

Goals and activity of the EBA- Emerging Infectious Disease (EID) Monitor

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Workshop Qualification of new blood donors before donation

Rome, 3 February 2014

Agenda

- EID Monitor Network
- WNV in Europe
- Malaria vivax in Greece
- Hepatitis E virus
- MERS-CoV
- Avian Influenza H7N9 China
- Other EIDs

EID Monitor

- A medical network within EBA to monitor emerging infectious disease agents, assess their threat to transfusion safety and discuss related blood safety measures
- Proposed by C van der Poel and G Folléa on Sept 6, 2009 (report at Board Meeting, 1 – 2 Oct 2009, Rome)
- Induced by Chickungunya outbreak in the Réunion Island

EBA - European Blood Alliance

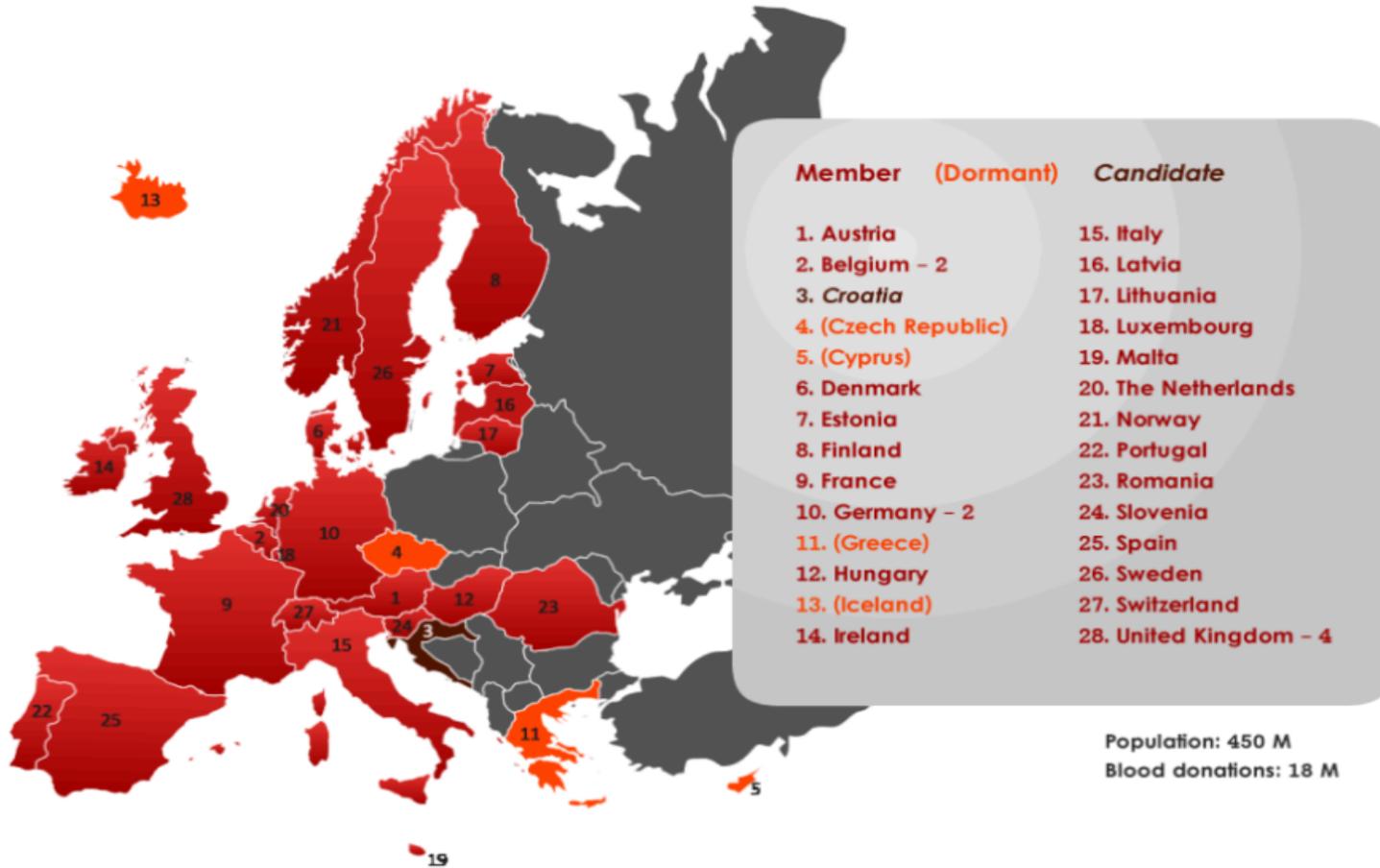
About EBA

The European Blood Alliance (EBA) is an association of not-for-profit Blood Establishments within the European Union or European Free Trade Association. Its mission is threefold:

- To contribute to the availability, quality, safety and cost-effectiveness of the blood and tissue supply for the citizens of Europe by developing and maintaining an efficient and strong collaboration amongst European blood and tissue services.
- To increase public and professional awareness of voluntary and non-remunerated donation of blood and blood components as an indispensable therapeutic means to help patients.
- To assist European blood establishments to continuously improve their performance, based on scientific and ethical principles for the benefit of patients.

EBA - members

Membership



EBA - partnerships

Global partnerships

- Alliance of Blood Operators: with the Canadian Blood Service (CBS). America's Blood Centers (ABC), American Red Cross (ARC), the Australian Red Cross Blood Service (ARCBS) and the NHS Blood and Transplant (NHSBT), which is also an EBA Member.
- Alliance with ABC and Asia Pacific Blood Network

EBA and European Institutions

EU institutions

- EBA is regularly bringing expertise to the main EU institutions involved in regulatory processes (Commission, Parliament, Council, ECDC etc.) on topics dealing with blood and blood components. Current examples are expertise in Emerging Infectious Diseases related blood safety measures (eg West Nile Virus outbreaks, Malaria in Greece), expertise in the VNRD for Tissues and Cells (recent parliamentary report and the expected survey on this subject from the Commission).

Council of Europe

- EBA keeps close links to the Council of Europe through shared projects, such as the Blood Supply Management, European Parliamentary report on Voluntary Non-Remunerated Donations (VNRD) for Tissues and Cells and updated document to further promote VNRD in Blood and Blood components.

EID Monitor Network

- 2009: Invitation letter to EBA members and ABC
- Response rate: 16 / 28 - 57%; no negative response
- EID Monitor (24 EU countries + CH in 2011) has been joined by
 - ABC: 2009,
 - Australian Red Cross: 2010,
 - Canadian Blood Services, American RC: 2011

