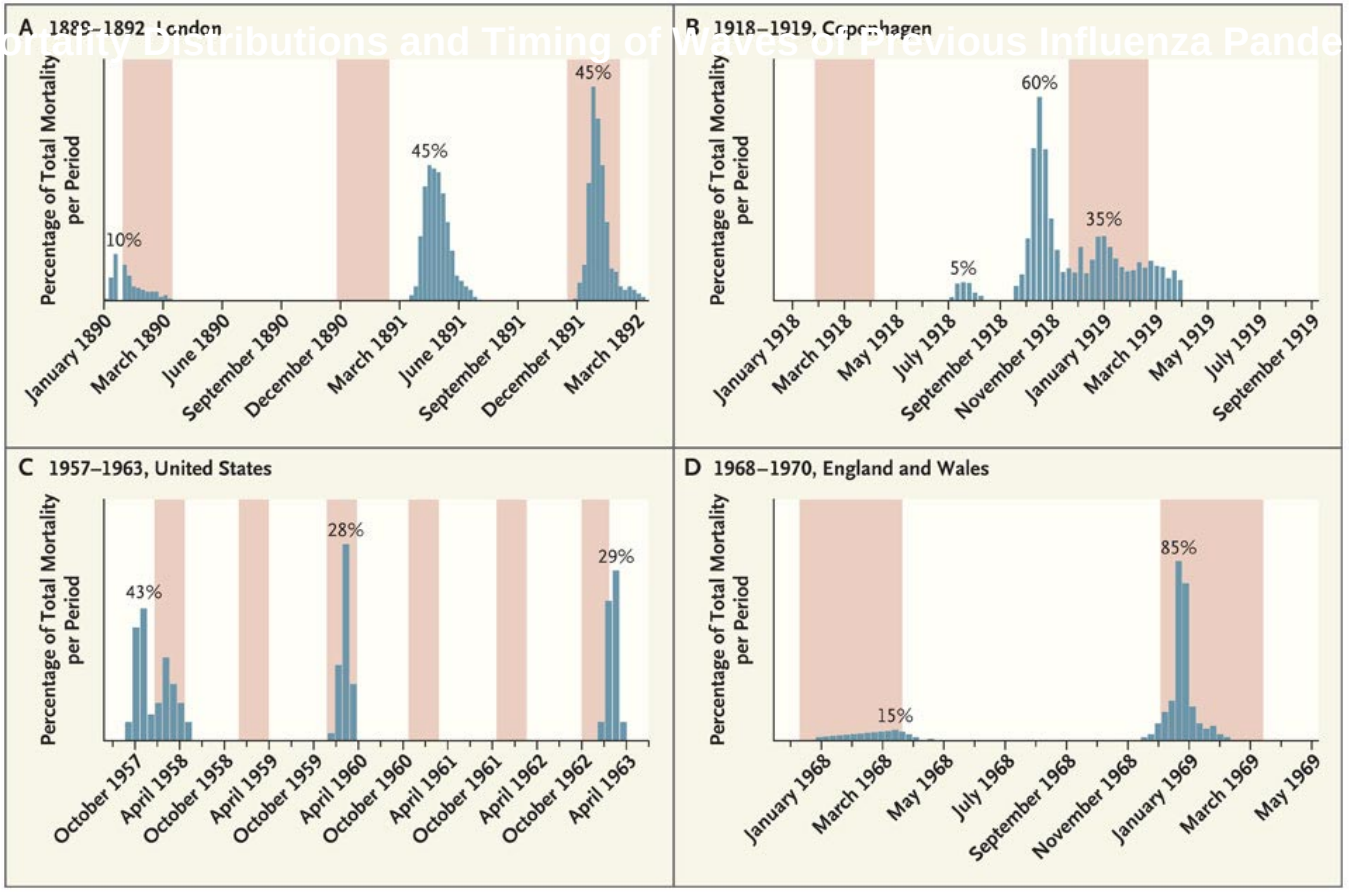
# INFLUENZA A (H1N1)

# SANITARY EMERGENCY

# MEXICO

**JUNIO 2009**



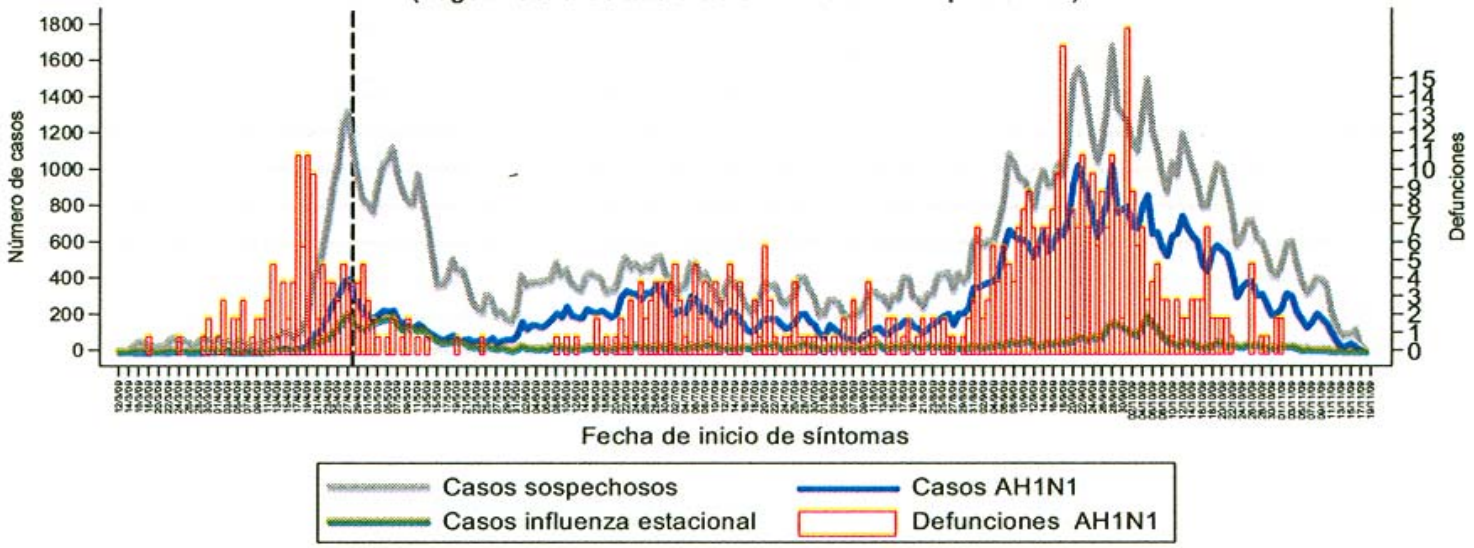

Mortality Distributions and Timing of Waves of Previous Influenza Pandemics. Proportion of the total influenza-associated mortality burden in each wave for each of four previous pandemics is shown above the blue bars. Mortality waves indicate the timing of the deaths during each pandemic. The 1918 pandemic **(Panel B)** had a mild first wave during the summer, followed by two severe waves the following winter. The 1957 pandemic **(Panel C)** had three winter waves during the first 5 years. The 1968 pandemic **(Panel D)** had a mild first wave in Britain, followed by a severe second wave the following winter. The shaded columns indicate normal seasonal patterns of influenza.

*Source: The New England of Journal of Medicine*

# Curva epidémica

GOBIERNO FEDERAL
SALUD

Evolución de los casos y defunciones confirmadas por influenza A(H1N1)
(según fecha de inicio de síntomas de los pacientes)




Todo el país



Fuentes: Base de datos InDRE y CONAMED.

