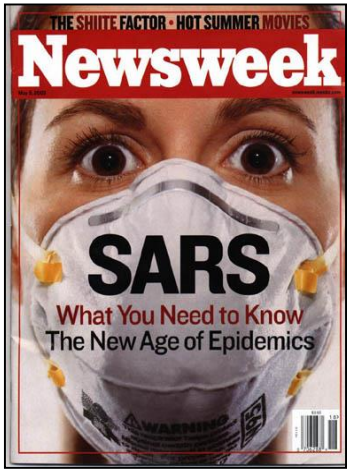
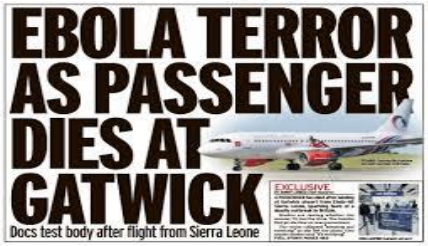
3.d Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.





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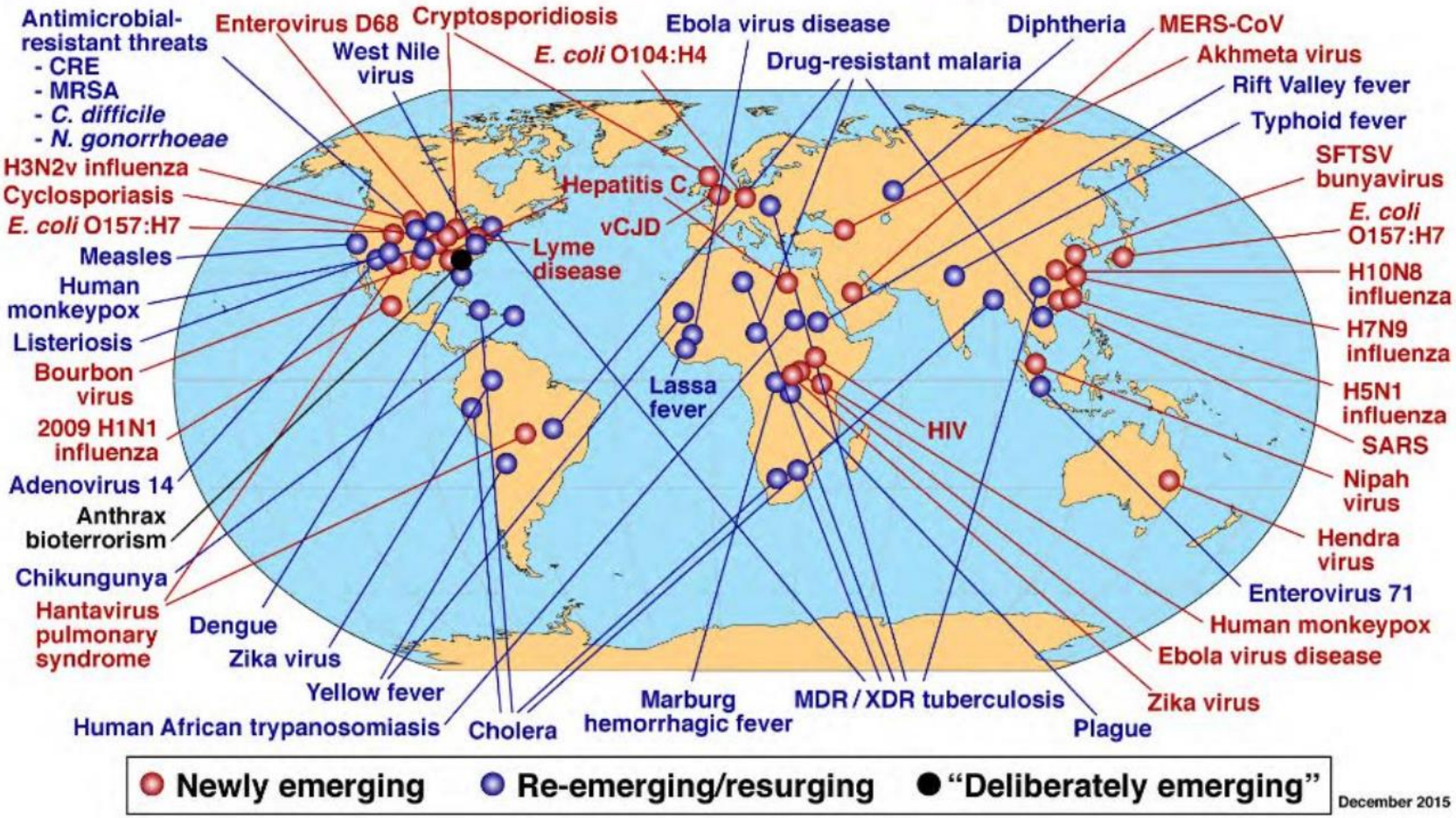
World Health Organization

Global Examples of Emerging and Re-Emerging Infectious Diseases



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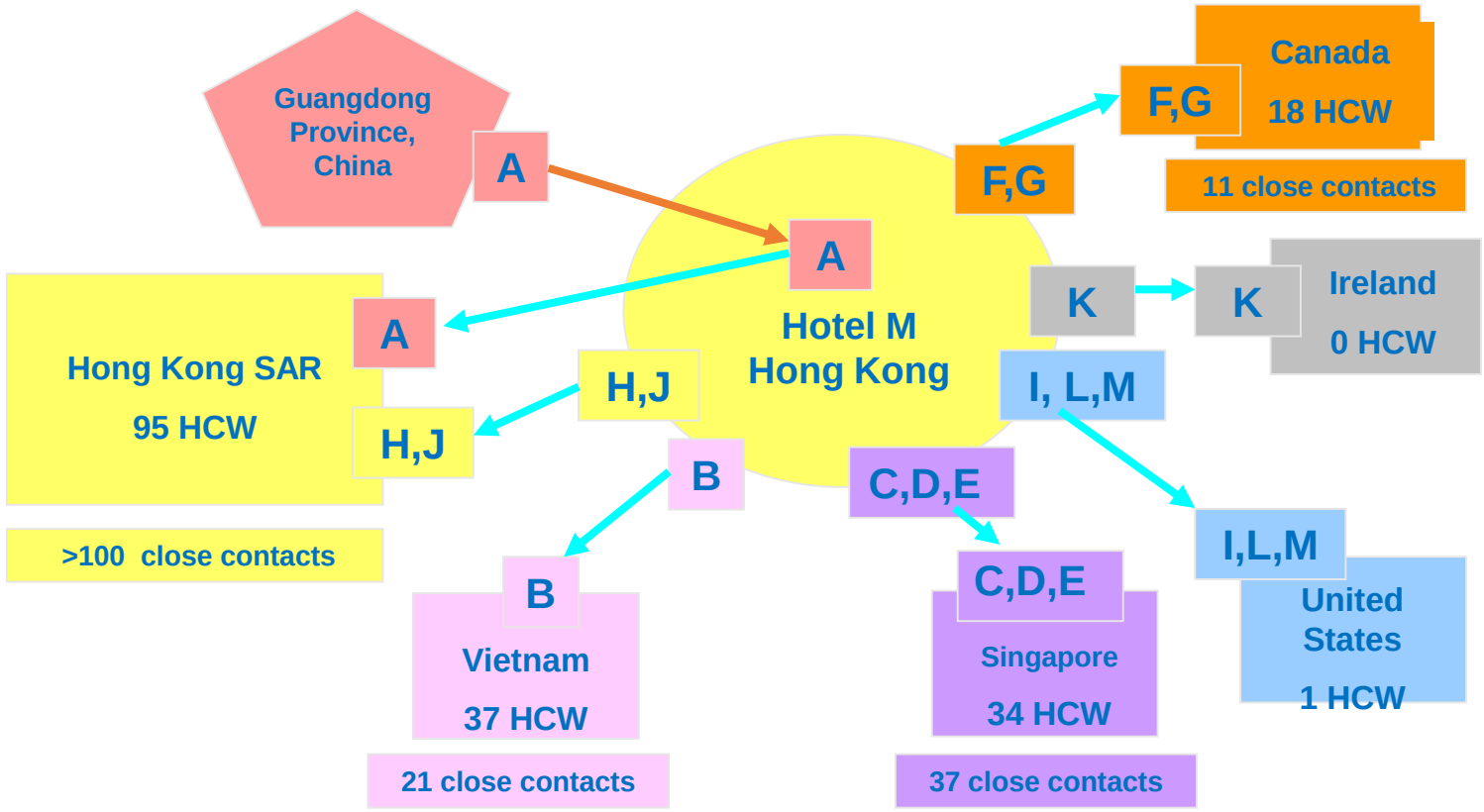
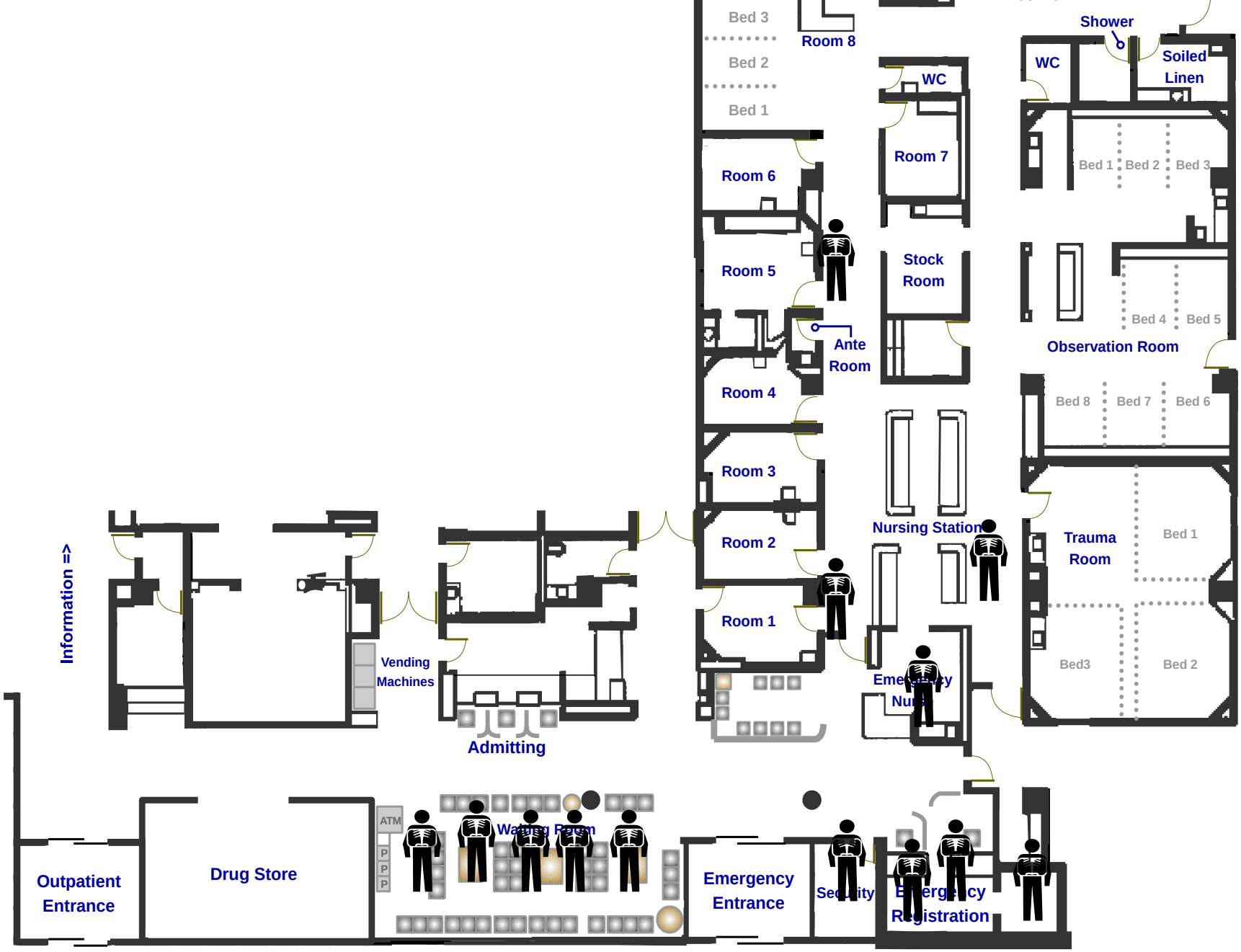
SARS

