Reunião
Plataforma de Especialistas em Entomologia Médica e Saúde Pública

Lisboa, 15 de Março de 2013

Evento	Segunda Reunião da Plataforma de Especialistas em Entomologia Médica e Saúde Pública
Entidade Organizadora:	DGS
Local	Lisboa
Data	15 de março de 2013
Participantes	DGS: Ana Leça, Cristina Abreu Santos, isabel Falcão, Paula Vasconcelos, Cesaltina Ramos, Isabel castelão, Isabel Pires, Sofia Ferreira INSA: Maria João Alves, Sofia Núncio IHMT: Carla Sousa HEM: Kamal Mansinho ECDC: Bertrand Sudre, Laurence Marrama, Joana Vaz
Sumário	A reunião foi organizada tendo em conta o regresso da equipa de peritos do ECDC que tinham regressado da segunda visita à ilha da Madeira no âmbito do acampamento e apoio técnico à evolução do surto de dengue na RAM. A reunião permitiu resumir os seguintes aspetos: - Feedback da segunda missão do ECDC à RAM; - Análise SWOT sobre as medidas tomadas na RAM na resposta ao surto; - Resumo de atividades realizadas a nível nacional no âmbito de apoio ao surto de Dengue na RAM; - Apresentação do INSA sobre o diagnóstico laboratorial (vertente humana e de vetores no contexto do REVIVE); - Apresentação da Plataforma e do cronograma relativo a atividades preconizadas no âmbito da mesma.
Aspetos discutidos	1. O surto de dengue na RAM foi declarado controlado a 12 de março de 2013; as atividades de vigilância entomológica e epidemiológica continuarão; o plano de contingência está por finalizar. 2. SWOT: foi apresentada e discutida a análise estratégica das medidas desenvolvidas na RAM como resposta ao surto de dengue; foram realçados os pontos fortes, pontos fortes e oportunidades e ameaças para 4 áreas major: 1) Vigilância clínica 2) Sistemas de saúde 3) Laboratório 4) segurança de sangue . 5) planos de preparação e contingência 6) Vigilância entomológica 7) Controlo de vetores

	3. Discussão de biocidas, inseticidas e repelentes como substâncias no controlo de vetores a curto e médio prazo: não há estudos muito conclusivos nesta matéria; torna-se necessário desenvolver estudos de eficácia produtos finais disponíveis no mercado; a maioria dos estudos de investigação incidem sobre a substância ativa e muito pouco sobre o uso da mesma em produtos finais de utilização regular. 4. Planos de preparação e resposta: A RAM estava a finalizar o plano de preparação e resposta face à febre de dengue; foi referida a necessidade de reforçar alguns aspetos estratégicos relativamente ao Plano da RAM ainda por finalizar, nomeadamente: compilação da informação adequada (retrospetiva) para apoio á tomada de decisões; deteção de outros serotipos como prioridade e a necessidade de resposta laboratorial nesse sentido; reforço de colaboração com o laboratório nacional de referência deverá ser melhor definido; vigilância e controlo entomológico deverá ser definido a longa termo, como atividade inerente a atividades regulares a adotar de forma sistemática; poderá ser útil prever os diferentes cenários sobre novos eventos no contexto de vetor e doença já presente na ilha; sugestão de elaboração de exercícios de simulação para testar o plano; necessidade de se criarem procedimentos (SOP – Standard Operacional procedures) que facilitassem a operacionalização de alguns aspetos de intervenção.
Conclusões	Esta reunião permitiu definir prioridades sobre a manutenção de acompanhamento de evolução do surto de dengue na Madeira e reforçar as iniciativas preconizadas pela criação da Plataforma. 1. O relatório da 2ª missão do ECDC irá circular entre os diferentes envolvidos e para comentários, e a versão final será partilhada pelo ECDC ; 2. A RAM manterá as atividades de vigilância epidemiológica e vetorial e partilhará de forma regular os relatórios com a DGS e ECDC; 3. As atividades da Plataforma quanto à elaboração do Plano previsto, deverão ter em linha de conta alguns dos aspetos discutidos nesta reunião.