# Situación epidemiológica
# Canal endémico nacional – Semana 44

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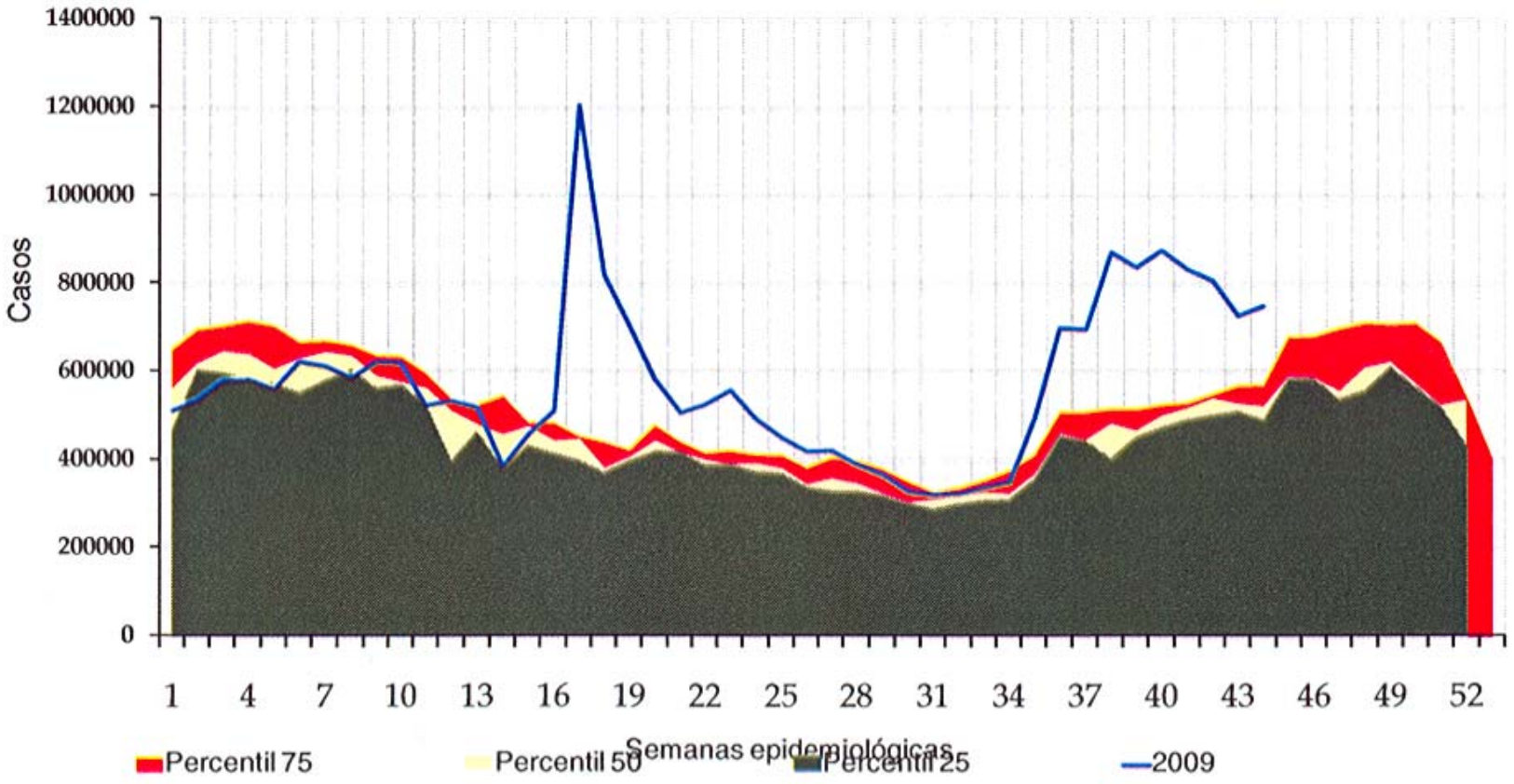
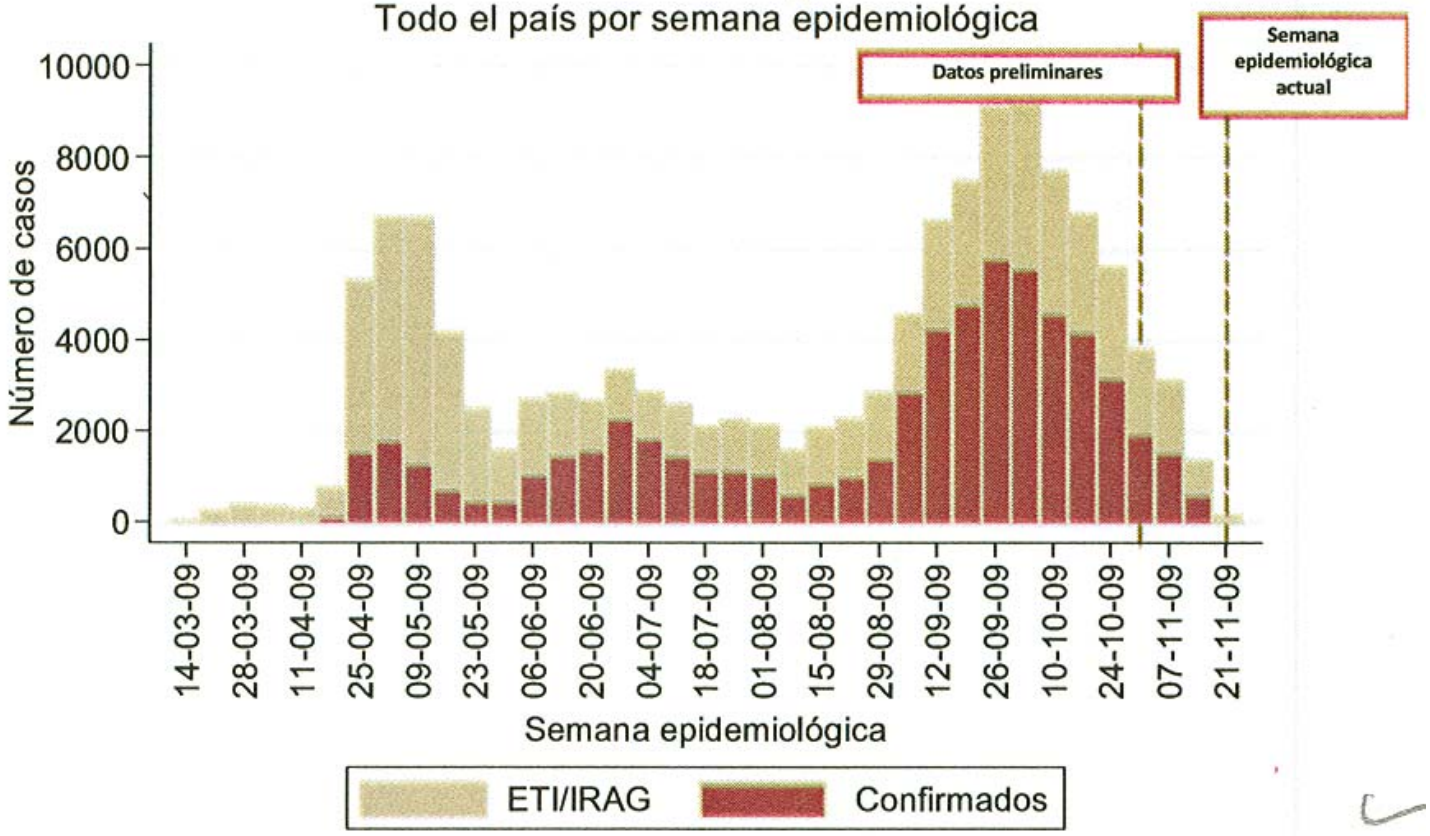
SALUD