EID Monitor network

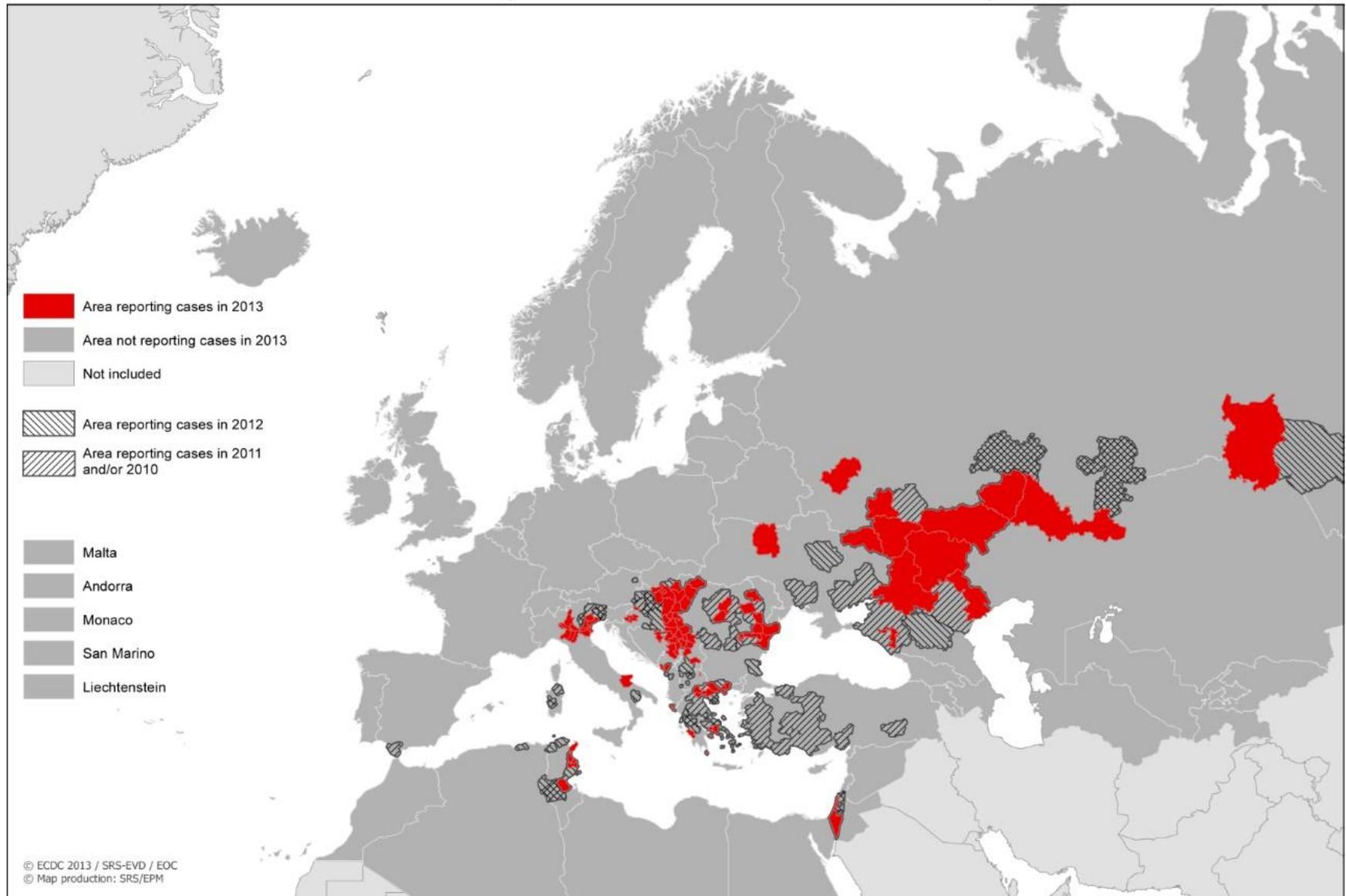
- A medical network within EBA and ABO to monitor emerging infectious disease agents, assess their threat to transfusion safety and discuss related blood safety measures.
 - Discuss, elaborate and disseminate to members updated information on risks of EIDs and recommendations on blood safety measures to cope with those risks.
 - Improve performance through collaboration
- Work activities
 - Sharing relevant information and advise the members of EBA and the EC (DG SANCO)
 - Surveys on EIDs and blood safety
 - Monthly teleconferences
 - Participants: EBA, ABC, Australian Red Cross, Canadian Blood Services
 - Strong collaboration with ECDC and DG SANCO

WNV in EU and blood safety

- First meeting on WNV and blood safety in 2011, organized by EC: to determine key elements of a preparedness plan on WNV in Europe.
- WNV risk assessment tool ECDC: measures required by 2004/33/EU and recommendations WNV Preparedness plans 2011 & 2012.
 - **WNV affected area:** when ≥ 1 person meets lab. criteria for case confirmation as per EU case definition (NI or not).
 - **Geographic deferral** 28 days after travel to a WNV affected area.
 - **WNV NAT testing as alternative to geographic deferral** when numerous donors returning from affected areas deferred could threaten blood supply.
 - During start of the next season, the defined affected areas correspond with the reported areas in the previous year.

Reported cases of West Nile fever for the EU and neighbouring countries

Transmission season 2013 and previous transmission seasons; latest update: 06/11/2013



Malaria vivax in Greece

- From 2009 locally acquired *P. vivax* were reported.
- Feb 2013, 1st ECDC meeting on blood donation screening for evidence of malaria infection:
 - **Non-affected area:** Current legislation EU/EEA recommendations for returning donors in general sufficient. Questions: Definitions of areas? How to deal with incident cases?
 - **Affected area:** Criteria of acceptance of donations at national level. No sensitive lab test available for asymptomatic donors. Antibody/PCR to consider in case of shortage blood supply. Pathogen inactivation for platelets and plasma for consideration.
- Oct 2013, 2nd ECDC meeting on opinion on spatial targeting of blood safety measures for malaria:
 - Definition affected area with on-going local transmission.
 - How to define geographic limits.
 - Level of local transmission required to declare an area affected.
 - Consequence for donors visiting affected areas.