16 november 2002	first cases in Fosham city, Guangdong Province
11 february 2003	WHO informed by chinese Gvt (305 cases, 5 deaths)
12 february 2003	WHO informed by chinese Gvt of negative influenza test
20 february 2003	WHO informed by HK 2 cases of avian influenza
21 february 2003	65-yrs MD from Guangdong check in at the M Hotel in HK (9th floor) → 12 guests
26 february 2003	48-yrs businessman admitted at the French- Hospital in Hanoi (Hotel M)
28 february 2003	Hanoi WHO office alarmed (Dr C. Urbani)
1 march 2003	26-yrs old hostess admitted in Singapore (Hotel M)
4 march 2003	26-yrs old female admitted in Prince of Wales Hosp in HK (Hotel M)
5 march 2003	76-yrs old dies at Grace Hospital in Toronto (Hotel M)

Effect of Travel and Missed Cases on the SARS Epidemic

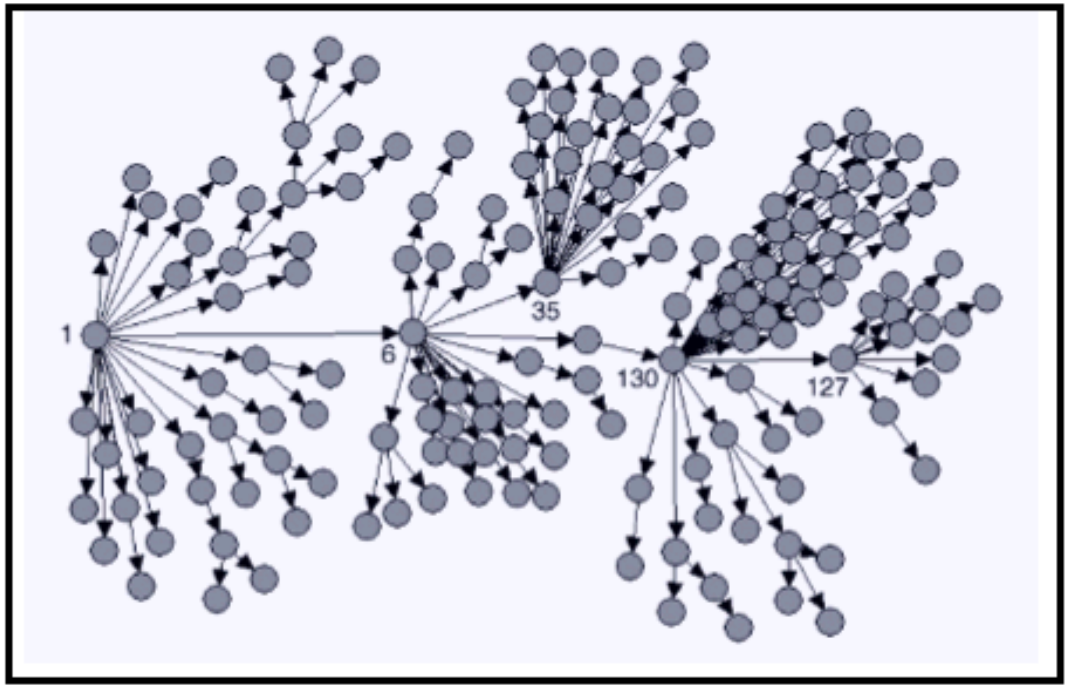
Spread from Hotel M, Hong Kong




Bed 3
Bed 2
Bed 1
Room 8
Shower
WC
Soiled Linen
WC
Room 7
Bed 1
Bed 2
Bed 3
Room 6
Room 5
Stock Room
Bed 4
Bed 5
Ante Room
Observation Room
Room 4
Bed 8
Bed 7
Bed 6
Room 3
Nursing Station
Room 2
Trauma Room
Bed 1
Room 1
Information =>
Vending Machines
Admitting
Bed3
Bed 2
Outpatient Entrance
Drug Store
ATM
Waiting Room
Emergency Entrance
Security
Emergency Registration

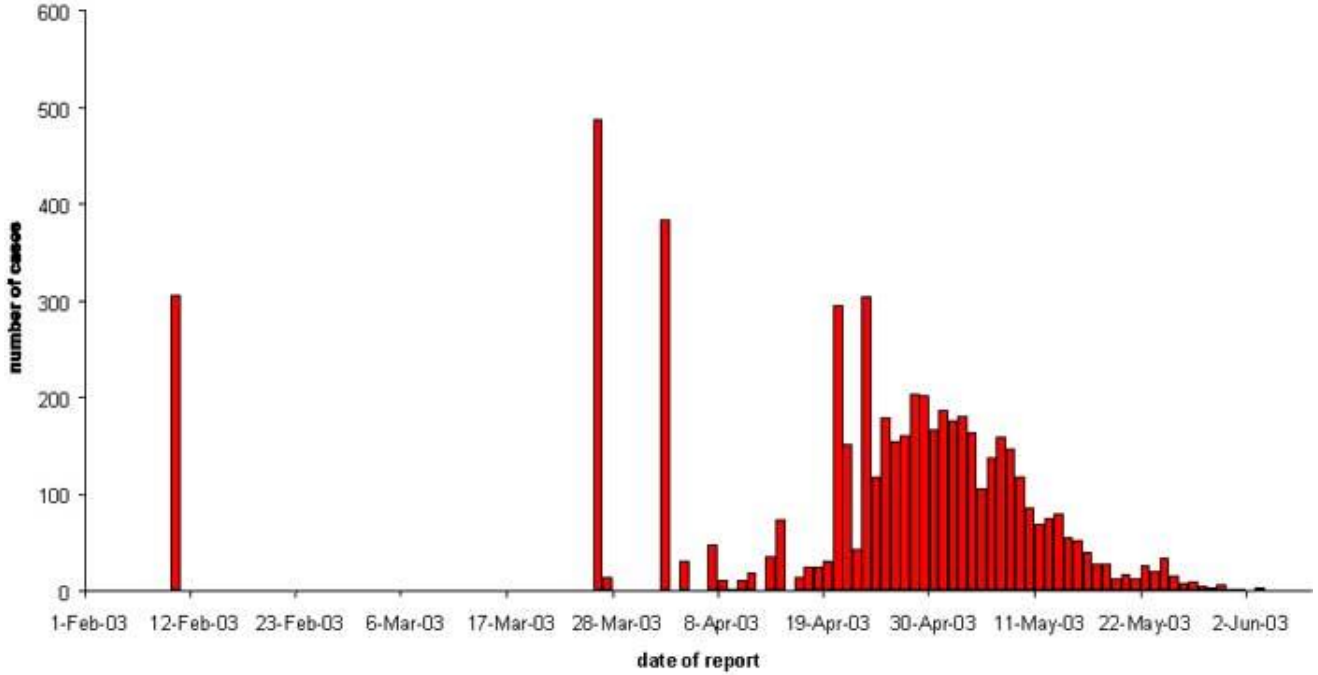
Person to Person Spread

FIGURE 2. Probable cases of severe acute respiratory syndrome, by reported source of infection* — Singapore, February 25–April 30, 2003



Probable cases of SARS by reported source of infection, Singapore, Feb 25 – Apr 30

Probable cases of SARS by date of report
China, 1 February - 5 June 2003 (n=5,546*)



* As of 5 June 2003, 5,329 probable cases of SARS have been reported from China.
This graph includes 217 probable cases of SARS who had been discarded and for whom dates of report could not be identified.
Source: Ministry of Health, China, WHO

viruses

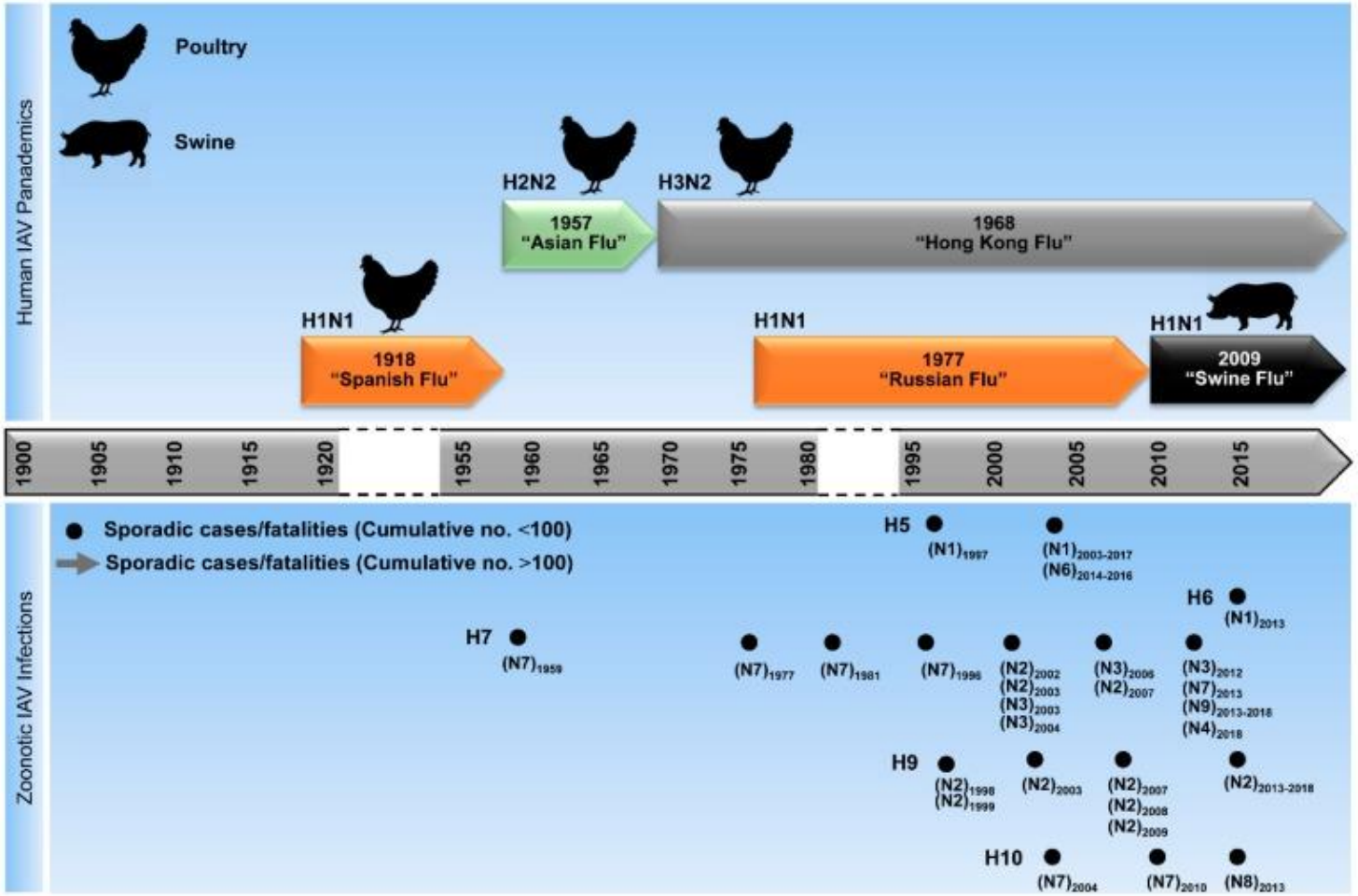
MDPI

Review

Zoonotic Potential of Influenza A Viruses: A Comprehensive Overview

Ahmed Mostafa [1,2], Elsayed M. Abdelwhab [3], Thomas C. Mettenleiter [3] and Stephan Pleschka [1,*]