ANEXOS:

Slides das apresentações

ECDC mission

Follow-up Dengue outbreak in Madeira,Portugal

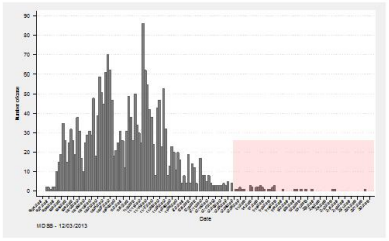
Bertrand Sudre, Laurence Marrama and Joana Vaz
European Centre for Disease Prevention and Control

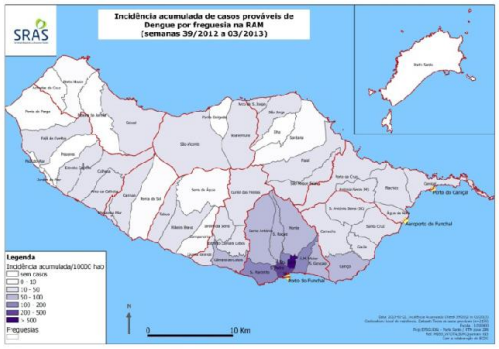
Lisboa, 15 March 2013

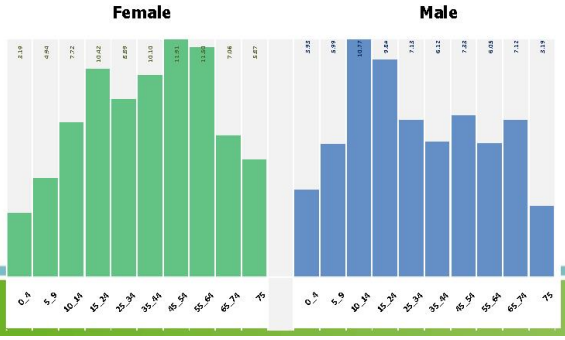
Outbreak outline

- Probable cases : n= 2168
- 3 municipalities : n= 2069 cases
  - 95 % cases # 70 % population
- W39 2012 – W06 2013 : 20 weeks
- Sex ration (M/F) = 0.69
- Classical clinical signs
- Lab : 3285 samples analysed
- Blood donation :1948 tested

  43 PCR +, 3/33 sero +, 2 symptomatic in follow up







Percentage					
Symp.	Asymp.	Ratio	Observed	Estimated (asymptomatic)	Estimated Total
40	60	1.5	2168	3252	5420
30	70	2.3	2168	5059	7227
20	80	4.0	2168	8672	10840

SWOT: Surveillance

	Helpful	*Harmful*
Internal origin	**Strengths** • Flexibility • Timely • Central system • Large coverage (HP & HCC) • Understanding local epidemiology • Integrated & link vector control (GIS) • Well-accepted	**Weaknesses** • Laboratory results to be integrated IT workflow • Place of work (# epidemic phase) in IT workflow • Need capacity building for epi-analysis • Information to private sector (reminder – newsletters)
External origin	**Opportunities** • Collaboration and external expertise • Comprehensive knowledge about the outbreak to serve contingency plan • Support advanced epi-analysis • Lessons learned • Experience can benefits to EU MS, EPIET program , …	**Threats** • Communication

SWOT: Health

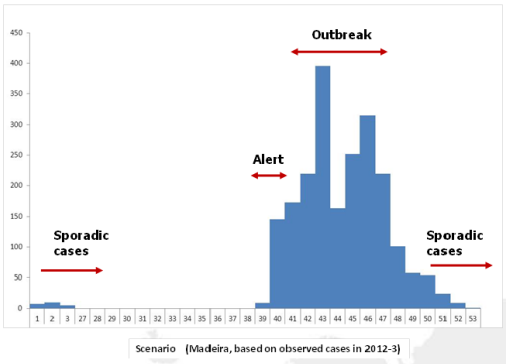
	Helpful	*Harmful*
Internal origin	**Strengths** • High usage of public sector • Well-organized • Experience with natural disasters • Case management • Contingency plan on-going • Dengue to be included in the hospital emergency plan (contingency plan) • Inter-sectorial approach • Support from municipalities	**Weaknesses** • Scenario • Limited technical resources • Logistic : stock and procedure • Simulation exercise to be conducted
External origin	**Opportunities** • External Support and external review of contingency plan • Experience sharing	**Threats** • Virus re-emergence • Virus re-importation (other serotype) • Population immunity for a new serotype