# Número acumulado de casos con enfermedad tipo influenza con confirmación por prueba de laboratorio para A/H1N1

GOBIERNO FEDERAL

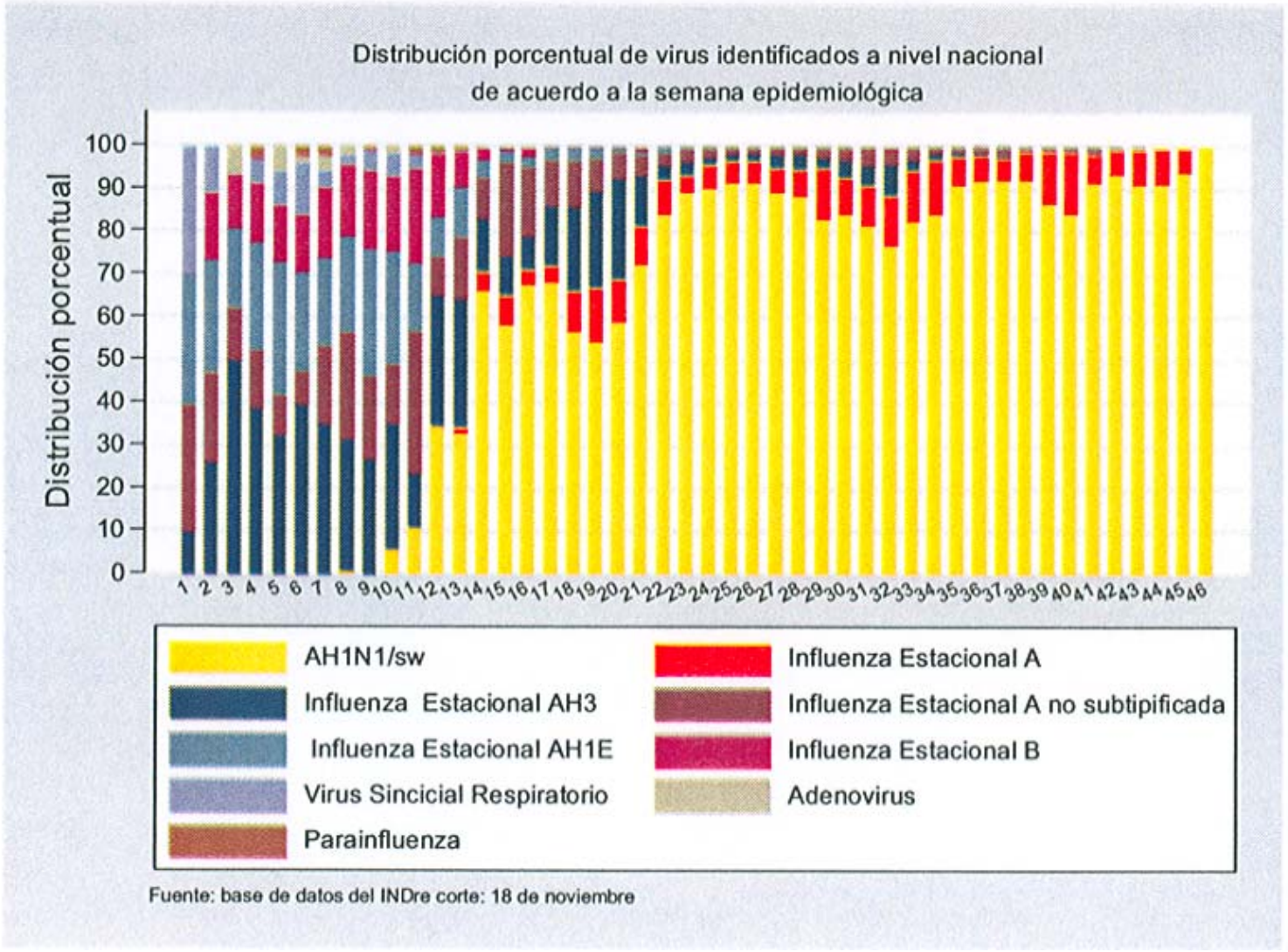
SALUD



# Distribución porcentual de virus identificados a nivel nacional en casos con enfermedad tipo influenza

GOBIERNO FEDERAL

SALUD

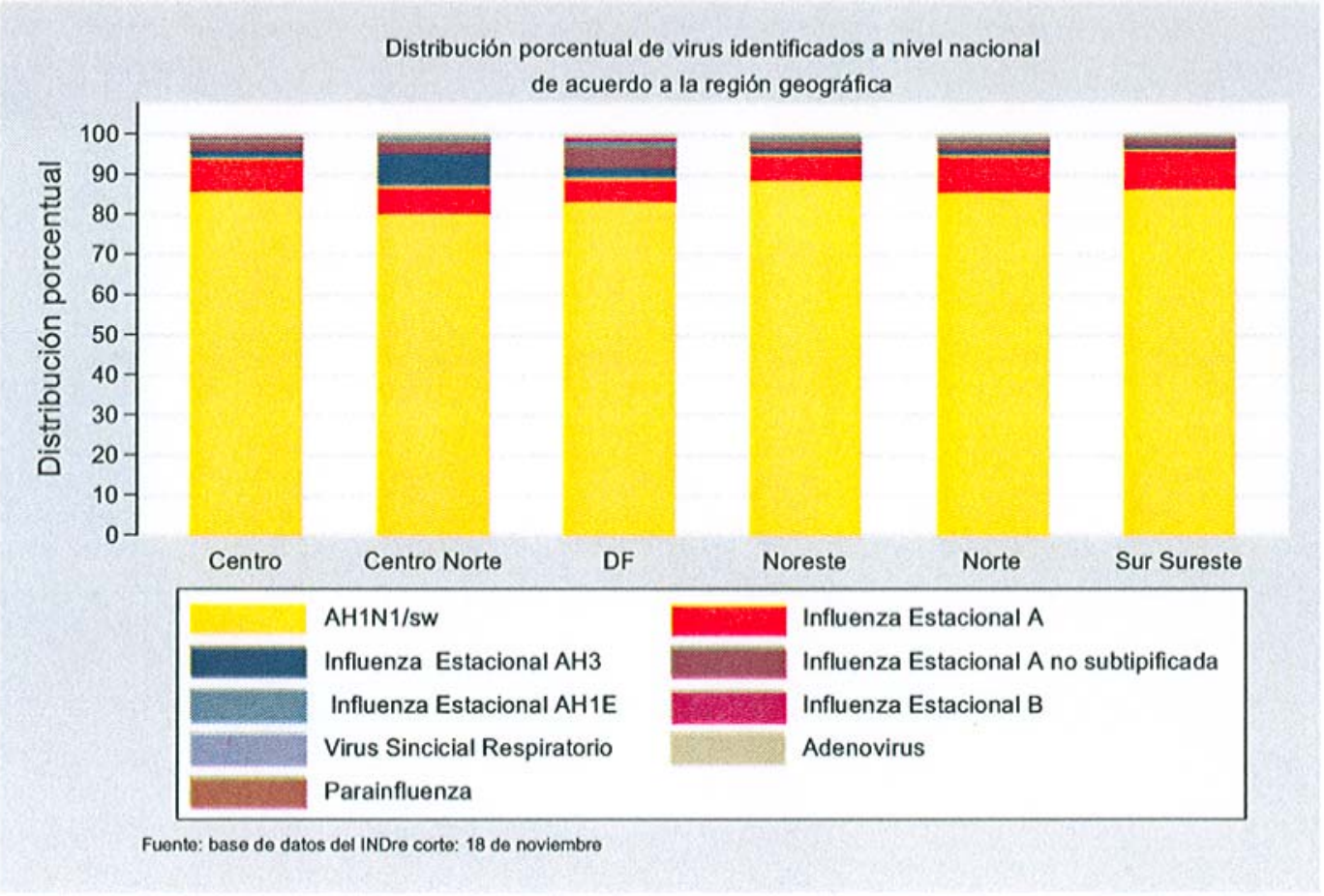



Fuente: base de datos del INDre corte: 18 de noviembre

# Distribución porcentual de virus identificados a nivel nacional en casos con enfermedad tipo influenza

GOBIERNO FEDERAL

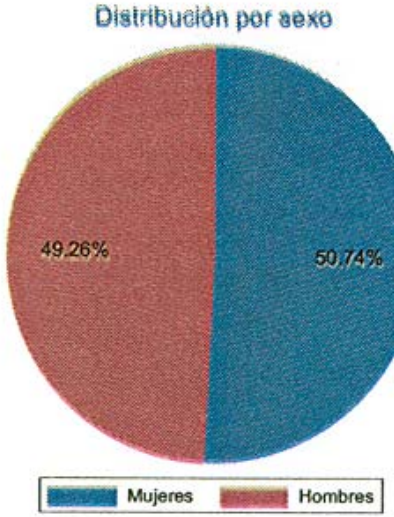
SALUD




Fuente: base de datos del INDre corte: 18 de noviembre

# Perfil de casos A(H1N1) confirmados (64,585) casos

GOBIERNO FEDERAL
SALUD





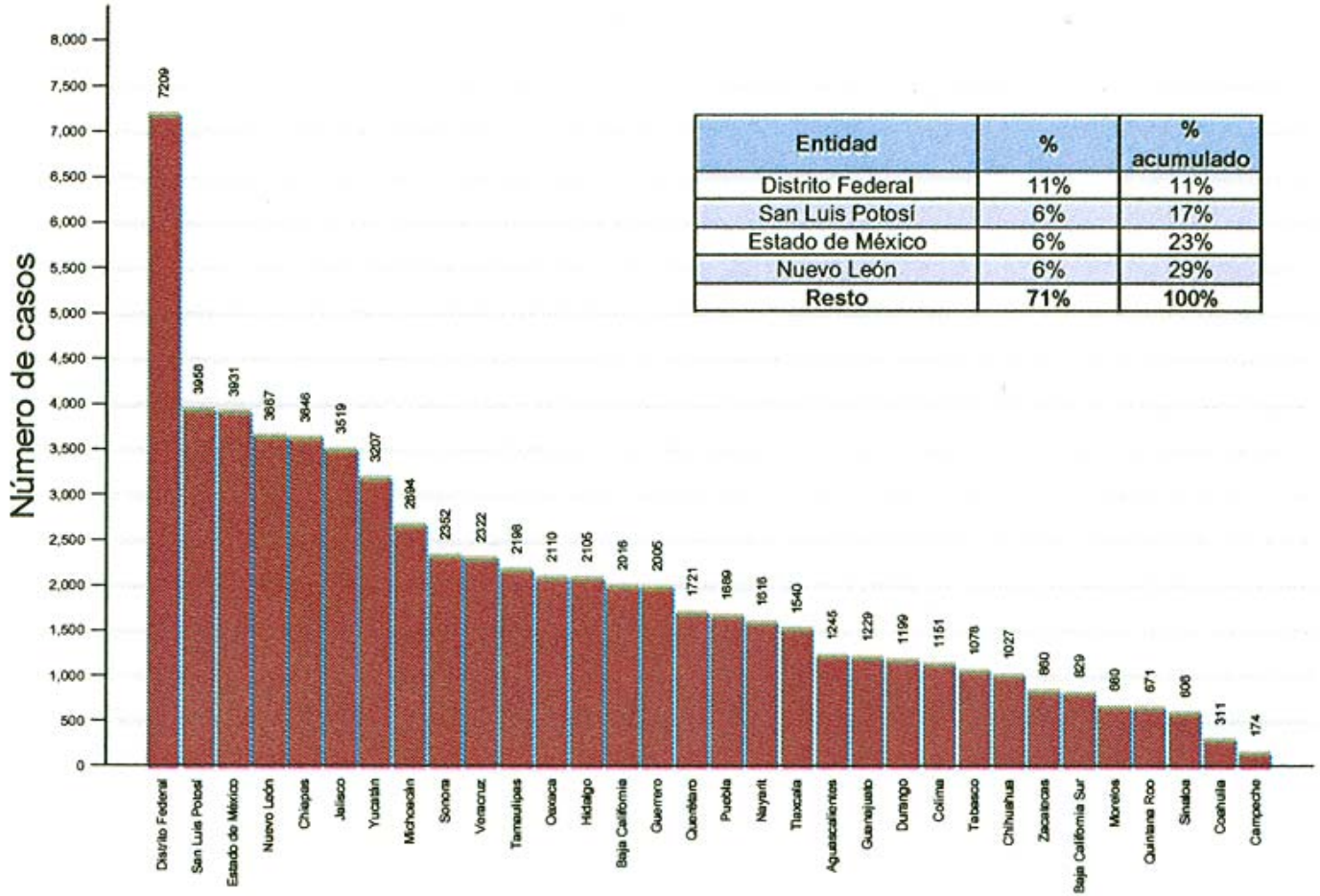