Hepatitis E virus

	Seroprevalence (IgG)	Reference
UK	4.7%	Cleland ea. Hepatitis E virus in Scottish blood donors. Vox Sanguinis 2013
Germany	6.8%	Juhl ea. Seroprevalence and incidence of hepatitis E virus infection in German blood donors. Transfusion 2013
UK	10%	Beala ea. Is there evidence of recent hepatitis E virus infection in English and North Welsh blood donors. Vox Sanguinis 2011
France	16.6%	Mansuy ea. High prevalence of anti-hepatitis E virus antibodies in blood donors from South-West France. J. Med Virol 2008
The Netherlands	27%	Slot ea. Silent Hepatitis E infection in Dutch blood donors, 2011 to 2012. Eurosurveillance 2013
France	52.5%	Mansuy ea. Hepatitis E virus in blood donors, France. Emerg Inf Dis 2011

Different antibody testing assays produce different seroprevalence data (Wantai, Mikrogen).

Estimated incidence 1:1,000- 1:15,000 donations viremic (published/ non-published data).

Hepatitis E virus

- High prevalence and incidence in Western Europe.
- Sporadic TT-cases reported in the past.
- Food chain is the main source of acquiring infection in Western Europe.
- Causes chronic HEV infection in immune-compromised patients.
- Infectivity of HEV positive blood products is probably not high, but needs further research.
- Ongoing HEV study in UK: lookback on HEV-RNA positive donations. Results expected to be published soon.
- More data needed to propose recommendations.

Middle Eastern Respiratory Syndrome- Coronavirus

- Since Sept 2012 till Dec 2013 170 confirmed cases, 72 deaths included, mainly in Middle Eastern countries.
- Causes (mild to severe) illness in humans and animals.
- Source/ reservoir/ host remains unclear, under investigation (bats, camels).
- No evident human-to-human transmission, but small clusters with transmission due to intensive contact with patient reported.
- More important issue for public health (donors), than transmission by transfusion.
- No additional blood safety measures recommended at the moment.

Avian influenza H7N9

- 1st human case of H7N9 in April 2013: 169 cases reported till December 2013.
- Exposures to live poultry markets as source.
- Local measures and summer period reduced cases, but re-emerged since autumn.
- No human-to-human transmission.
- Influenza pandemic could have an impact on blood supply (donors).
- No additional blood safety measures recommended at the moment.

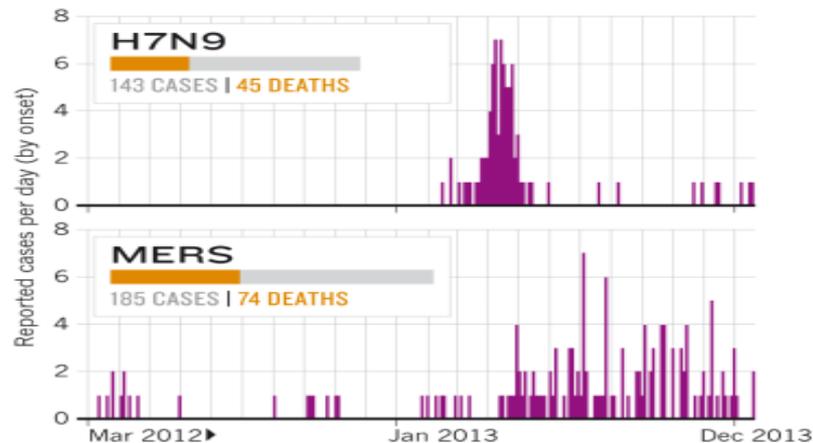
Vanquishing viruses

The crippling paralytic disease poliomyelitis is now endemic in only three countries, but 2013 offered a reminder that [the path to eradication](#) will not be smooth. Although the virus's geographical range in two of the endemic nations, Pakistan and Nigeria, was reduced, efforts to make further progress faced serious opposition, with [assassinations](#) of polio-vaccine workers in both countries. No new cases were seen in the third endemic area of southern Afghanistan. But the virus continues to cause sporadic outbreaks elsewhere, with [more than 180 cases](#) reported in Somalia. A polio outbreak also began in war-torn Syria, and wild poliovirus persisted in southern Israel, leading to mass vaccinations across the Middle East to try to [stop the virus becoming entrenched in the region](#).