Viruses **2018**, *10*, 497; doi:10.3390/v10090497



viruses

MDPI

Review

Zoonotic Potential of Influenza A Viruses: A Comprehensive Overview

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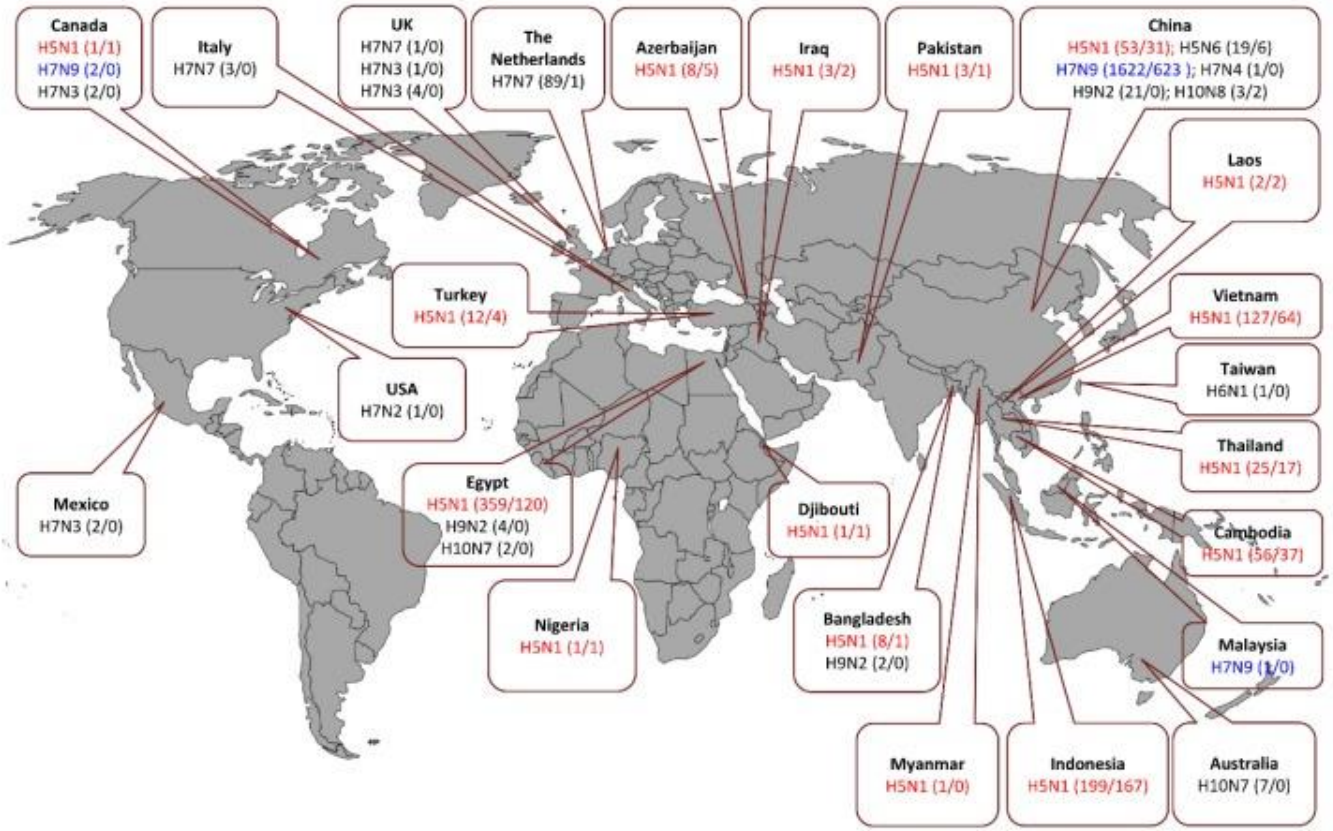
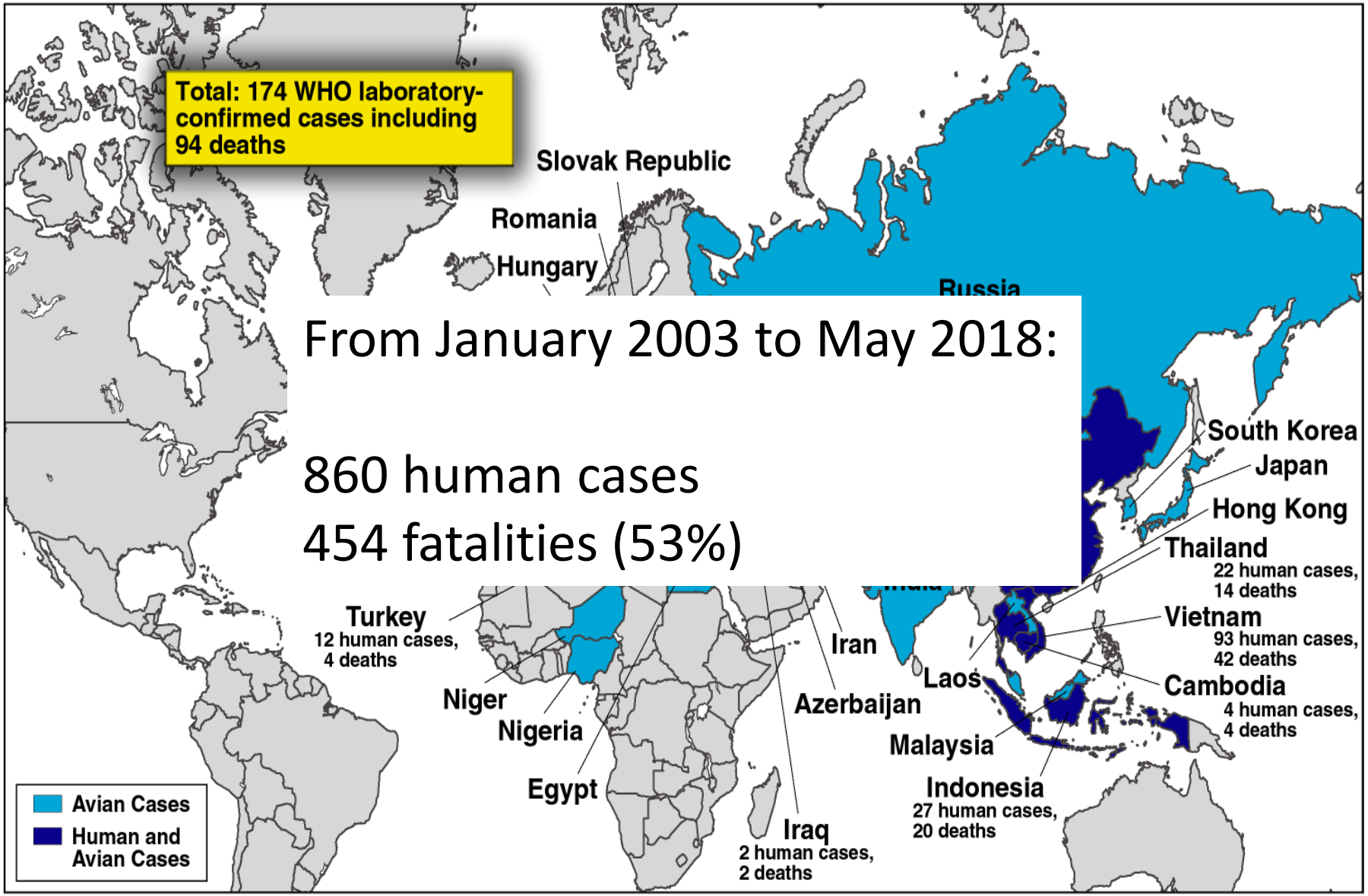


H5N1 Influenza Cases, 2003-2006



Source: WHO and OIE (World Organization for Animal Health), 3/1/2006

AVIAN INFLUENZA, HUMAN (07): NEPAL (BHAKTAPUR) H5N1, FATAL
****

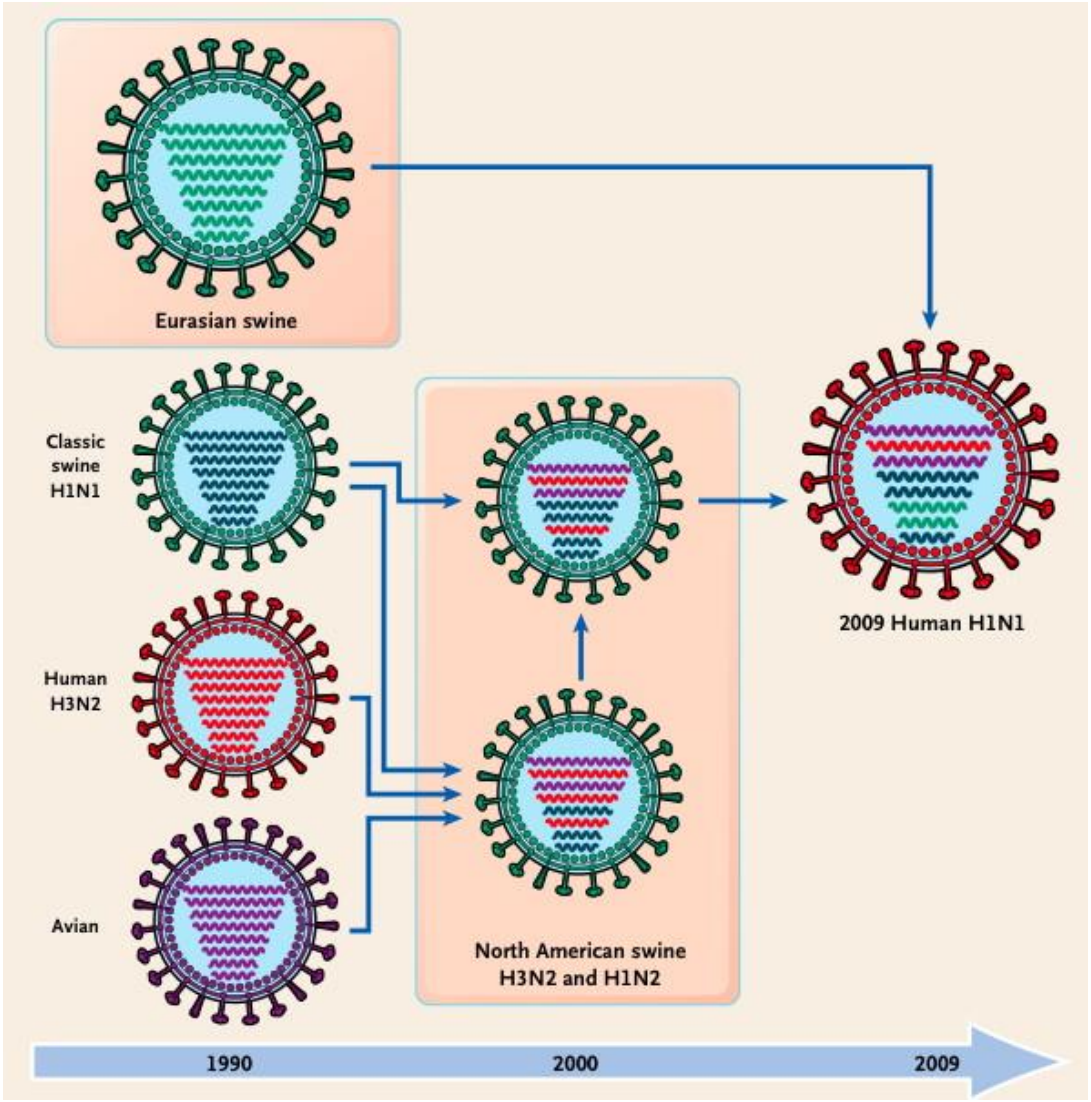
A ProMED-mail post
< http://www.promedmail.org>
ProMED-mail is a program of the
International Society for Infectious Diseases
< http://www.isid.org>

Date: Thu 2 May 2019 22:01 NPT
Source: The Kathmandu Post [edited]
< http://kathmandupost.ekantipur.com/news/2019-05-02/first-bird-flu-death-in-the-country-exposes-passive-surveillance-and-poor-preparedness.html>

The H5N1 bird flu virus that has been confirmed as the 1st cause of death in Nepal, 10 years after it was first detected in birds in 2009, is the world's 1st H5N1 human infection since February 2017 and has raised issues of public health emergency of international concern as government and WHO officials refuse further information on the case.