SWOT: Laboratory & Blood safety

	Helpful	*Harmful*
Internal origin	**Strengths** • Adaptability • Low delay of response to emergency • *Ad hoc* infrastructure • Global retrospective analysis on-going	**Weaknesses** • External Quality Assessment • Stock planning under various scenario • Serotype identification
External origin	**Opportunities** • Collaboration with INSA • ECDC support for EUFRAT tool demo. • Population immunity ?	**Threats** • New cost for blood screening

Preparedness & Contingency Plan

- **Contingency plan**
  - Current organization and inter-sectorial efforts
  - **Clear objectives** (what is it & what is not)
  - Several scenario
  - Vector control activities to be deployed in function of **the epidemic phases**
  - **Tasks ⇔ roles and responsibilities**
  - Standard Operational Procedures
  - Simulation exercise (workflow of information)



- **Gap analysis (resource needs/capacities/mobilization)**
  - external support
  - Cost simulation: human and financial resources

✓ Be ready before the next seasonal increase of mosquitoes activity

✓ Inter-sectorial platform (RAM)= collaborative work to built a practical and realistic plan

✓ Workflow of information (RAM, DG health, external partners)

SWOT: Preparedness & Contingency Plan

	Helpful	*Harmful*
Internal origin	**Strengths** • Inter-sectorial approach • Process on-going • Capitalization on experience • Communication • Realistic scenario	**Weaknesses** • Challenge : to be ready before the next increase of mosquitoes activity • Need to be tested in time
External origin	**Opportunities** • Collaboration (DG H, Experts, …) • Example for response to EVD disease in Europe • Experience sharing with area with same experience (e.g. southern France)	**Threats** • Mobilization of resources

Vector surveillance

	Larvae	adult
Pre-epidemic 2005-2012	• Ovitraps since 2005, mainly in Funchal but progressively in neighbouring municipalities • According to a grid since 2009 (Funchal- Museum Netw.)	• BG traps biweekly checked since February 2012 (Funchal + neighbouring municipalities)
Epidemic 2012	• Grid ovitrap maintained • Additional ovitraps deployed in areas of high activity of *Aedes aegypti*	• Same BG traps daily checked since October 2012
Perspectives	• Grid ovitraps maintained • Re-location of the "emergency" ovitraps to cover almost all favourable areas (Most part of the southern coast and spots on the northern coast) and strategic areas (airport, port)	• Same BG traps daily checked

SWOT: Vector surveillance

	Helpful	*Harmfull*
Internal origin	**Strengths** • Surveillance started before outbreak • Systematic grid (since 2009 ⇨ trend) • Adaptability (new locations of *Ae. aeg*) • Reliable information • Good skill and commitment • Intersectoral involvement with good collaboration at the operational level • Some specific expertise covered locally	**Weaknesses** • Limited human resources • No specific financial resource • No visibility of vector surveillance as specific tasks • No specific coordination of vector surv. and of local expertise (insecticide test,…) • Vector pop. structure (? Multiple introduction)
External origin	**Opportunities** • Collaboration (DG H, Experts, …) • For Madeira: get a coordinator with experience in dengue surveillance • For Europe: learn from Madeira (example for surveillance of an invasive mosquito vector in Europe) • ECDC guidelines for invasive vectors	**Threats** • Lack of sustainability /emergence of other priorities or loss of interest in the future • Decrease of complains of the population • Risks to import *Ae. aeg.* in Madeira (flux) • Risks to export *Ae. aeg.* to Europe (flux)