This year also saw the emergence of a new foe: the H7N9 avian influenza virus. An April flare-up in China was quickly brought under control after [live bird markets were shut down](#) in the main cities affected (see [page 362](#)); the toll stands at 143 lab-confirmed cases and 45 deaths. Scientists are watching closely for any winter resurgence — a job made harder because the virus does not cause visible disease in poultry, and its reservoir species are not yet known. There has been less success in subduing the 'MERS' coronavirus, first reported in September 2012 (see '[A tale of two viruses](#)'). A steady stream of cases has followed — 185 lab-confirmed or suspected, with 74 deaths by 12 December — most in Saudi Arabia, but also more widely in the Middle East and Europe. [Researchers have criticized Saudi Arabia's lack of progress](#) in tracking down routes of infection and animal sources — and the case count looks set to rise.

A TALE OF TWO VIRUSES

The outbreak of H7N9 avian flu virus was speedily controlled once live bird markets were identified as the route of transmission to humans. But the route for the MERS coronavirus remains elusive, and so a steady stream of new cases continues.

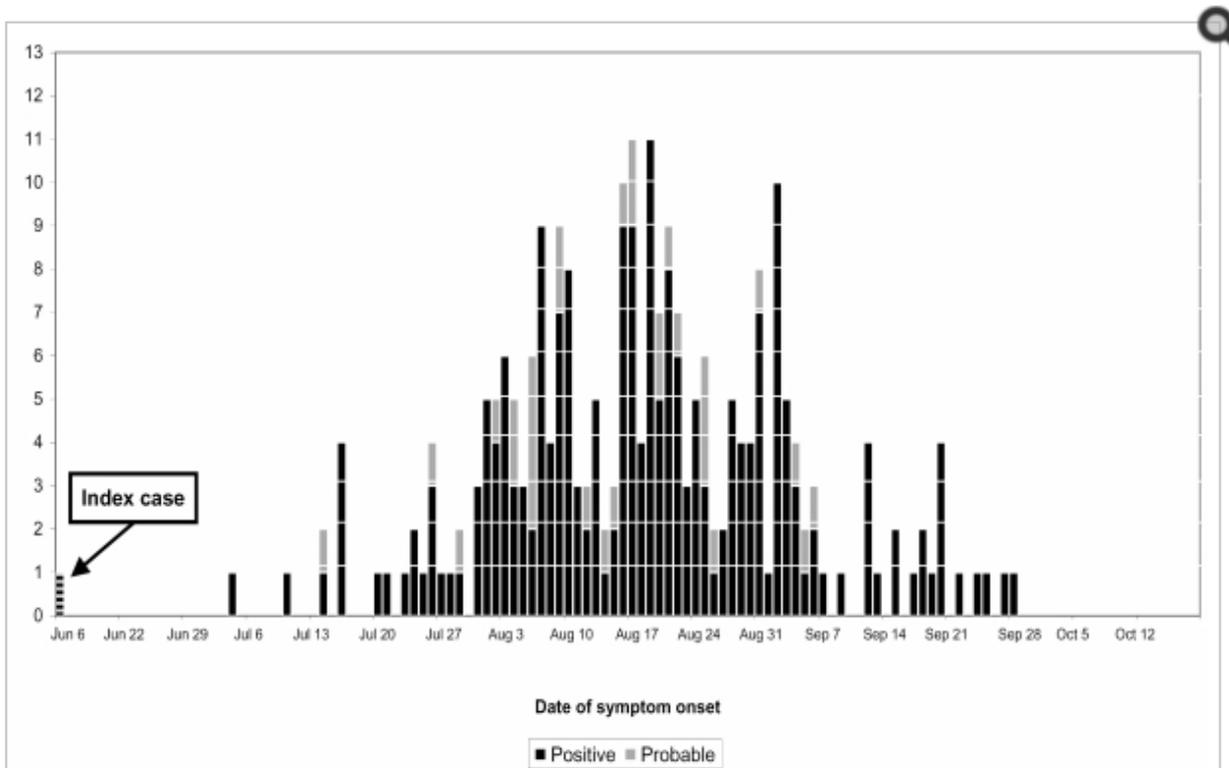


Other

- EUFRAT tool validation (ECDC) in progress. Evaluation of tool performed by EID-M members.
- Expert elicitation tool: A web-based form, whereby experts will be asked to rank sets of diseases with particular pre-specified characteristics and to rank a number of existing diseases. EID-M members participated.
- Assessment of prequalification of first time donors (EU/ECDC requested EID-M for advise).
- Chikungunya in Caribbean (Dec 2013).
- Dengue (Madeira, France)