L’influenza “suina” del 2009

Il virus influenzale A/H1N1v 2009 è stato generato da un quadruplo riassortimento e contiene geni di virus del maiale (sia di provenienza europea che asiatica), di virus aviari e di virus umani

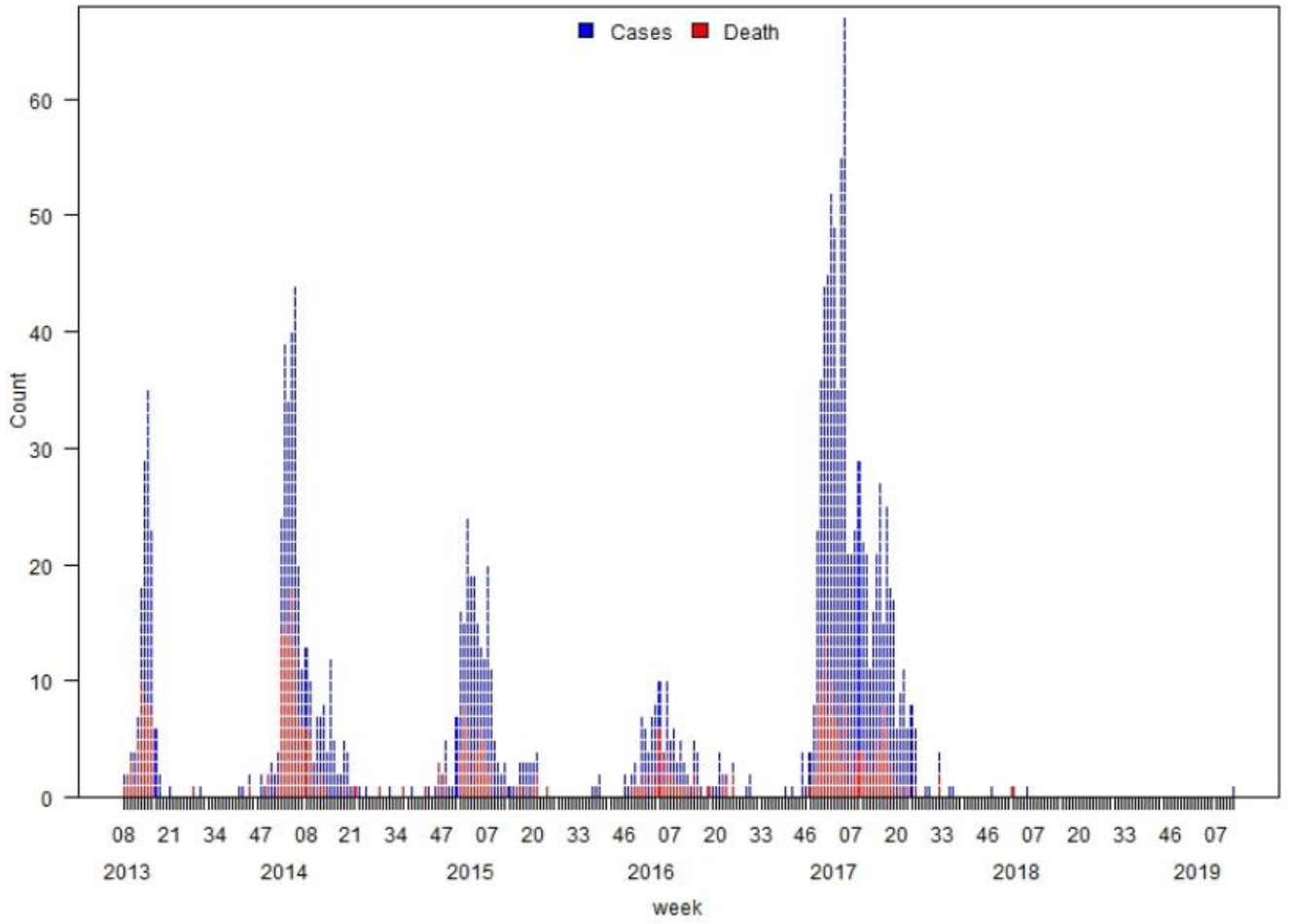


World Health Organization

Influenza at the human-animal interface

Summary and assessment, 13 February to 9 April 2019

Figure 1: Epidemiological curve of avian influenza A(H7N9) cases in humans by week of onset, 2013-2019.



Ae. aegypti vs *Ae. albopictus*

Aedes aegypti

Urban mosquito

Needs standing water for larvae

Prefers cool, dark areas for resting

Feeds through the day, most active at dawn/dusk

Eggs do not survive winter in temperate climates

Aedes albopictus: Asian Tiger Mosquito

Urban, periurban, rural habitats

Feeds through the day, most active dawn/afternoon

Eggs survive winter in temperate climates

Invasive - spreading in Europe and Americas

In Europe: Mediterranean basin from Spain to Greece

Recently found around the Black Sea coast (Bulgaria, Georgia, Romania, Turkey)

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www.CDC.gov

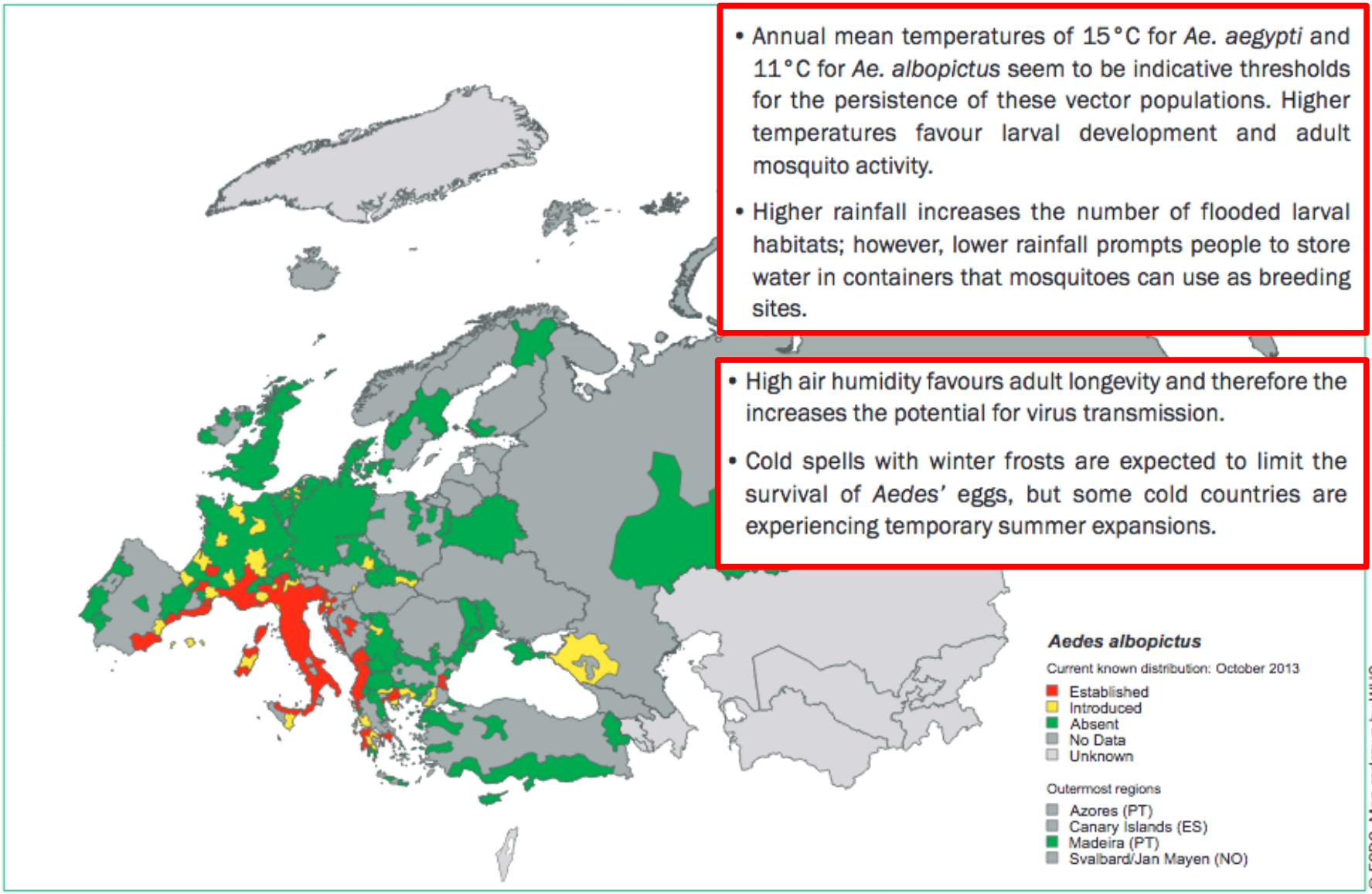

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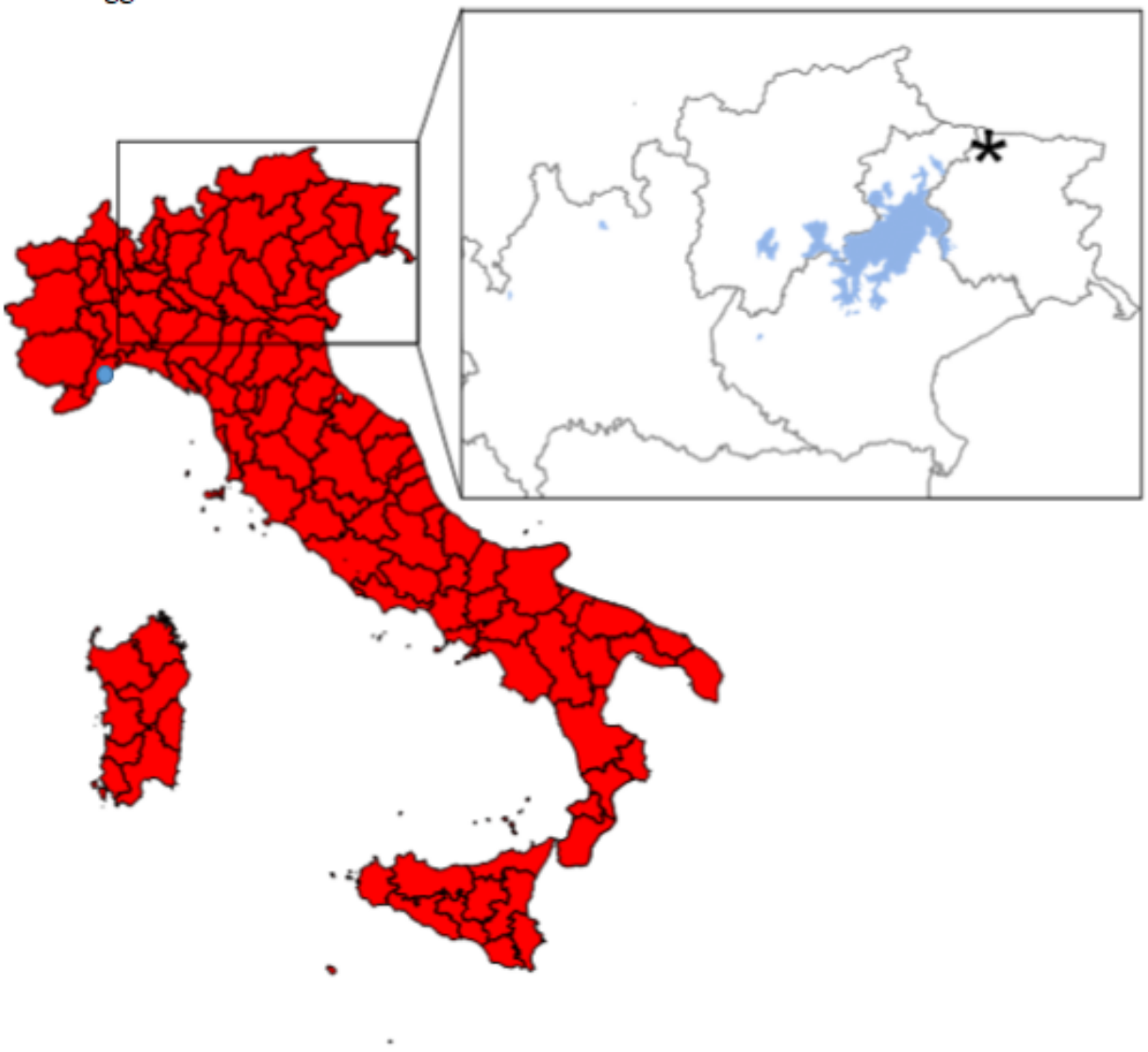
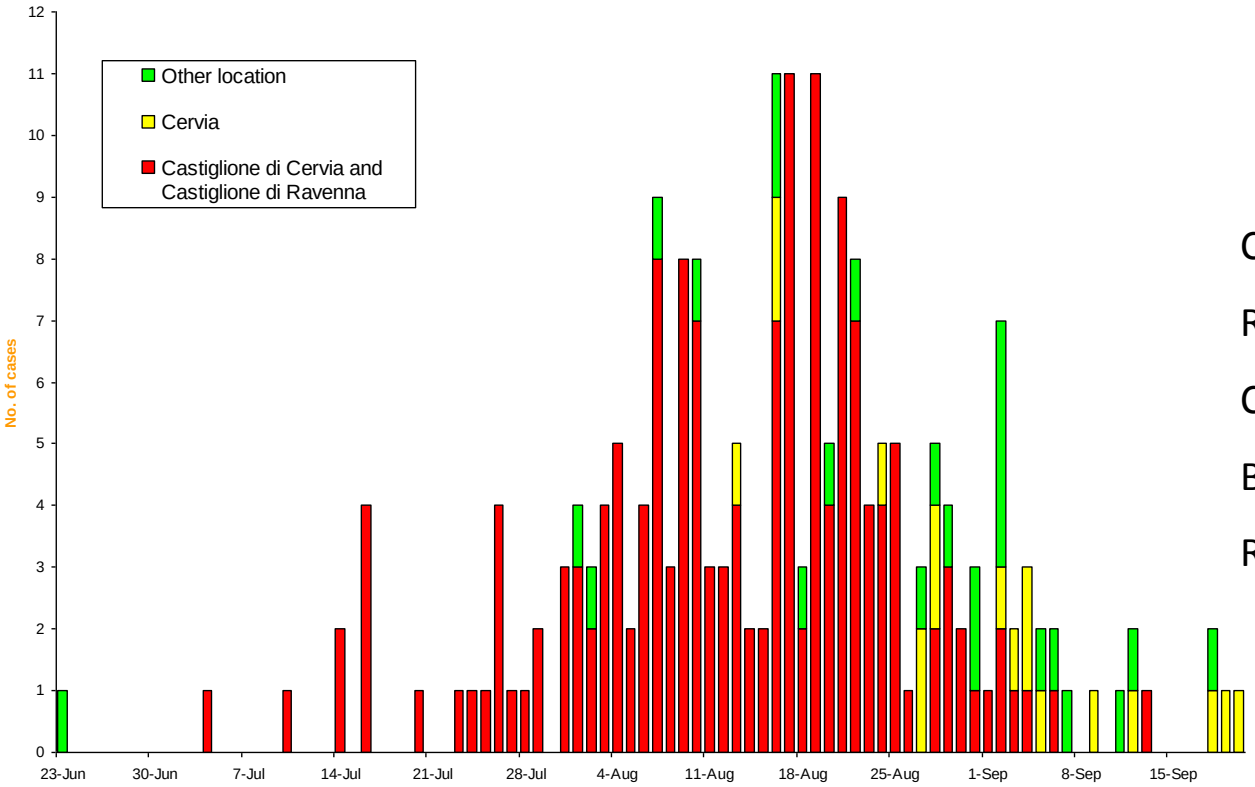
Figura 3. Mappa della presenza di *Aedes albopictus, Aedes koreicus* e *Aedes japonicus* in Italia - ultimo aggiornamento marzo 2017