Vector control

	larvae	adult
Pre-epidemic 2005-2012	• Since 2006: breeding site reduction + Bti (2006-8)	• Since 2006-8: Insecticide spraying • Insecticide tests (2009)
Epidemic 2012	• Breeding sites reduction in a systematic way (Municipality of Funchal/ community/ IASaude) and around cases (IASaude) • Use of salt in storm drainage • Insecticide Bti : hospital, 1 health centre, 1 school (hot spot)	• One run of insecticide spraying in the hospital, 1 health centre, 1 school (hot spot) • Flies swatter (community) • Insecticide/repellent (community)
Perspectives (long term)	• Test of insecticides for larval stage • SOP for breeding site reduction in function of epi. phase	• Test of insecticides for adult stage • Evidence for alternative strategies (*Wolbachia* / genetically modified mosquitoes)

Support …

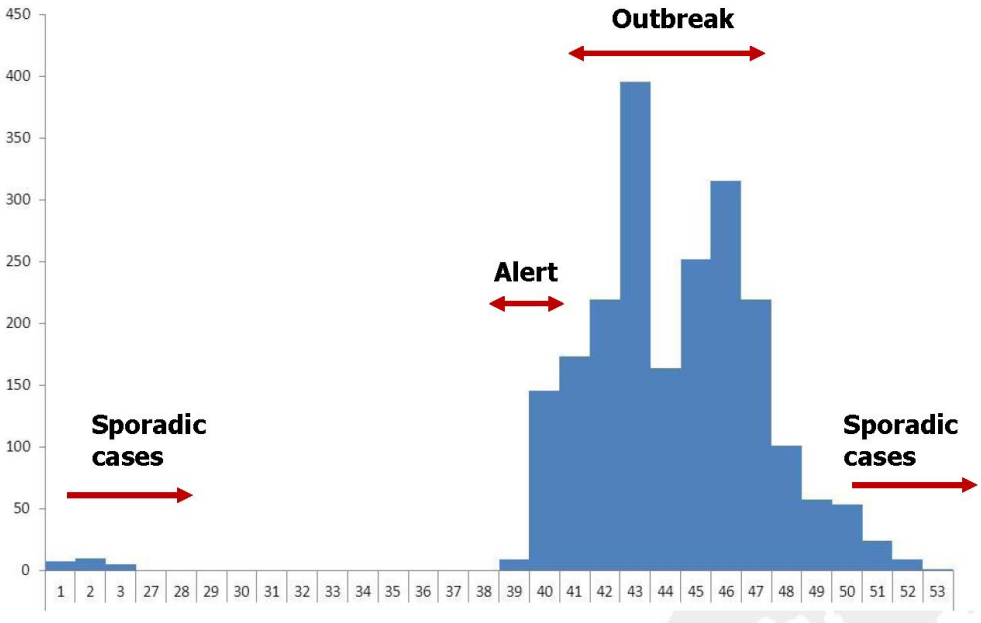
SWOT: Vector control - response strategies

	Helpful	*Harmfull*
Internal origin	**Strengths** • Experimented private company • Good commitment • Some specific expertise covered locally	**Weaknesses** • No equipment by the public service • No previous experience • No coordination • No updated information about resistance of mosquitoes
External origin	**Opportunities** • Operational and scientific support (DG H, Experts, …) • For Madeira: get a coordinator with experience in dengue control • For Europe: learn from Madeira (example for control of an invasive mosquito vector in European context) • Workshop in Madeira with experts of control	**Threats** • Lack of sustainability / Emergence of other priorities or loss of interest in the future • Other diseases • Biocide directive • Legal process for public contract with private companies • Legal advice from National Health Authority about access to abandoned houses for Public health emergency

Main issues to be supported

- Retrospective analysis to support decision making and preparedness
- Serotyping
- Contingency plan to be finalized quickly
- Support during an outbreak according to results of gap analysis
- Coordination of vector surveillance and control : previous experience in vector and control for dengue required
- Long term strategies for vector surveillance and control

Thank for your attention



Scenario (Madeira, based on observed cases in 2012-3)