CHIKV in Italy 2007

Emilia-Romagna

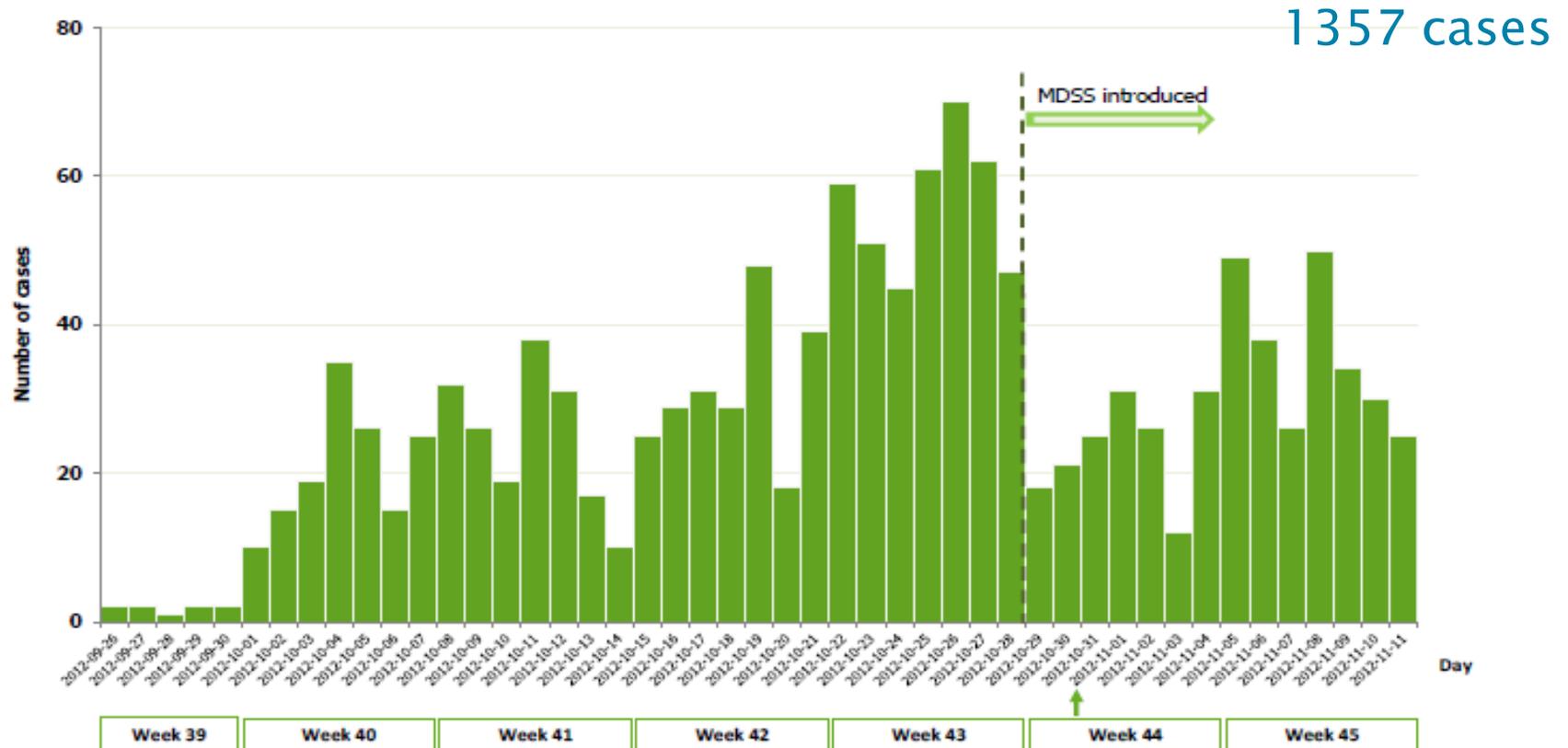


217 cases

Epidemic curve of Chikungunya in Italy (July–September 2007). Distribution of dates of onset of symptoms for positive and probable CHIKV cases (last update: 16th January 2008)

DENV in Madeira 2012

Figure 4. Dengue cases (probable and confirmed) by date of diagnosis, 26 September to 11 November 2012, Madeira



Thanks for your attention,
your questions and suggestions.