Legenda: Italia: distribuzione di *Ae. albopictus* per provincia: in rosso le province positive; Particolare: In azzurro l'area monitorata dove è stata rilevata la presenza di *Ae. koreicus*, 2011-2016 (Montarsi *et al.* Parasit Vectors 2015; Marcantonio *et al.* Parasit Vectors, 2016) e il recente ritrovamento nella città di Genova (Ballardini e al. EMCA Conference, 2017) * Primo rinvenimento di *Ae. japonicus* in Italia (Seidel *et al.* Parasit Vectors, 2016).

Epidemic curve by presumed site of Infection



Secondary clusters:

Cervia (9 Km) 19 cases

Ravenna (23 Km) 9 cases

Cesena (19 Km) 15 cases

Bologna (90 Km) 5 cases

Rimini (49 Km) 6 cases

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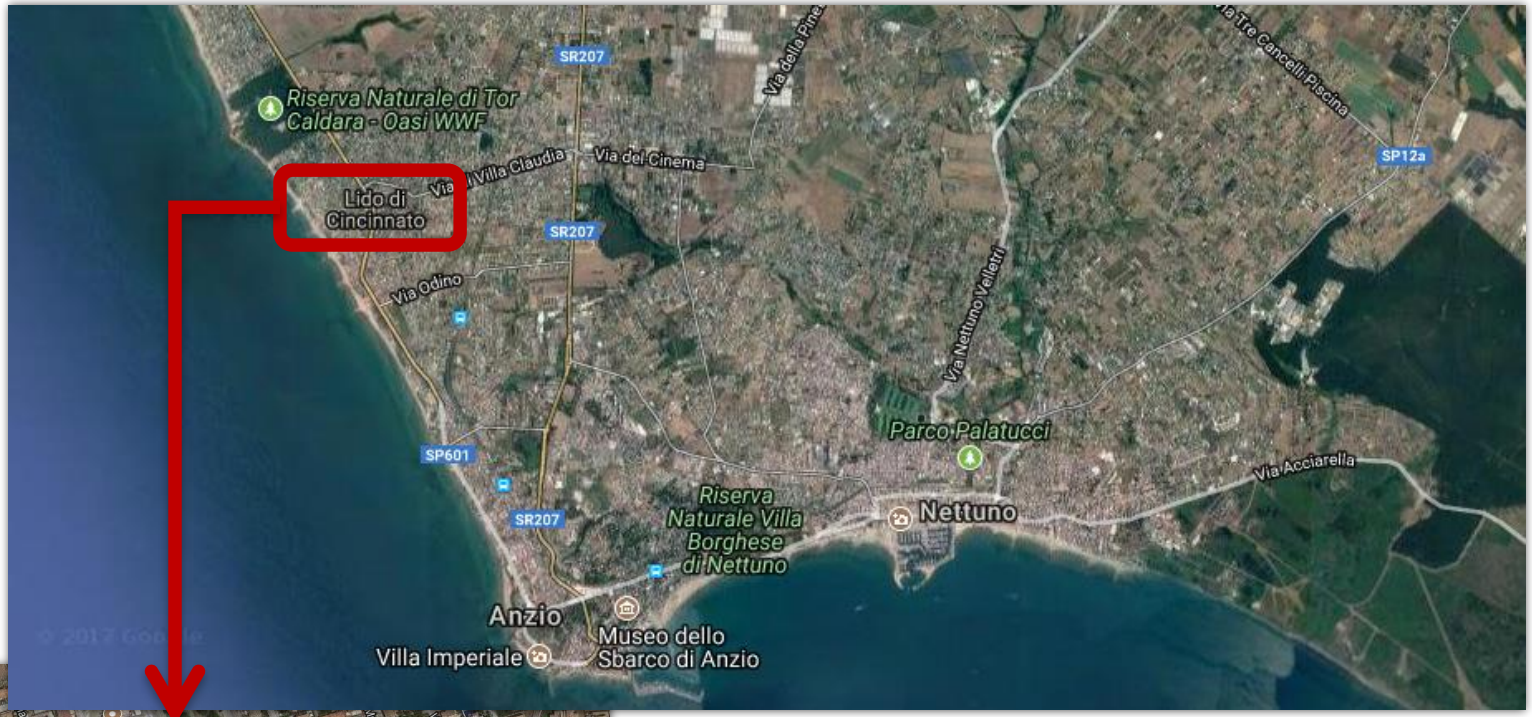
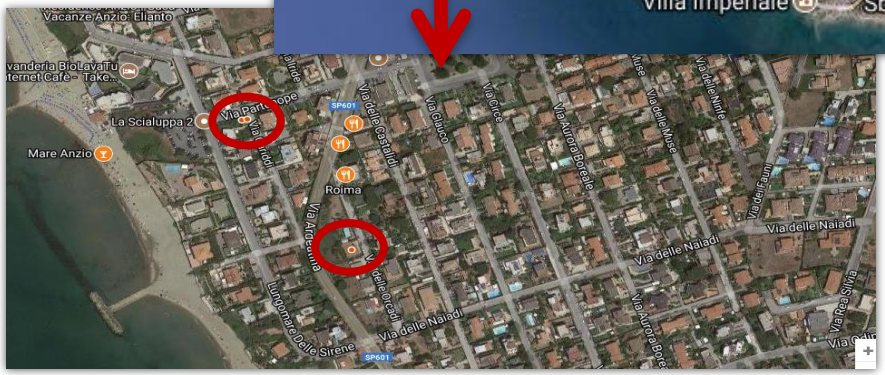
Rezza G, et al., Lancet. 2007 Dec 1; 370 (9602): 1840-6.