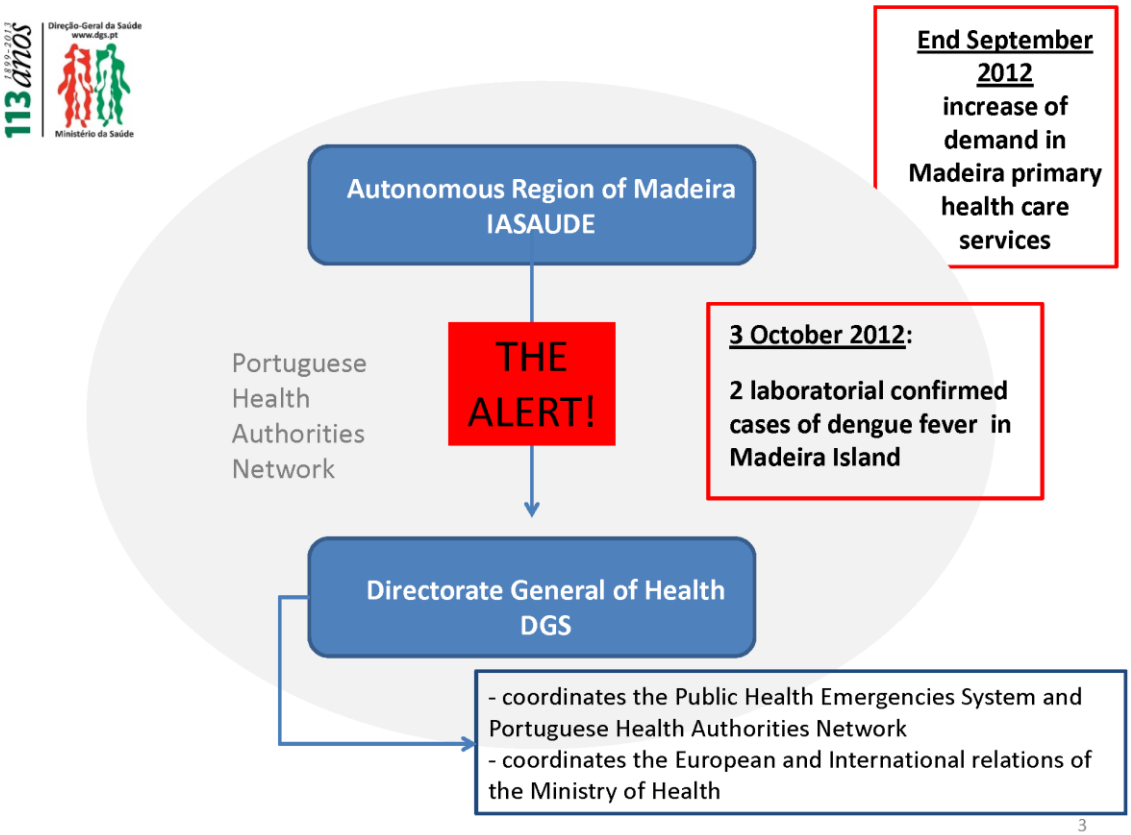
Meeting with ECDC team on dengue outbreak in Madeira Island