| Grupos de edad | 0-4 | 5-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ |
|---|---|---|---|---|---|---|---|---|
| Porcentaje | 11% | 16% | 30% | 19% | 10% | 7% | 4% | 2% |



Fuente: Base de datos InDRE

# Perfil de casos A(H1N1) confirmados (64,585) casos

GOBIERNO FEDERAL
SALUD



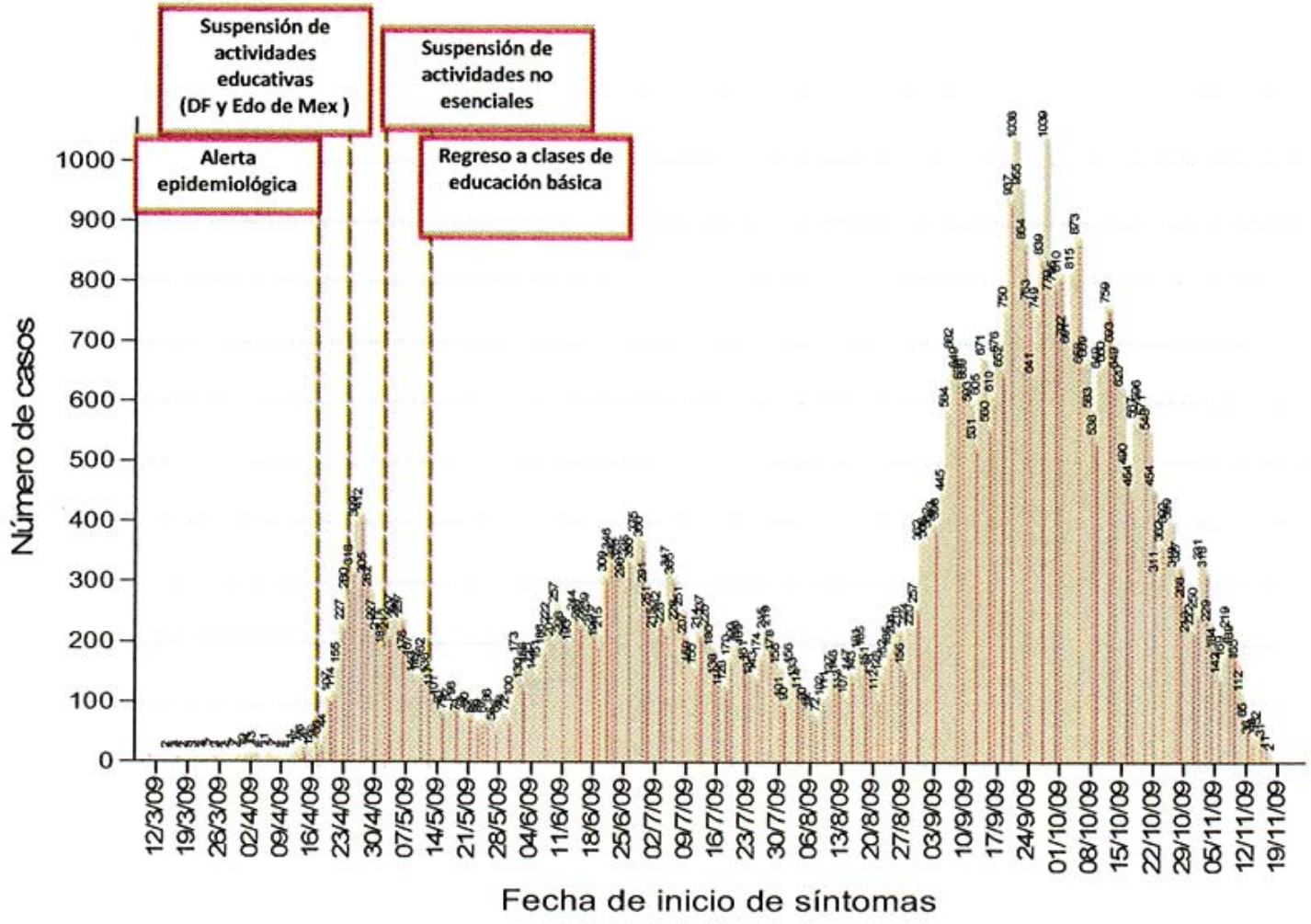

| Entidad | % | % acumulado |
|---|---|---|
| Distrito Federal | 11% | 11% |
| San Luis Potosí | 6% | 17% |
| Estado de México | 6% | 23% |
| Nuevo León | 6% | 29% |
| Resto | 71% | 100% |

1/ En las figuras se excluyen 17 casos confirmados correspondientes a extranjeros.
2/ Los porcentajes se ajustan por redondeo.
Fuente: Base de datos InDRE.

# Distribución de los casos confirmados de acuerdo a la fecha de inicio de síntomas

GOBIERNO FEDERAL

SALUD




Fuente: Base de datos InDRE.