Indagine epidemiologica

Geolocalizzazione





3 casi notificati il 06/09/2017

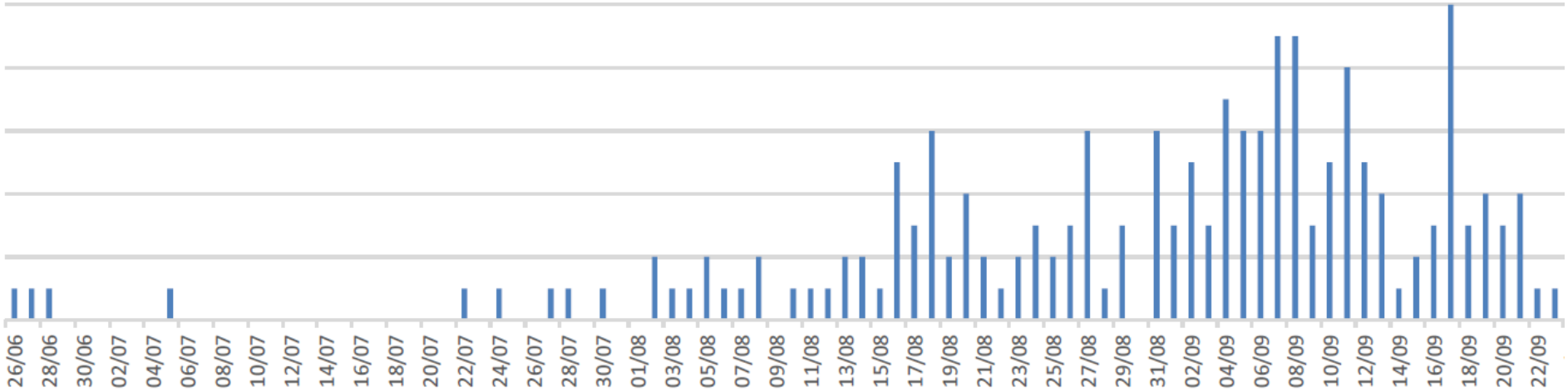
Roberto Giammattei SISP ASL RM6

Anzio

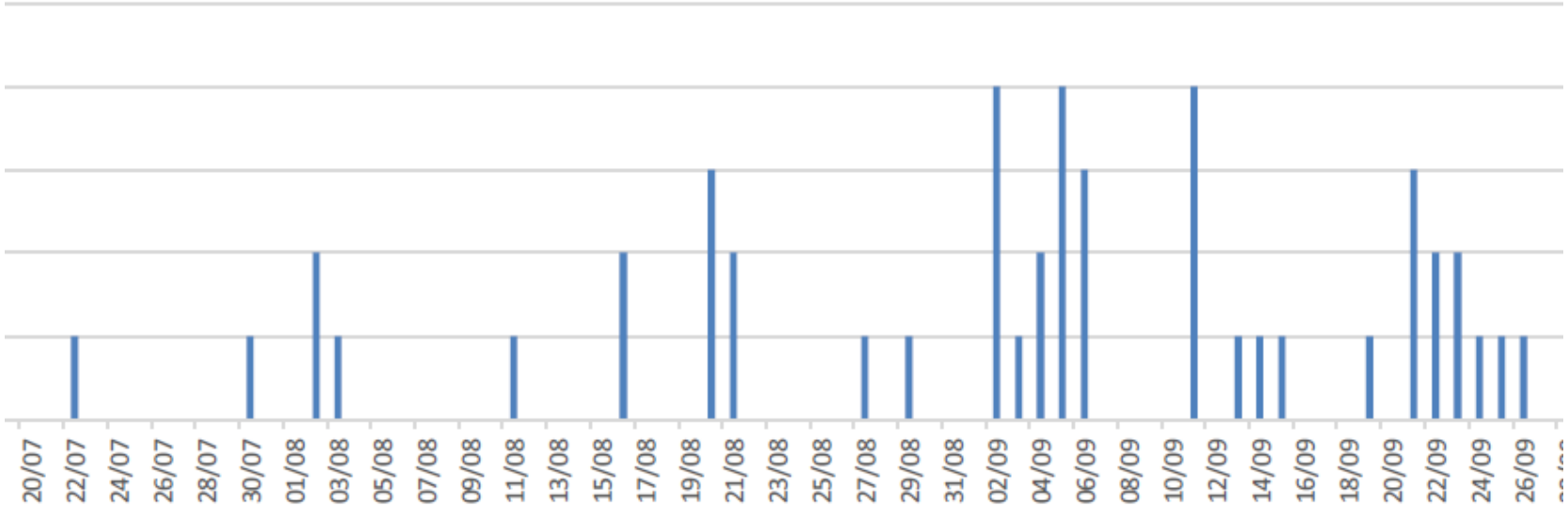
Loc. Cincinnato

Roberto Giammattei SISP ASL RM6

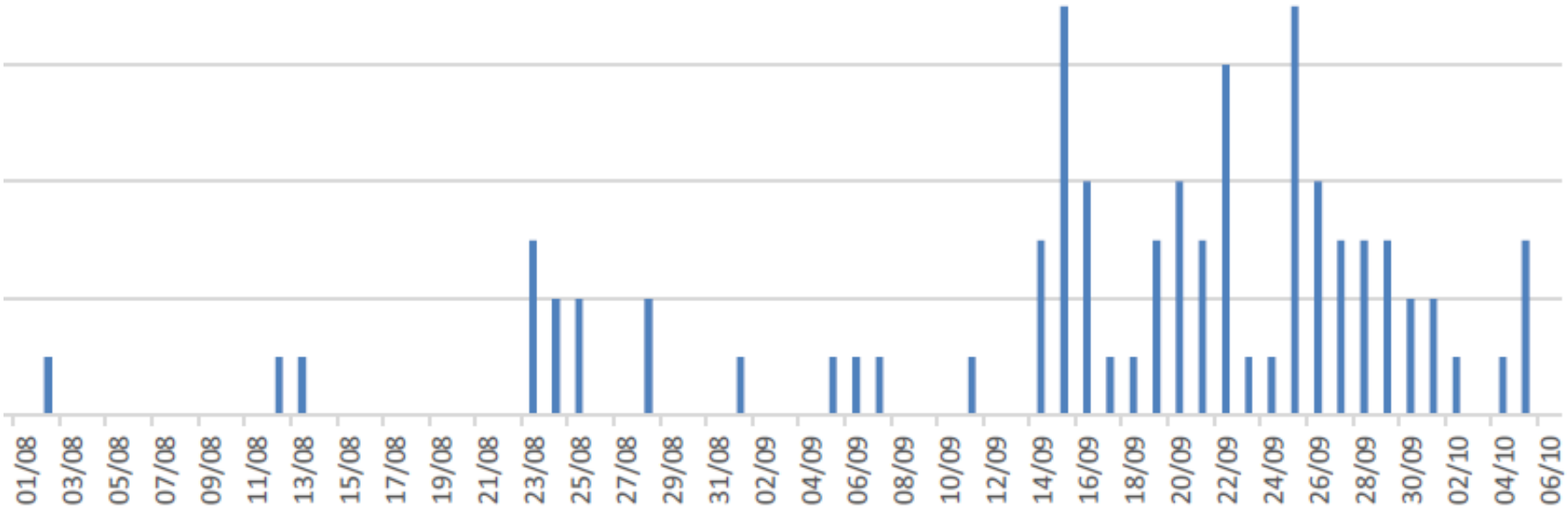
Comune di Anzio
Curva epidemica per insorgenza di sintomi
6 ottobre 2017



Comune di Roma
Curva epidemica per insorgenza di sintomi
6 ottobre 2017



Comune di Guardavalle Marina
Curva epidemica per insorgenza di sintomi
6 ottobre 2017



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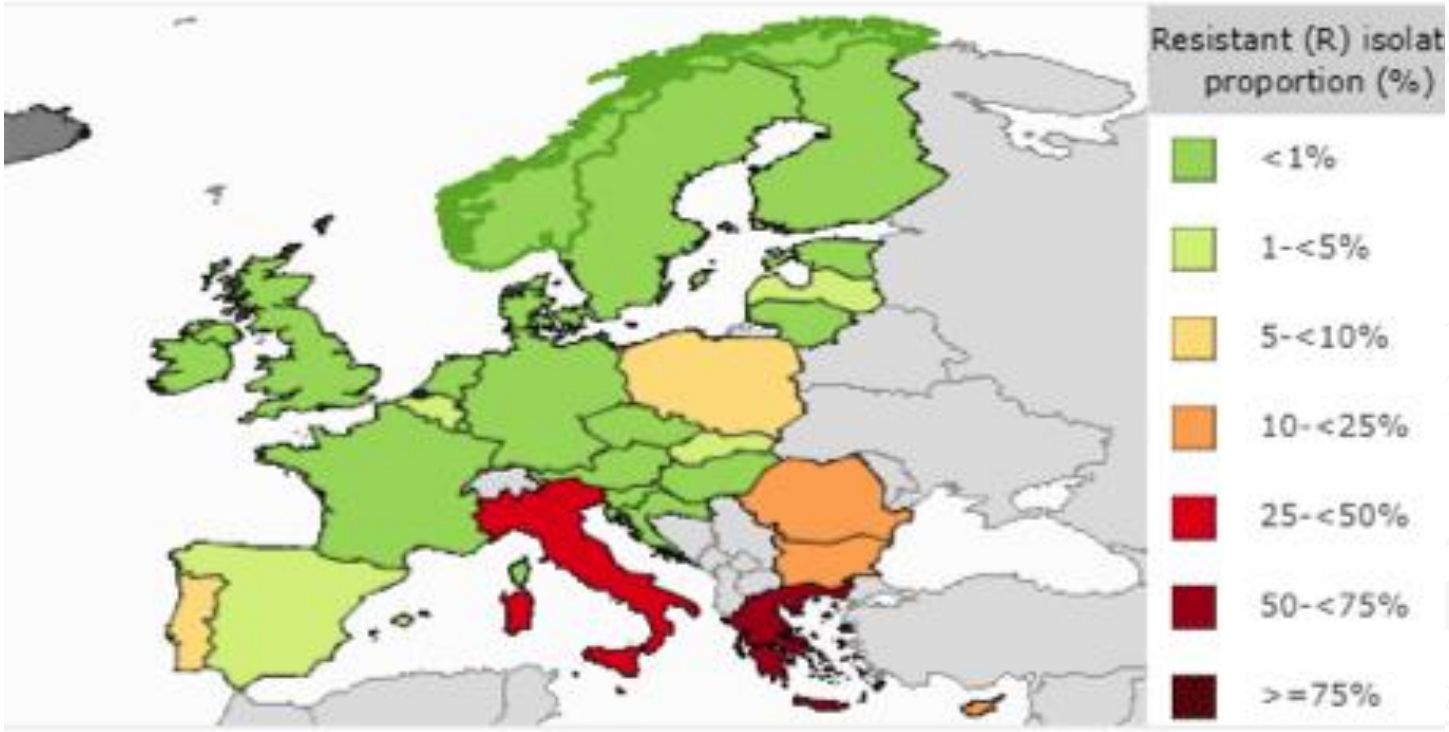
Prevalenza complessiva di ceppi batterici resistenti agli antibiotici in Europa



Fonte: ECDC, 2018

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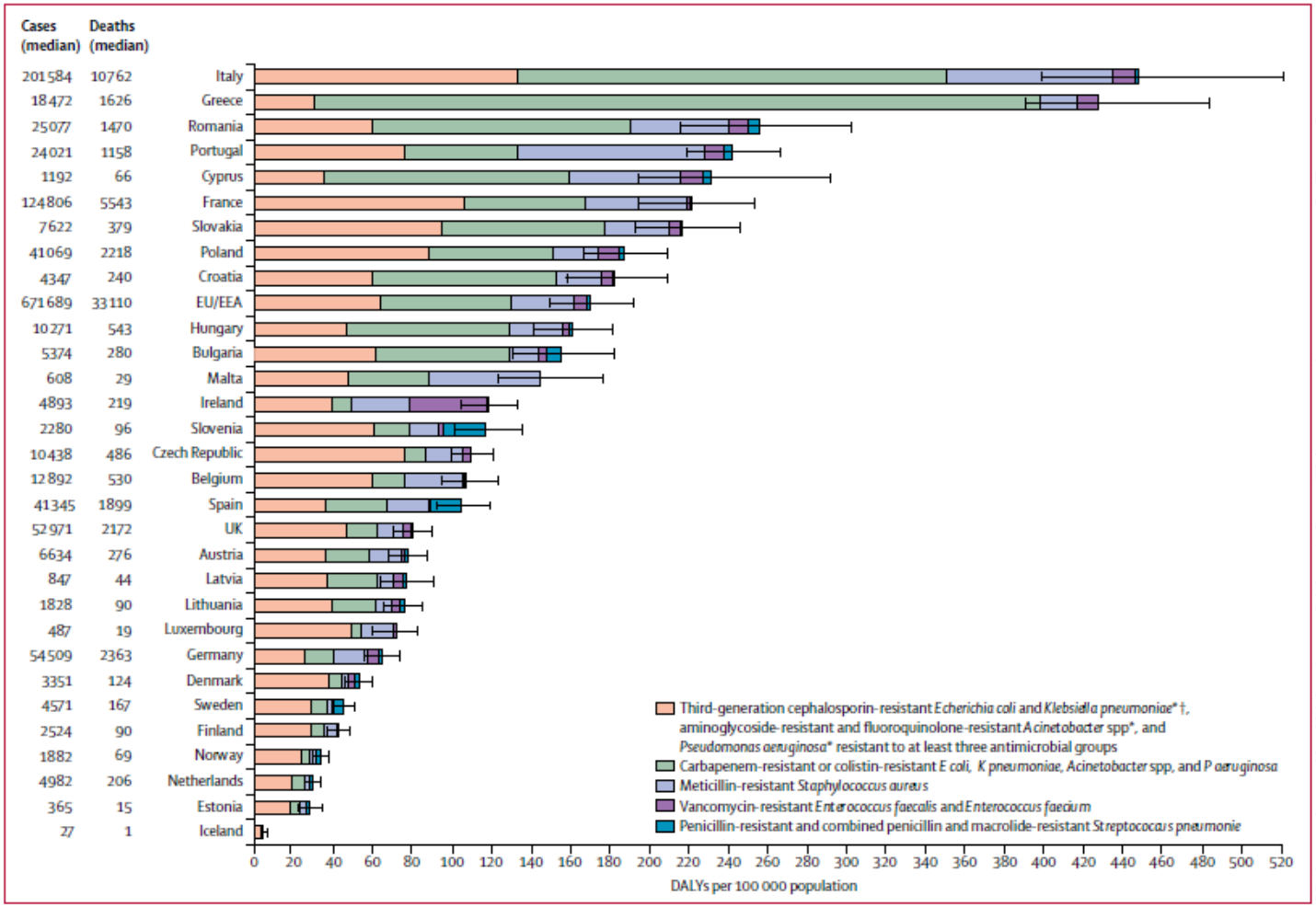

***Figure 3*: Burden of infections with antibiotic-resistant bacteria in DALYs, EU and European Economic Area, 2015**

Error bars are 95% uncertainty intervals. Greece did not report data on *S pneumoniae* isolates to the European Antimicrobial Resistance Surveillance Network in 2015. DALY rates are age-standardised to limit the effect of demographic differences across countries; numbers of cases and deaths are not age-standardised. DALYs=disability-adjusted life-years. *Excludes those resistant to carbapenem or colistin. †In 2015, most of the third-generation cephalosporin-resistant *E coli* (88·6%) and *K pneumoniae* (85·3%) isolates reported to the European Antimicrobial Resistance Surveillance Network produced an extended-spectrum β-lactamase.[3]

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Fonte: Cassini A. et al., (2019), "*Attributable deaths and disability-adjusted life-years caused by infections with antibiotic-resistant bacteria in the EU and the European Economic Area in 2015: a population-level modelling analysis*", Lancet Infect Dis; 19: 56–66

Journal of
TRAVEL MEDICINE

EDITORIAL

Multidrug-Resistant Bacteria Without Borders: Role of International Trips in the Spread of Multidrug-Resistant Bacteria