Directorate General of Health

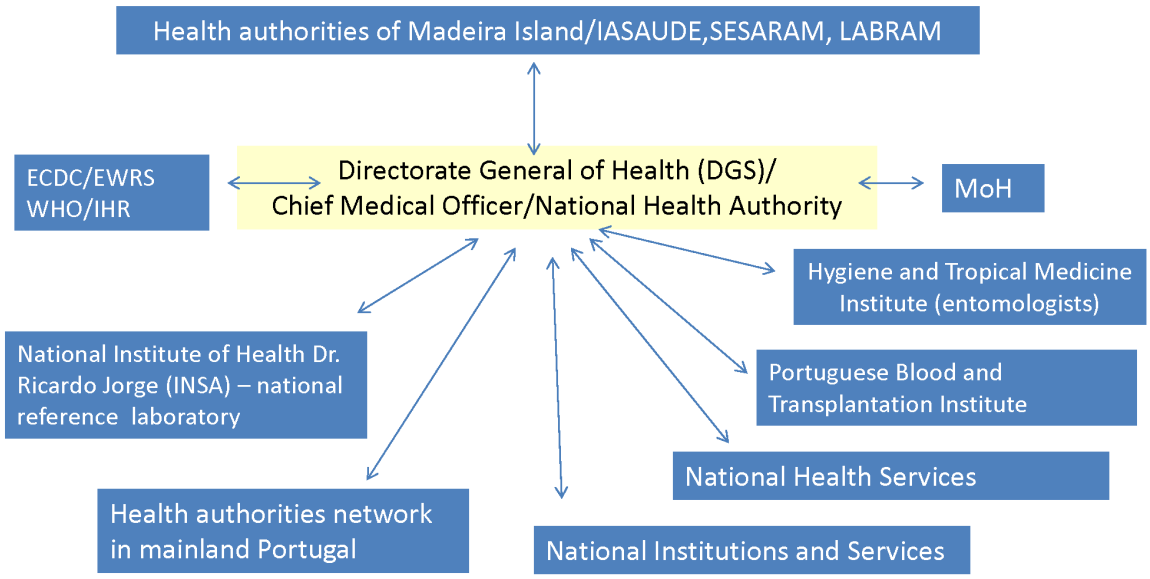
Lisbon – 15 March 2013

Meeting with ECDC team on dengue outbreak

-Feedback from ECDC team
-Overview of DGS actions
- Platform of experts in medical entomology and public health
- AOB



Collaboration between institutions



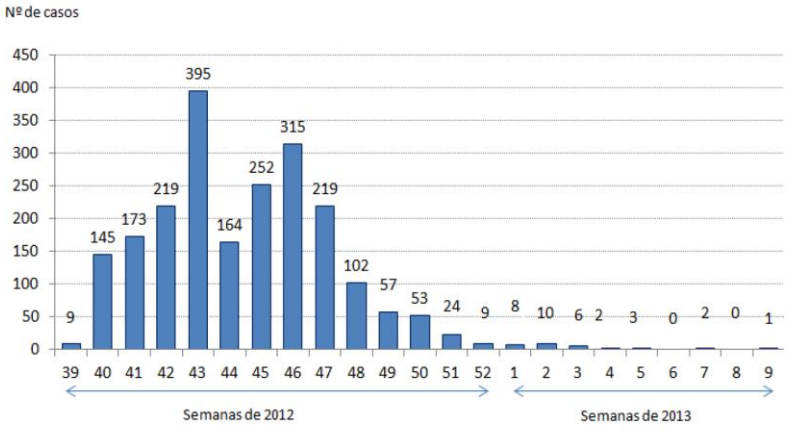
On 3rd October 2012

→ Alert *task force*

- Multidisciplinary team
- Created on Directorate General of Health with intersectoral collaboration
- Permanent contact with Regional Health Authorities