# Tabla de casos confirmados por 100,000 habitantes

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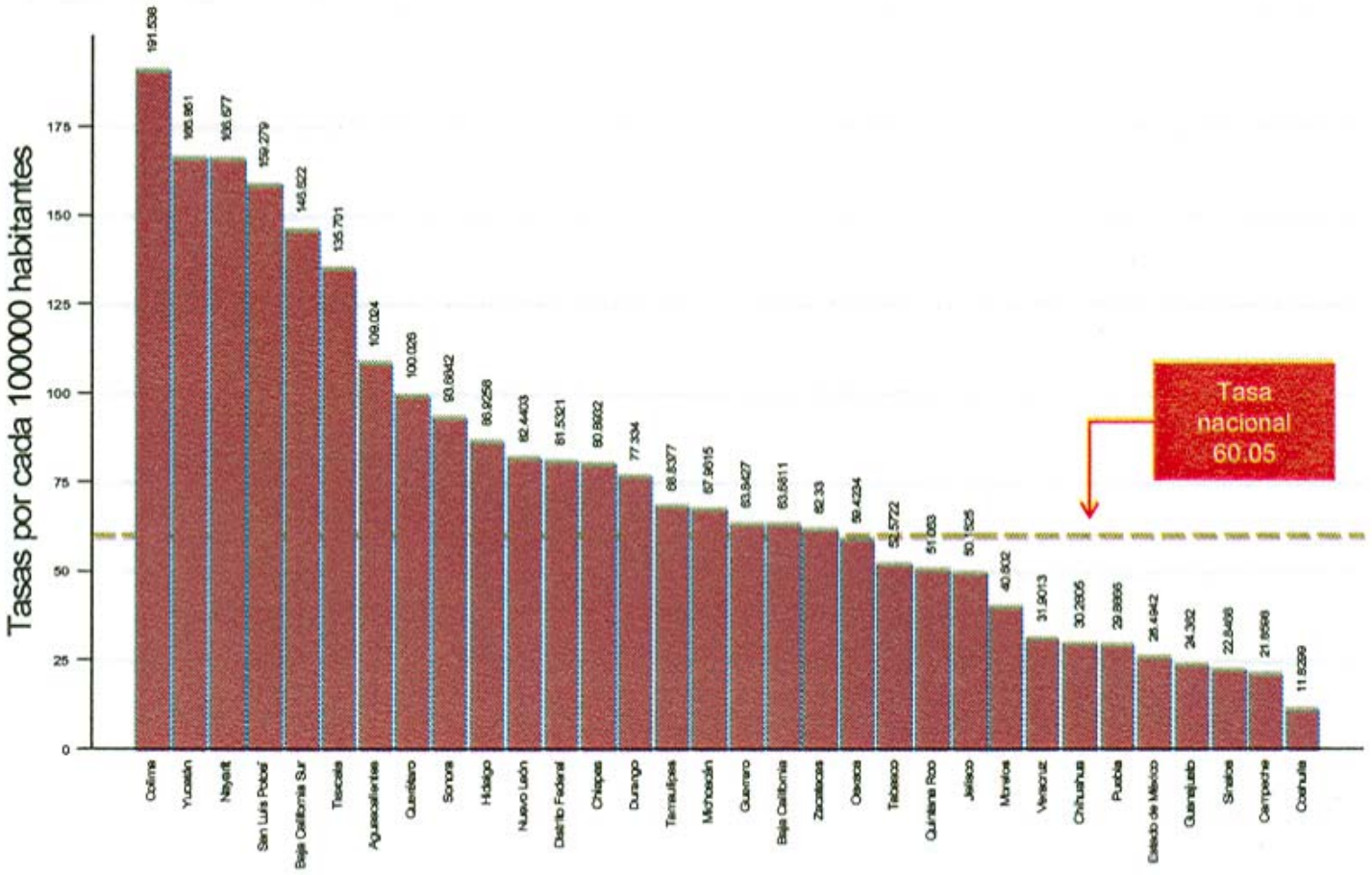
SALUD

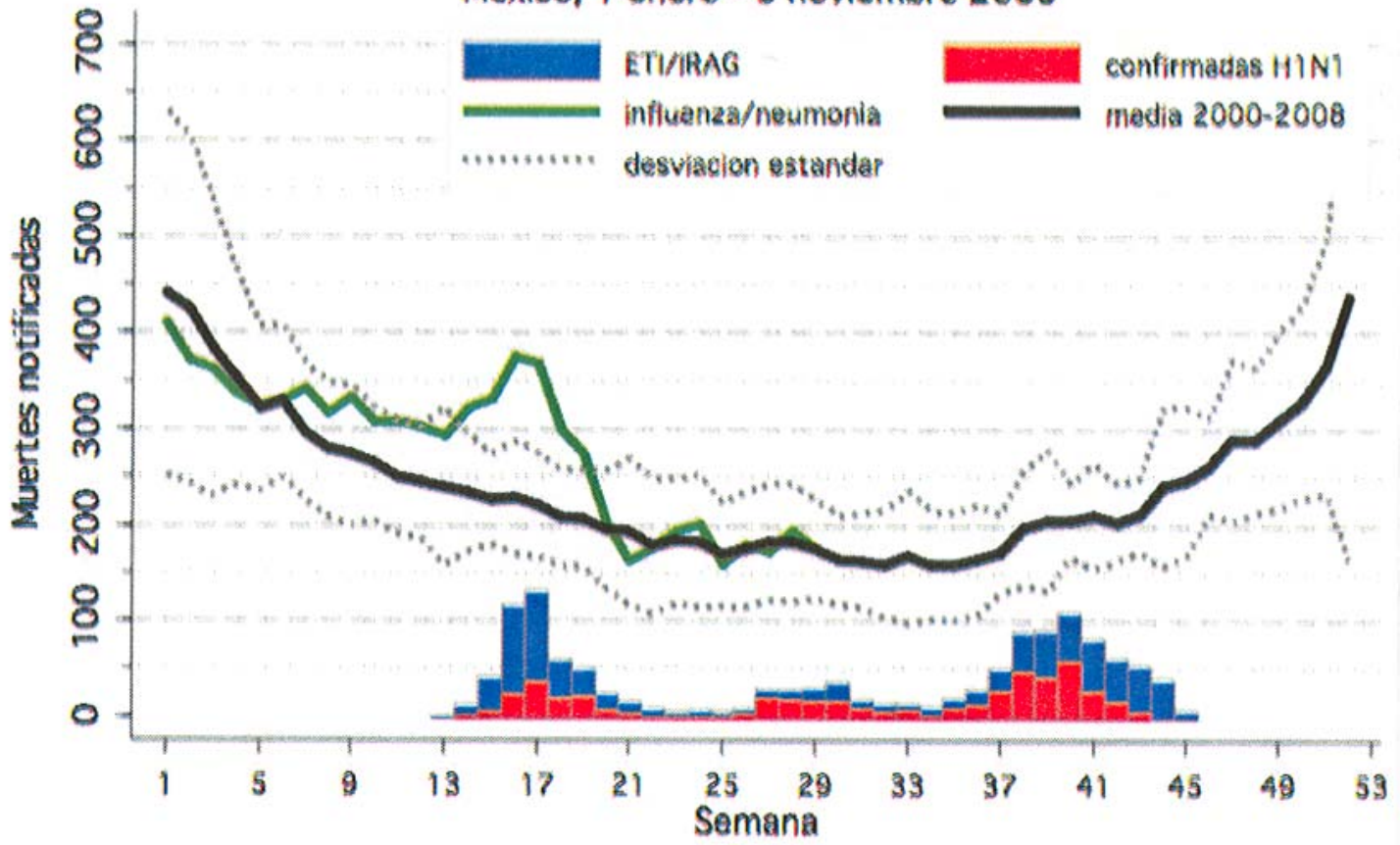



Nota: En la figura se excluyen 17 casos extranjeros.

Fuentes: Base de datos InDRE y proyecciones poblacionales CONAPO 2009.