ELSEVIER

Contents lists available at ScienceDirect

Clinical Microbiology and Infection

journal homepage: www.clinicalmicrobiologyandinfection.com

CMI CLINICAL MICROBIOLOGY AND INFECTION ESCMID

Original article

Travel to Asia and traveller's diarrhoea with antibiotic treatment are independent risk factors for acquiring ciprofloxacin-resistant and extended spectrum β-lactamase-producing *Enterobacteriaceae*—a prospective cohort study

AAC
Journals.ASM.org

The Human Gut Microbiome as a Transporter of Antibiotic Resistance Genes between Continents

Contents lists available at ScienceDirect

Clinical Microbiology and Infection

journal homepage: www.clinicalmicrobiologyandinfection.com

Original article

Patients hospitalized abroad as importers of multiresistant bacteria—a cross-sectional study

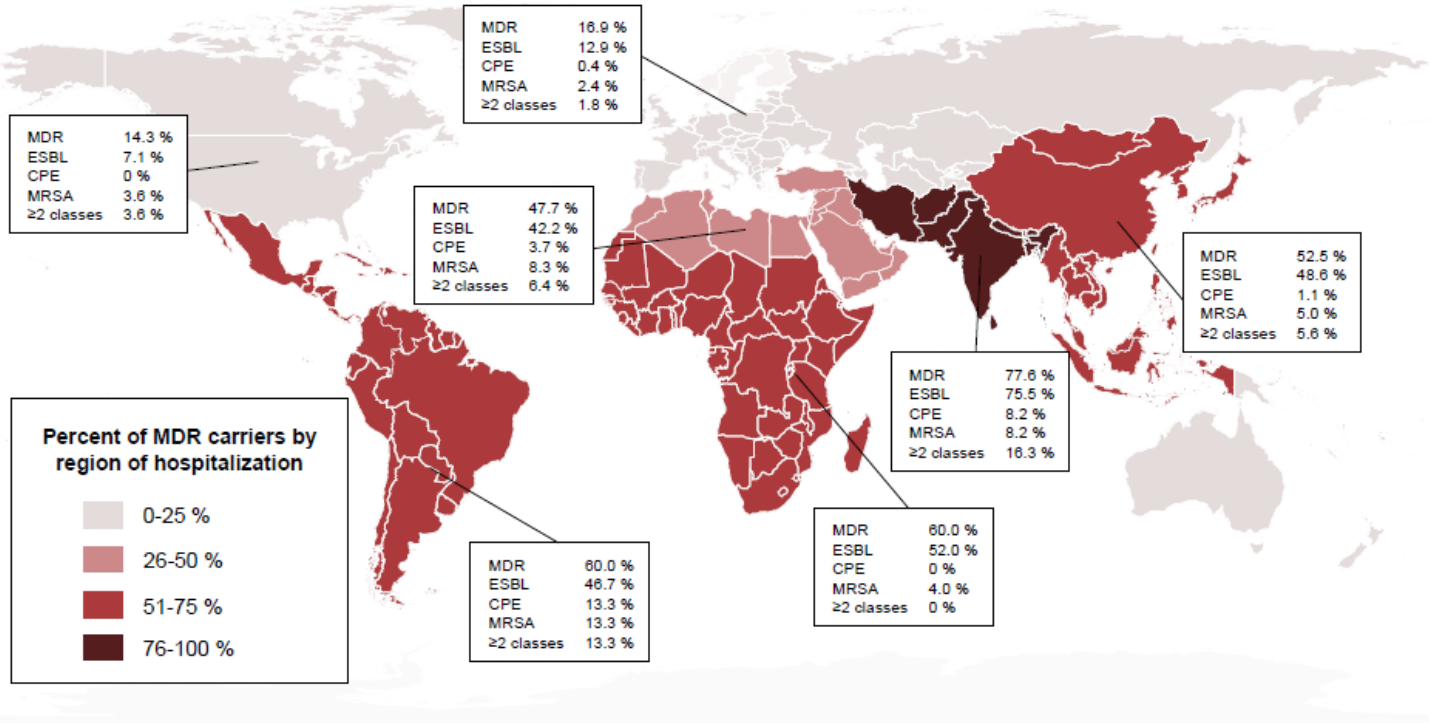

Fig. 1. Prevalence of multidrug-resistant bacteria carriage in returning patients according to the geographic region of their prior hospitalization. Abbreviations: MDR, multidrug-resistant bacteria; MRSA, methicillin-resistant *Staphylococcus aureus*; ESPL-PE, extended-spectrum β-lactamase-producing *Enterobacteriaceae*; CPE, carbapenemase-producing *Enterobacteriaceae*.

J Antimicrob Chemother 2016; **71**: 1076–1082
doi:10.1093/jac/dkv441 Advance Access publication 10 January 2016

Journal of Antimicrobial Chemotherapy

Prevalence and risk factors for carriage of ESBL-producing Enterobacteriaceae in Amsterdam

E. A. Reuland[1]*, N. al Naiemi[1–3], A. M. Kaiser[1], M. Heck[4], J. A. J. W. Kluytmans[1,5,6], P. H. M. Savelkoul[1], P. J. M. Elders[7] and C. M. J. E. Vandenbroucke-Grauls[1]

Table 4. Main risk factors included in multivariate analysis

Risk factor	Multivariate OR	95% CI
Age (continuous variable)	1.0	1.0–1.0
Female	0.9	0.6–1.5
Use of antibiotics	2.2	1.4–3.7
PPIs or H2 blockers	1.9	1.1–3.3
Travel to		
Africa[a]	2.2	1.1–4.6
Latin America/Caribbean[a]	0.7	0.3–1.9
Northern America[a]	2.7	1.6–4.8
Asia[a]	2.1	1.3–3.6
Australia/New Zealand[a]	NA	NA

NA, not applicable; PPIs, proton-pump inhibitors.
[a]Countries grouped according to WHO major area codes, reference = Europe (inclusive of persons who only travelled in the Netherlands or did not travel).

Available online at www.sciencedirect.com
ScienceDirect
journal homepage: www.elsevierhealth.com/journals/tmid

A passage from India: Association between air traffic and reported cases of New Delhi Metallo-beta-lactamase 1 from 2007 to 2012

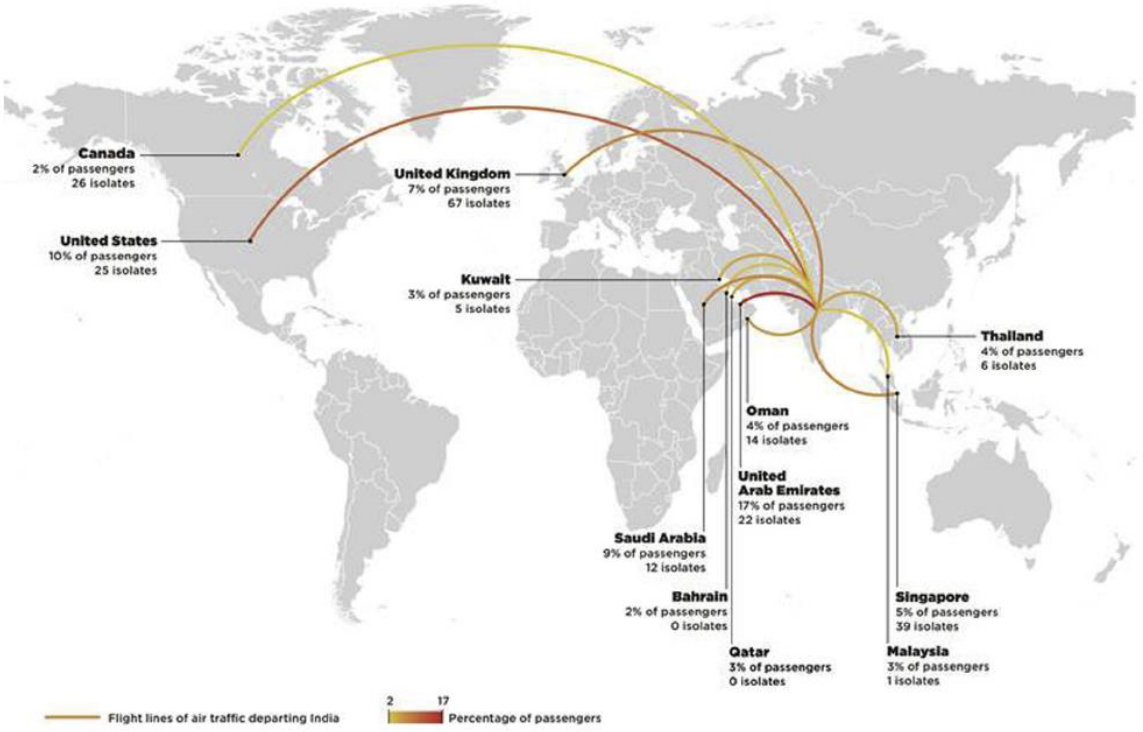

Fig. 1 Map of air traffic departing India to the 12 highest volume (percentage) destination countries, and total published NDM-1 cases in these countries from 2007 to 2012.

SUSTAINABLE DEVELOPMENT GOALS
17 GOALS TO TRANSFORM OUR WORLD

Obiettivo 13: Promuovere azioni, a tutti i livelli, per combattere il cambiamento climatico

WHO Infographics – Who is at Risk of Climate Change?

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WHO UNFCCC Climate and Health Country Profile – Italy: Summary

1. Italy has a heterogeneous climate with substantial differences in impact and risk. Climate change is already exacerbating **infrastructure weaknesses**, post-industrial **pollution** and hydro-geological and seismic **vulnerability**

2. The risk of **water scarcity** is high, with 6 regions declaring a state of emergency in 2017. This water scarcity will threaten agriculture and increase the risk of forest fires and desertification, with the related economic consequences

3. Air quality is at risk, especially in urban areas, and can have a deep impact on biodiversity

4. High risk of the re-emergence of polio and TB, and the arrival of exotic **infectious diseases** such as Chikungunya, dengue, Zika, West Nile fever, Crimean-Congo fever

5. **Protection strategies** have been bolstered but the risk is on the rise, complicated by the migration phenomenon, which is fuelled strongly by economic and climate-related factors. In 2015, Italy adopted a **National Adaptation Strategy** (NAS) for climate change and is currently formulating a National Adaptation Plan (NAP)

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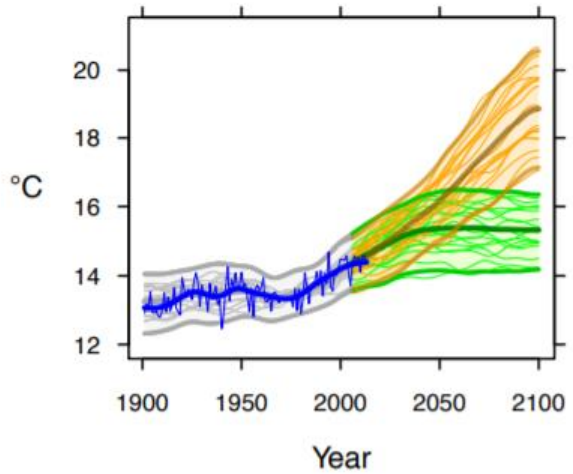
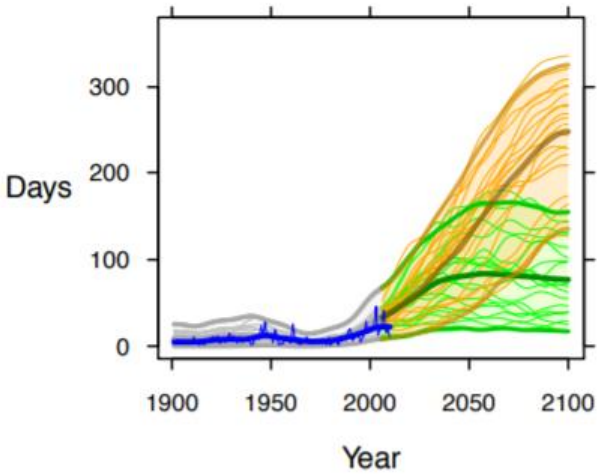
WHO UNFCCC Climate and Health Country Profile - Italy

MEAN ANNUAL TEMPERATURE



Under a high emissions scenario, mean annual temperature is projected to rise by about 5.1°C on average from 1990 to 2100. If global emissions decrease rapidly, the temperature rise is limited to about 1.6°C.

DAYS OF WARM SPELL ('HEAT WAVES')



Under a high emissions scenario, the number of days of warm spell [4] is projected to increase from about 10 days in 1990 to about 250 days on average in 2100. If global emissions decrease rapidly, the days of warm spell are limited to about 75 on average.