On 12th March 2013

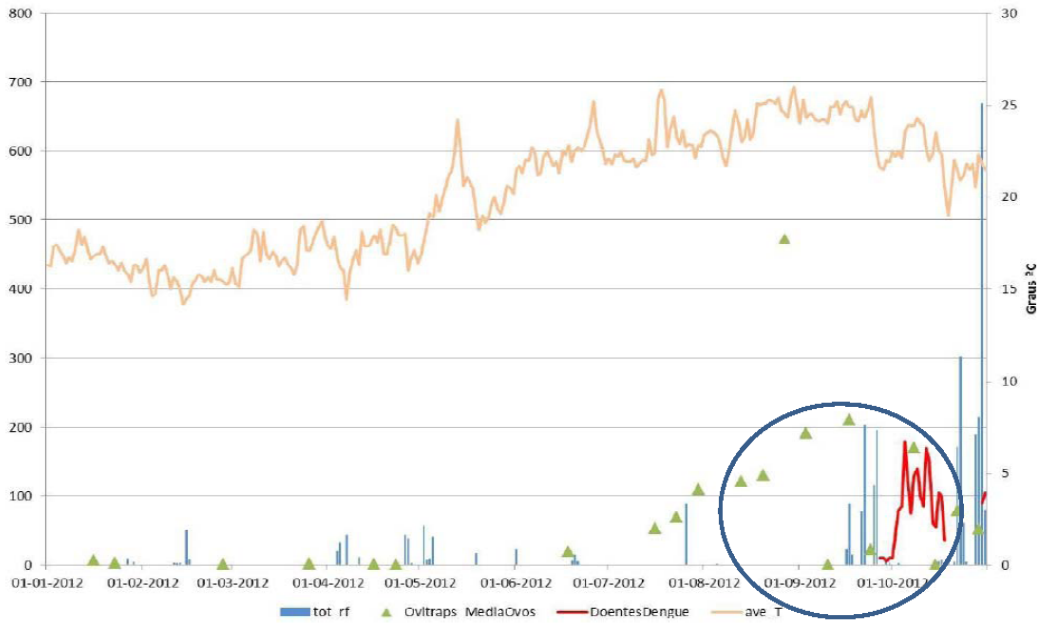
→ Outbreak considered controled



Fonte: IASaude, IP RAM

Ongoing monitoring

Temperature, rain fall, vector activity and human cases – data from 2012



Source: IASAUDE

On 24th December 2012

Legislation on Platform of experts in medical entomology and public health

MINISTÉRIOS DA SAÚDE E DA EDUCAÇÃO E CIÊNCIA

Gabinetes dos Secretários de Estado Adjunto do Ministro da Saúde e do Ensino Superior

Despacho n.º 16352/2012

As doenças transmitidas por vetores representam uma preocupação crescente no âmbito da saúde pública, pelo que, a emergência de algumas destas doenças no espaço europeu, provocada pela introdução ou reintrodução de mosquitos invasores, muitas vezes associada a alterações climáticas, tem sido motivo de análise aprofundada e de sucessivas avaliações de risco que visam estabelecer estratégias integradas para controlo vetorial e implementar medidas de saúde pública adequadas.

No seguimento do surto de febre de dengue que teve início em 3 de outubro de 2012 na Região Autónoma da Madeira, torna-se necessário garantir o aconselhamento especializado da população e dos profissionais de saúde, aprofundar a transmissão de conhecimentos científicos sobre esta matéria e estabelecer medidas de controlo e prevenção que permitam minimizar o impacto destas doenças na saúde pública, havendo, por isso, toda a conveniência em reforçar a articulação entre entidades e respetivos especialistas do Serviço Nacional de Saúde e a comunidade científica, nomeadamente no âmbito da academia.

Legislation on Platform of experts in medical entomology and public health (published on 24 december 2012)

http://dre.pt/pdf2sdip/2012/12/248000000/4049040491.pdf

Framework

- Coordination by DGS
- Link between science and health
- National involvement on vector borne diseases
- Increase of knowledge
- Elaboration of new proposals for the prevention and control of human vector borne diseases, namely guidelines and preparedness plans

Legislation on Platform of experts in medical entomology and public health

Specific objectives of the Platform

- coordinate the promotion of research activities and to formulate proposals for the prevention and control of vector-borne human diseases;
- propose to the DG entomological control concrete measures,
- propose scope national surveillance;within early detection of the presence of invaders mosquitoes and their possible infection by pathogens, as well as any variations in population density of vectors that transmit human diseases;
- prepare contingency plans
- test, qualify and regularly update the plans
- evaluate new approaches to prevention and control of disease transmission associated with vectors, including health care, health education and communication

Legislation on Platform of experts in medical entomology and public health

Constitution of the Platform

- appointment of experts in Medical Entomology Public Health
- coordination by the Directorate General of Health (Director-General of Health)
- National Institute of Health Dr. Ricardo Jorge, IP
- Institute of Hygiene and Tropical Medicine, Universidade Nova de Lisboa
- as a platform for experts, it articulates with the Network Surveillance Vectors (REVIVE) which comprise a set of focal points that have since 2008 ensured the monitoring vector nationally
- The skills of specialists :
  - epidemiological and entomological surveillance,
  - clinical aspects and differential diagnosis of diseases,
  - disease control measures,
  - mechanisms and products control and combating vectors;
  - studies and scientific research of diseases and vectors;
  - alerts and communication circuits national and international blood safety

Thank you!