# Muertes por influenza/neumonía

## México, 1 enero - 6 noviembre 2009

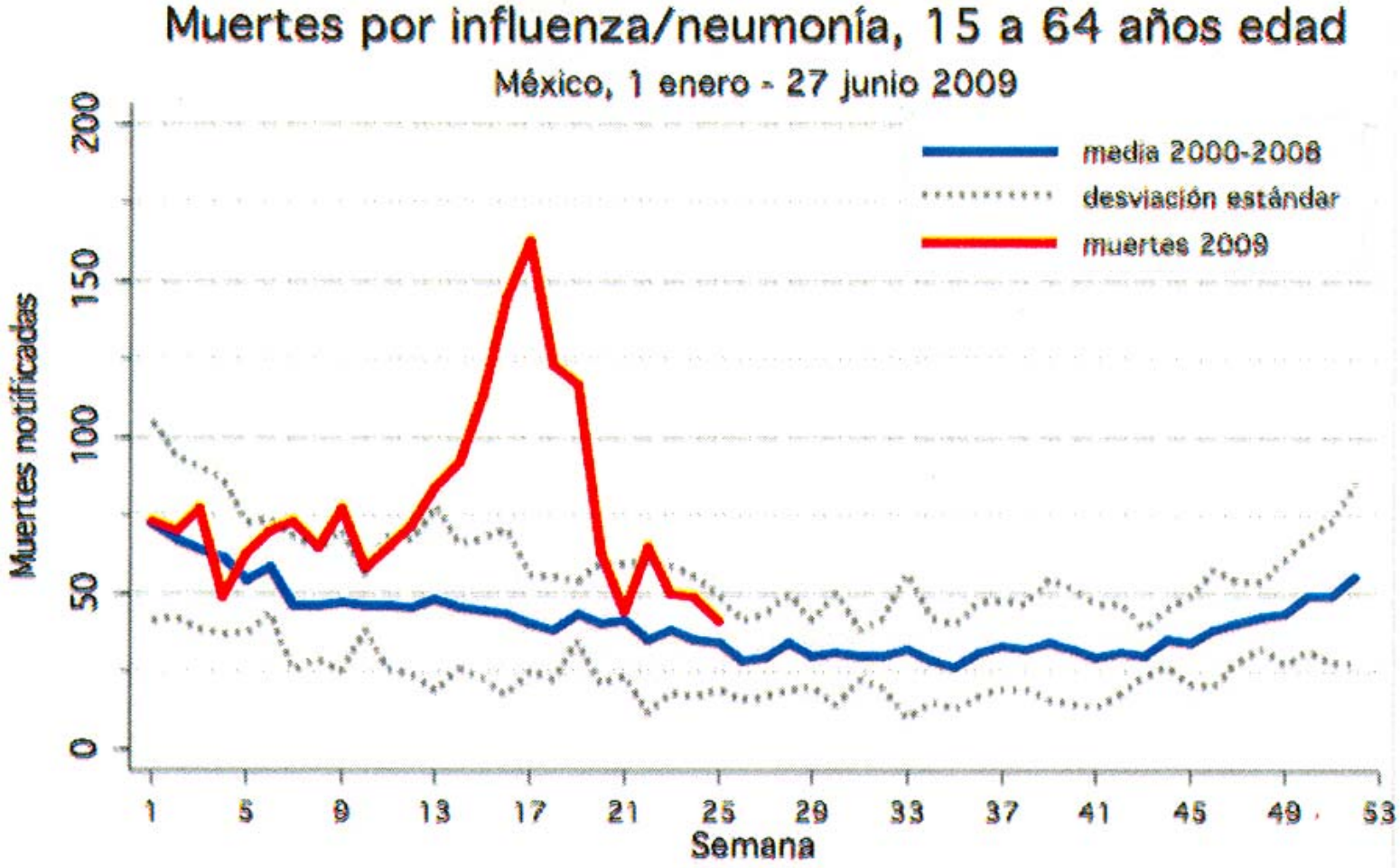



Fuente: SINAVE/DGE/CENAVECE/SSA. Sistema Estadístico Epidemiológico Defunciones, 6 nov 09

# Defunciones por influenza y neumonía en México, 2009 y mediana de ocho años previos. 15 a 64 años de edad

GOBIERNO FEDERAL

SALUD



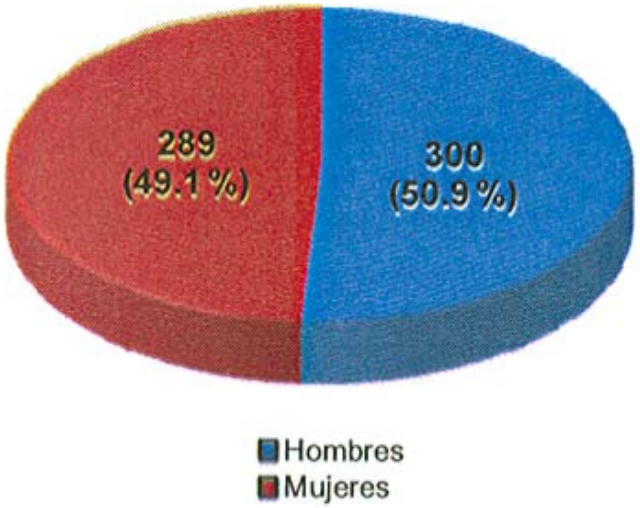

Fuente: SINAVE/DGE/CENAVECE/SSA. Sistema Estadístico Epidemiológico Defunciones (SEED), 6 nov 09

# 3. Perfil de defunciones A(H1N1) (589 casos)

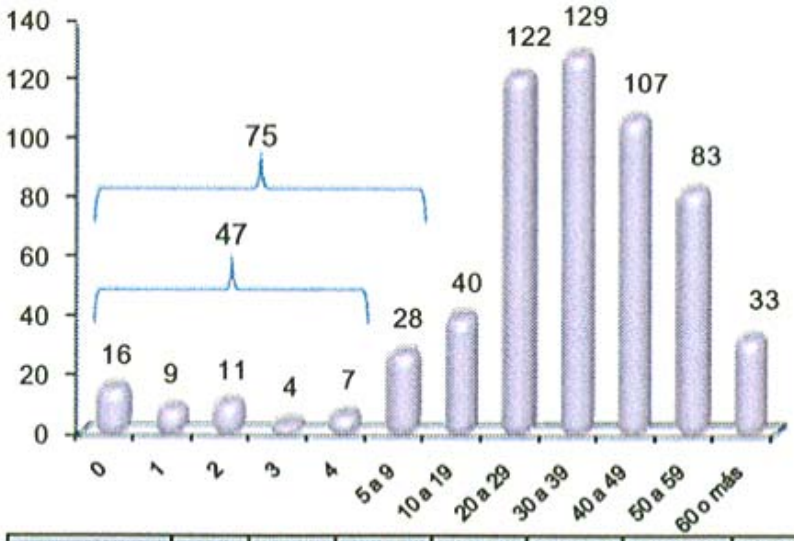
GOBIERNO FEDERAL
SALUD

- ✓ El 65% de las defunciones confirmadas son de personas entre los 20 y 49 años de edad.

## Distribución por género




## Distribución por edades




| Rangos | 0-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ |
|---|---|---|---|---|---|---|---|
| Porcentaje* | 12.8 % | 6.8% | 20.7% | 21.9% | 18.2% | 14.1% | 5.6% |

| Rangos | 0-4 | 5-9 |
|---|---|---|
| Porcentaje* | 8.0% | 4.8% |

# Casos y defunciones de Influenza A/H1N1 a nivel internacional

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SALUD

| Regiones | Total Acumulado | |
|---|---|---|
| | Casos | Muertes |
| Oficina Regional de la OMS para África (AFRO) | 14,950 | 103 |
| Oficina Regional de la OMS para las Américas (AMRO) | 190,765 | 4,806 |
| Oficina Regional de la OMS para el Mediterráneo Oriental (EMRO) | 28,751 | 188 |
| Oficina Regional de la OMS para Europa (EURO) | Más de **79,000** | Al menos de **350** |
| Oficina Regional de la OMS para el Sudeste Asiático (SEARO) | 45,844 | 710 |
| Oficina Regional de la OMS para el Pacífico Occidental (WPRO) | 166,750 | 613 |
| **Total** | Más de **526,060** | Al menos **6,770** |

*Dado que la OMS ya no requiere que los países reporten los casos confirmados individuales de AH1N1, el número reportado de casos puede ser inferior al número real de casos