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WHO UNFCCC Climate and Health Country Profile - Italy

NATIONAL RESPONSE [3]	
2004	NATIONAL HEAT-HEALTH PREVENTION PLAN
2006	FUND FOR SUSTAINABLE MOBILITY ESTABLISHED
2012	REDUCING GREEN HOUSE GAS EMISSIONS (CLIMATE CHANGE MITIGATION) BY REDUCTION OF THE TAXES (55%) FOR PRIVATE BUILDINGS (LAW 134, 7TH AUGUST 2012)
2013	NATIONAL STRATEGY APPROVED BY THE CIPE, DELIBERATION N. 17/2013. MINISTRY OF ECONOMIC DEVELOPMENT AND THE ITALIAN MINISTRY FOR THE ENVIRONMENT LAND AND SEA (IMELS) APPROVED A NEW "NATIONAL ENERGY STRATEGY"
2014	NATIONAL PREVENTION PLAN BY MINISTRY OF HEALTH (ONE HEALTH)
2015	NATIONAL ADAPTATION STRATEGY (NAS) ADOPTED
2016	RATIFICATION OF PARIS AGREEMENT
2017	IMELS PROVIDED A DRAFT NATIONAL PLAN FOR ADAPTATION TO CLIMATE CHANGE (NAP, IN PROGRESS)
2017	JOINT PROJECT COORDINATED BY MOH AND NATIONAL INSTITUTE OF HEALTH (ISS) ON "CLIMATE CHANGES AND HEALTH WITHIN THE "PLANETARY HEALTH" VISION

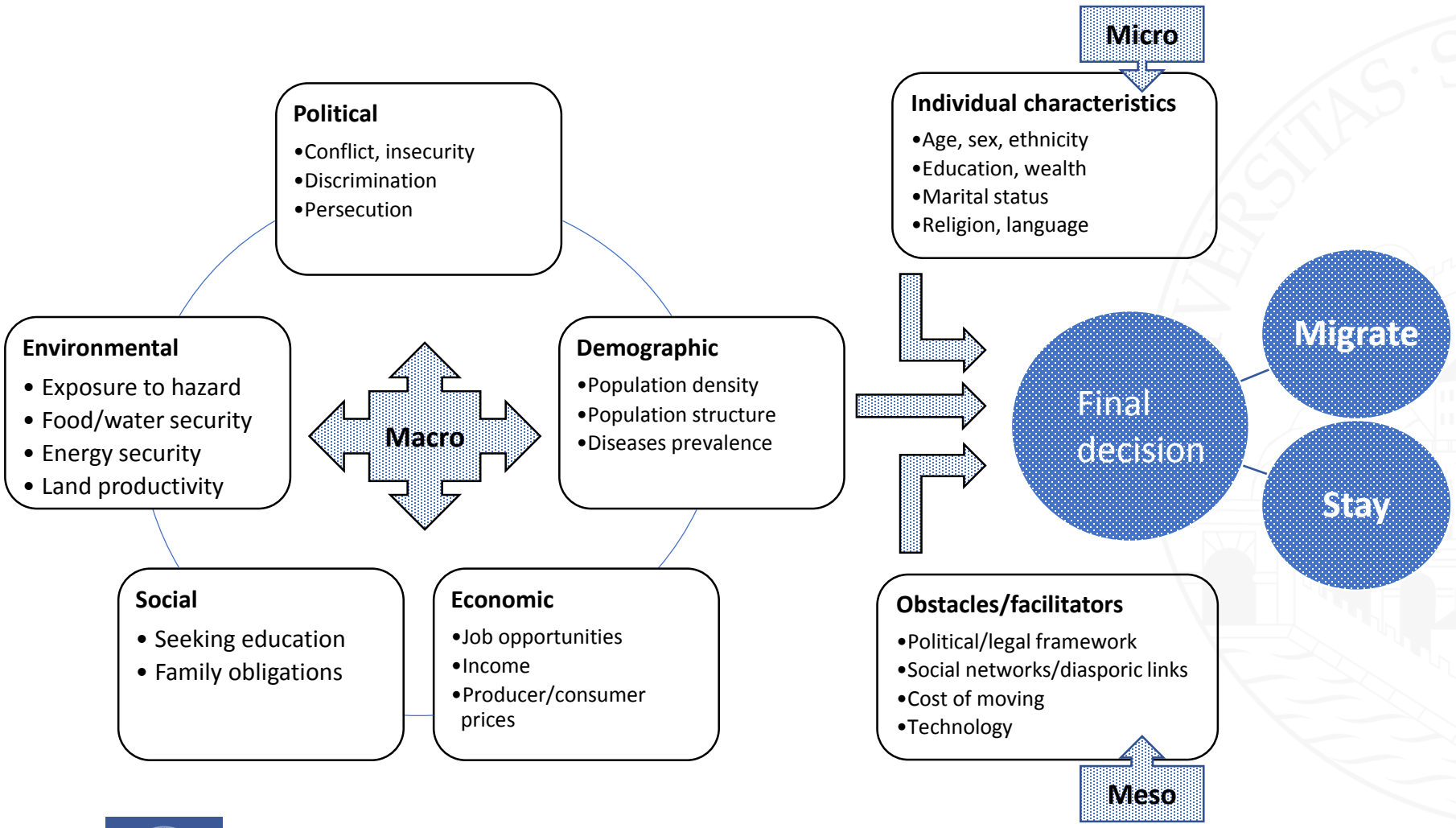
Drivers of migration

Journal of Travel Medicine
International Society of Travel Medicine
Promoting healthy travel worldwide
Journal of Travel Medicine, 2018, 1–7
doi: 10.1093/jtm/tay040
Perspective

Perspective

Drivers of migration: why do people move?

Francesco Castelli*†



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Castelli F. Drivers of migration, JTM, 2018

Impact of anthropogenic climate changes on mortality rates

Figure 1: Deaths attributable to anthropogenic climate change between 1970 and 2000, density-equalling cartogram[6]

In the year 2000, climate changes have caused more than 150.000 deaths, all occurring in the poorest part of the world population, producing only 3% of greenhouse emissions…

Friel et al.

Lancet 2008; 372: 1677–83

See Perspectives page 1625

Commission on Social Determinants of Health, International Institute for Society and Health, Department of Epidemiology and Public Health, University College London, London, UK (S Friel PhD, M Marmot PhD); Commission on Social Determinants of Health and

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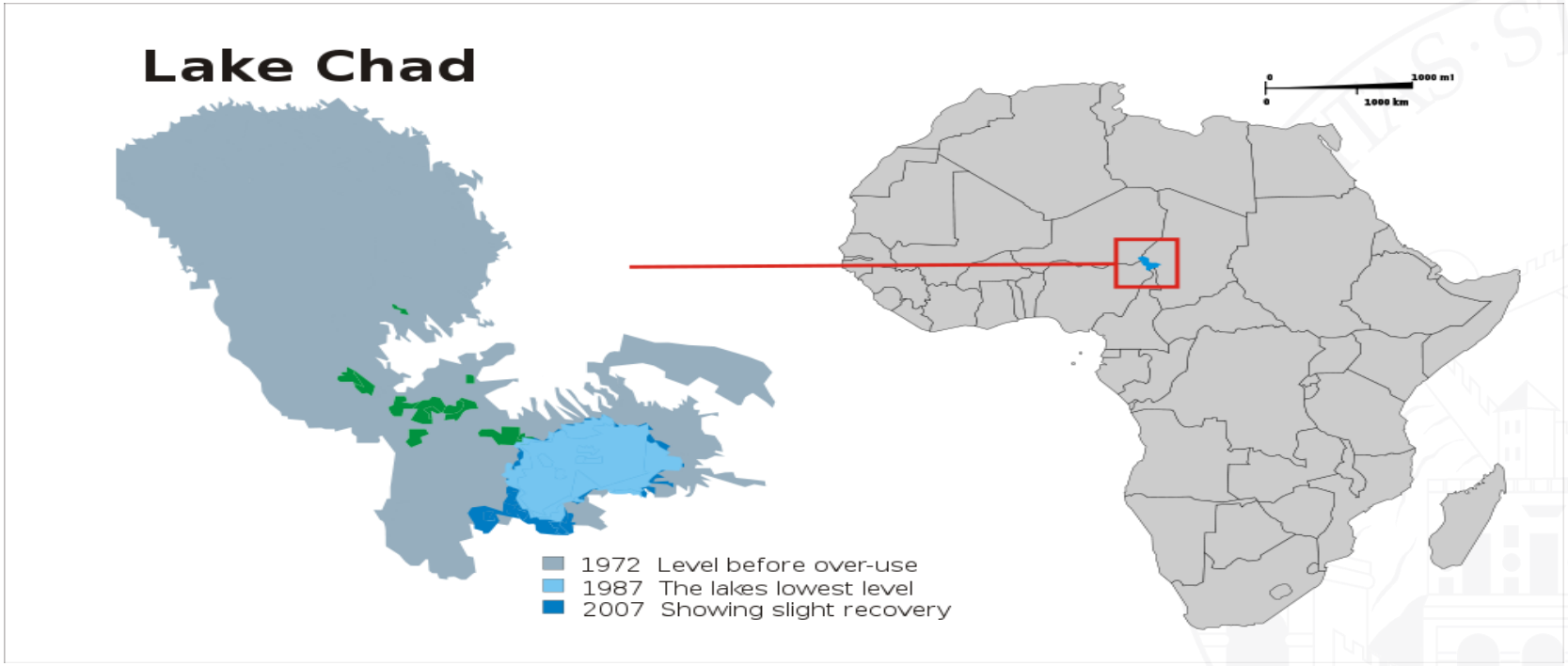
Impact of anthropogenic climate changes on water sources in Africa



Lake Chad was about 25,000 square kilometers in surface area back in 1963. Now the lake is about one-twentieth the size it was in the mid 1960s

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Land grabbing

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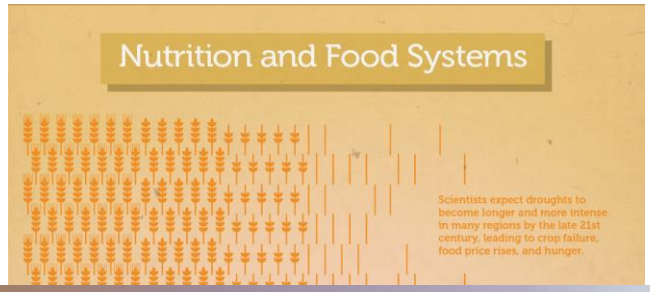

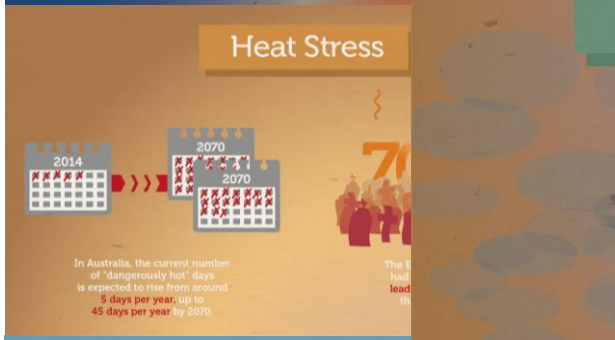

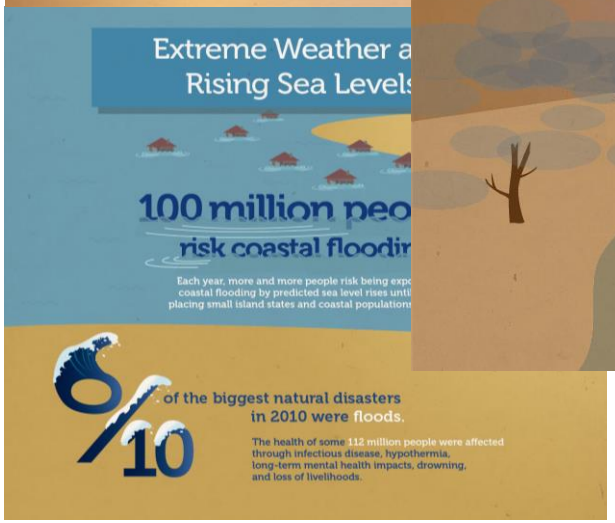

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- Grazie per l’attenzione