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DAEMC: Drª Paula Vasconcelos
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www.dgs.pt

Centre for Vectors and Infectious Diseases Research
Infectious Diseases Department
National Institute of Health

Diagnostic, Epidemiological Surveillance and Research

Ricketsioses

Q Fever

Ehrlichioses

Bartoneloses

Lyme Borrelioses

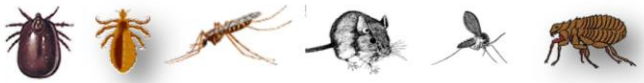
Tularémia

Arboviroses

- West Nile
- Dengue
- Yellow Fever
- Tick-borne Encephalitis
- Dhori
- Thogoto
- Palma
- Toscana
- Chikungunya

Hantaviroses (Hanta

Arenaviroses (LCM)



Dengue lab diagnosis (INSA)

Serology IgM IgG

Sample: serum

- in house IFA
- Euroimmun IFA

Positive

Negative

> 7 days post onset?

Negative

< 7 days post onset?

Request for a new sample

Molecular diagnosis

Sample: whole blood EDTA (refrig)

- RT-PCR flavivirus NS5
- Multiplex RT-PCR
- Real time RT-PCR (RKI)
- Real time RT-PCR (LightMix-Roche)

Positive

Negative

< 7 days post onset?

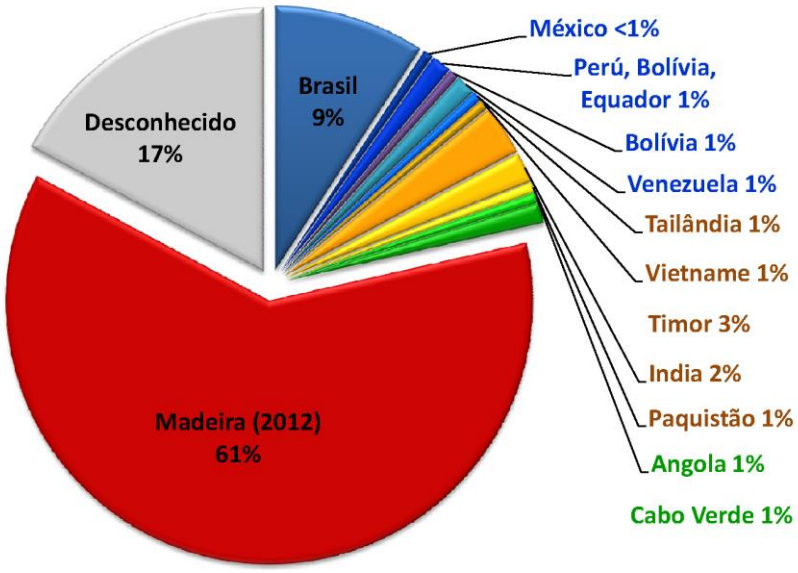
Negative

> 7 days post onset?

Request for a new sample for serology

External Quality Assessment - inter labs, firms and ENIVD

Origem casos positivos Dengue 2006-2012 no INSA
N=168



Instituto_Nacional de Saúde 1899 www.insa.pt

Patients Samples - hospital Dr. Nélio Morgado

	Patients	Serology and RT-PCR	Serology	RT-PCR	Lab case conf.
Oct	159	31	125	3	82
Nov	23	5	13	5	13
Dec	1		1		0
	183	36	139	8	95

	Lab case confirmations	IgM	RT-PCR
12	12	pos	pos
	58	pos	no sample
66	8	pos	neg
	4	sus	pos
	7	neg	pos
17	6	no sample	pos

Blood donations - hospital Dr. Nélio Morgado

Blood donations	RT-PCR	Pos
Oct	**324**	**7**
Nov (untill 6th)	**93**	**0**
total	417	7 (1.7%)
Nov	112	0
Dec	1	0
Total	**530**	**7**

Fotografias da reunião