•**Fuente:** OMS al 15 de noviembre de 2009

# Presencia de casos confirmados de influenza A/H1N1 a nivel internacional

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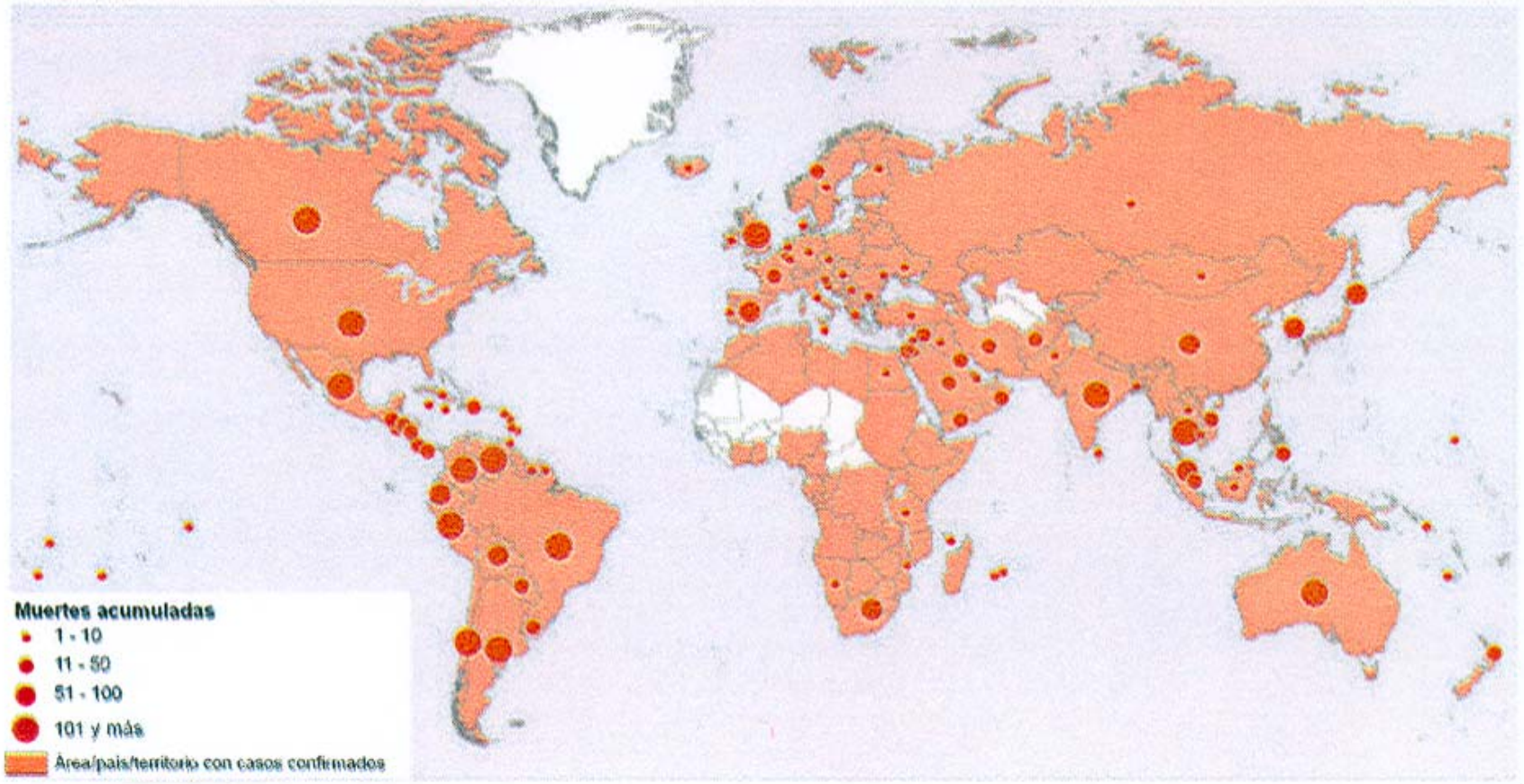
SALUD




•**Fuente:** OMS al 15 de noviembre de 2009

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# Sanitary Surveillance in the Transport System

# SCENARIO PLANNING IN MEXICO

- **SANITARY, PUBLIC HEALTH EMERGENCY**
- **LABORAL EMERGENCY CRISIS**
- **ECONOMIC EMERGENCY CRISIS**
- **SOCIAL EMRGENCY CRISIS**

# OBJECTIVES

1. Preserve social and economic dynamism on items related to transport.

2. Contribute to maintaining the continuity of operations of the main transport hubs.

3. Minimize exportation, importation, and dissemination of transmissible illness during a health emergency.

4. Detect cases among travelers and refer them to the appropriate medical attention facilities.

5. Establish permanent systems for health monitoring and surveillance.

# SCENARIO PLANNING IN MEXICO

- **In México, 25 to 30 millions cases are expected, due to an eventual Influenza H5 N1 pandemic and about 6% could be deaths (1’800,000)**
- **Increase manpower loss, negative economic impact, lack of public services food supply , etc.**
- **Opportune action, with preventive measures and medical attention, broadcasting of protocols and plans to the general population, international epidemiological alerts, guarantee adequate provision of food supply, water and drugs storage.**
- **In such event, it is important to include the participation of public, social and private sector**

# AIRPORT PROCEDURE

## CONTACTS

- 1) Internal

- Local public health authority
  Airport medical service providers
- Airlines
- Handling agents
  Air traffic management
- Local hospital (s)
- Emergency medical services
- Police
- Customs
- Immigration
- Security
- Airport retailers
- Information/customer relations services
- Other stakeholders as necessary

# PROCEDURES

**Close sanitary surveillance was initiated in march 23th**

**Medical checkpoints in Transport Terminals - during the Sanitary Emergency -**

**The Health Authority provides the Definition for *Suspect Case***

## Operational Definition

**Probable case**

Any person with signs or symptoms of the disease

# PROCEDURES

**The procedures can be upgraded or downgraded in a Severity Scale mode**

- **Inbound, and/or outbound passengers**
- **Airplanes or ships reporting symptomatic suspicious passengers on board**


# Severity Scale

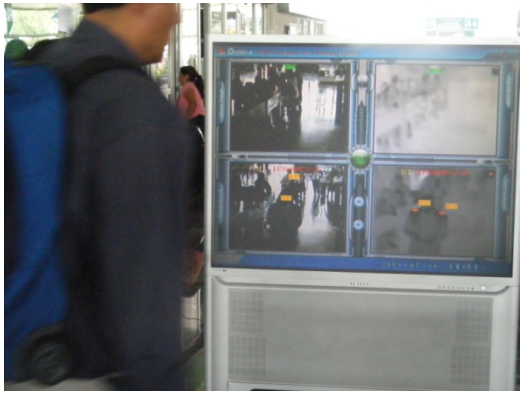
**LOW**

- **Category 1 sanitary event**
  - **Information and health promotion activities,**
  - **Medical self declaration**
  - **Medical services available**

**INTERMEDIATE**

- **Category 2 sanitary event**

  Information and promotion activities,
  medical self declaration
  Medical services available
  **Body temperature assessment**

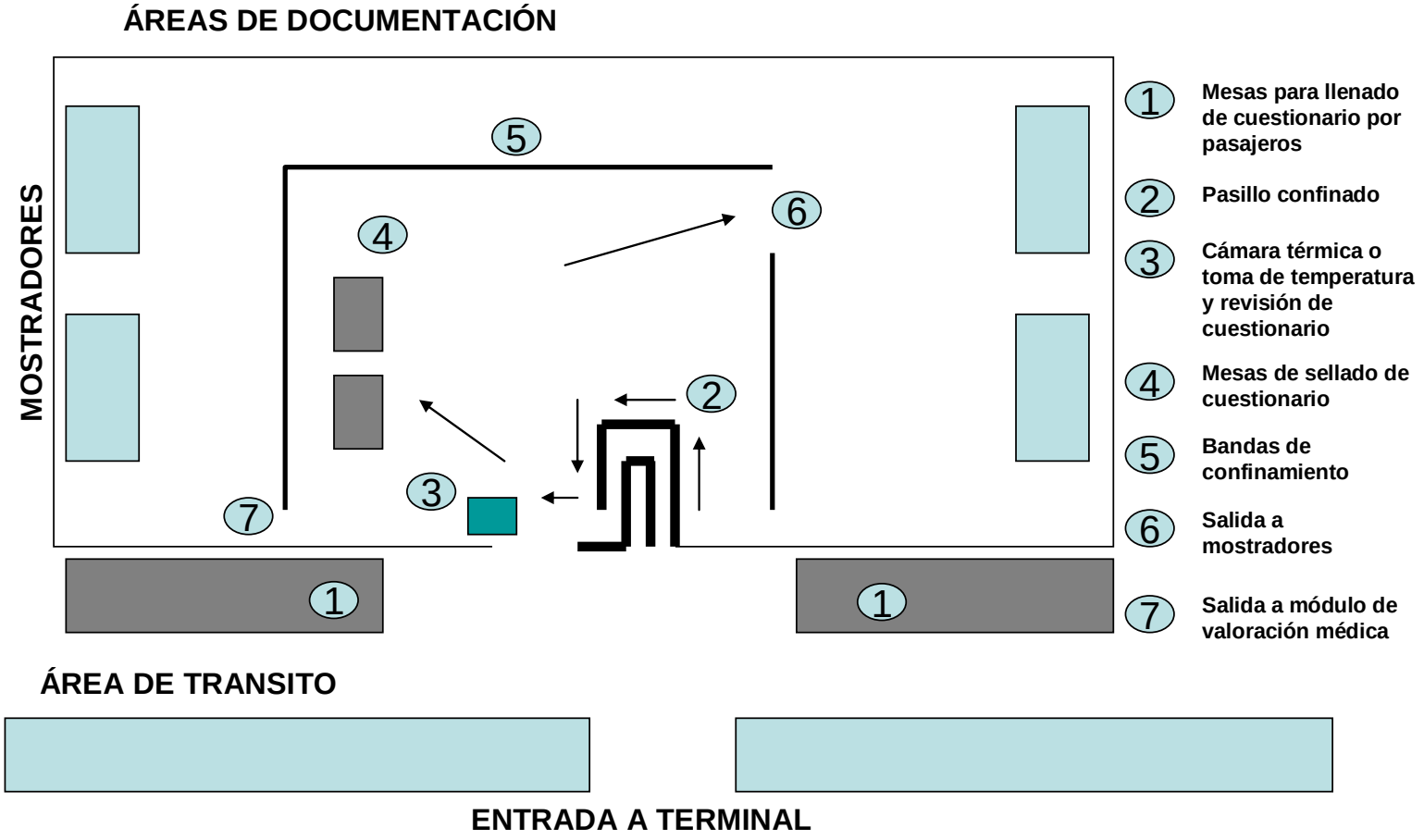


## HIGH

- **Category 3 or 4 sanitary event**

- Information and promotion activities, medical self declaration
- Medical services available
- Body temperature assessment
- **Visual inspection by medical personnel**
- **Medical assessment, history, physical examination**
- **Rapid swab test, etc.**

# Self Declaration and medical assessment procedures



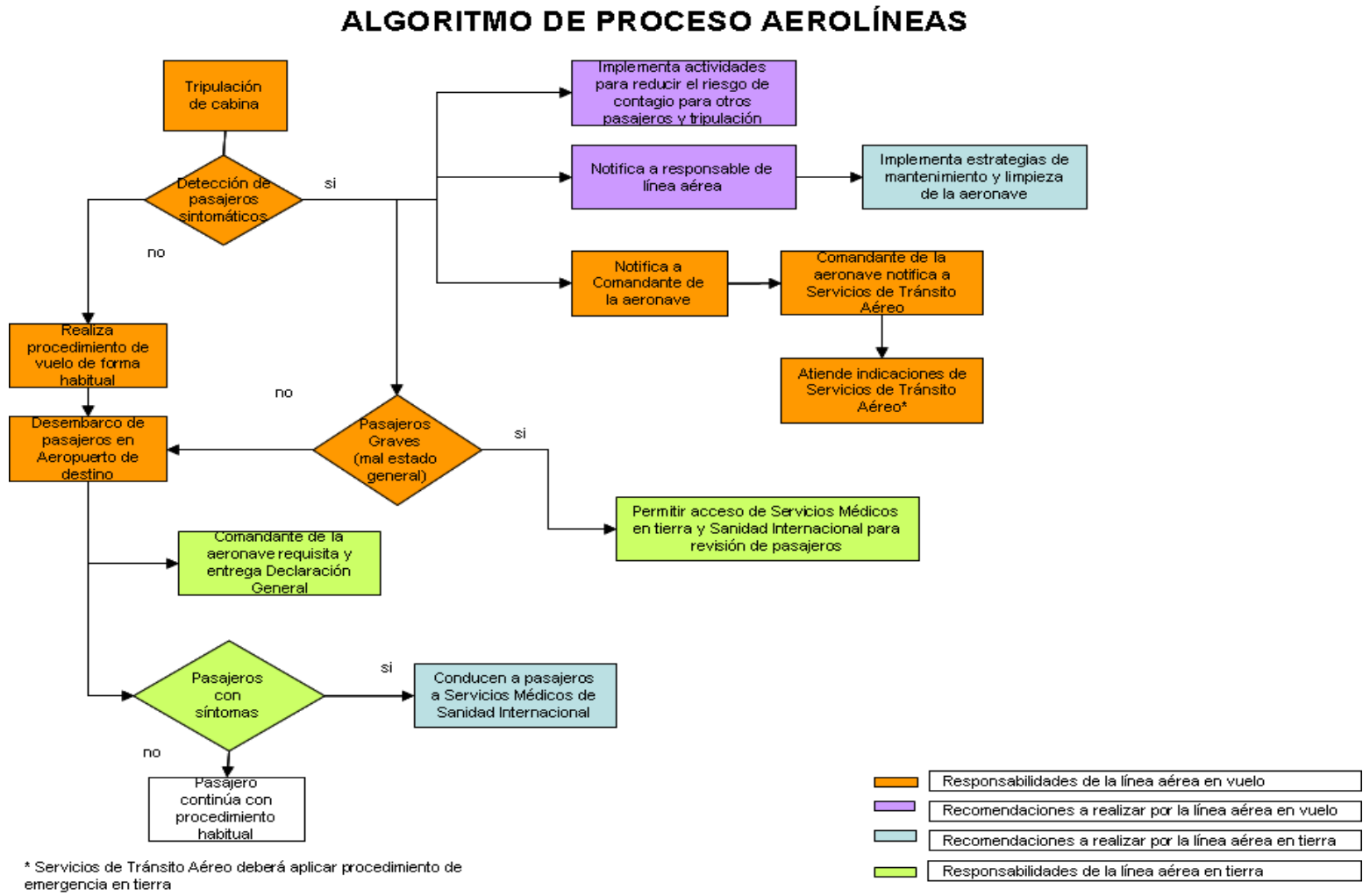

**Nota: esta propuesta podrá adecuarse según con la infraestructura de cada terminal**

# AIRPORT PROCEDURE

**EXTERNAL**

- **Travelers:**
- **before reaching the airport**
- **in the terminal building**
- **Travel agents**
- **International organizations involved with migration**
- **Other airports in same State/region**
- **Other airports outside State/region**
- **Media**


# AIRLINE PROCEDURE



# AIRLINE PROCEDURE

**Cabin crew will identify any suspect o evident case of a communicable disease on board**

Airplane commander must:

- Inform air traffic control if a suspect o evident case of a communicable disease is on board
- Aircraft ID
- Airport of origin
- Airport of destination
- Time of arrival
- Number of passengers and crew
- Number of suspect cases on board

# AIRLINE PROCEDURE

It is recommended

- Contact a consultant physician
- Relocate the passenger to an isolated position (if possible)
- Reassigne the crew tasks and activities according to the needs of sick passenger (s)
- Use of adequate personal protection equipment

# AIRLINE PROCEDURE

## PARTE SANITARIA DE LA DECLARACIÓN GENERAL DE AERONAVE[1]

**Declaración sanitaria**

Nombre y número de asiento, o función de las personas a bordo, que padecen de una enfermedad distinta del mareo o de los efectos de un accidente, que puedan tener una enfermedad transmisible, así como los casos de esa clase de enfermedad desembarcados durante una escala anterior.

La presencia de fiebre (temperatura de 38 ºC/100 ºF o superior), acompañada de uno o más de los siguientes signos o síntomas, aumenta la probabilidad de que la persona esté padeciendo una enfermedad transmisible:

- ✓ Indicios evidentes de que no se encuentra bien;
- ✓ Tos persistente;
- ✓ Dificultad para respirar;
- ✓ Diarrea persistente;
- ✓ Vómitos persistentes;
- ✓ Erupciones cutáneas;
- ✓ Hematomas o sangrado sin lesión previa;
- ✓ Confusión de aparición reciente.

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Detalles relativos a cada desinsectación o tratamiento sanitario (lugar, fecha, hora y método) durante el vuelo. Si no se ha efectuado la desinsectación durante el vuelo, dar detalles de la última desinsectación

.....
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.....

Firma, si se exige, hora y fecha _____

Miembro de la tripulación a quien corresponda

[1] *Esta versión de la Declaración General de Aeronave entró en vigor en 15 de julio de 2007. El documento completo se puede obtener en el sitio web de la Organización de Aviación Civil Internacional: http://www.icao.int.*

# AIRLINE PROCEDURE

**It is recommended to implement the strategies of aircraft maintenance, consider policies set by ICAO:**

**Elimination air filters**

**Cleaning the tanks**

**Cleaning and disinfection interior of the aircraft**

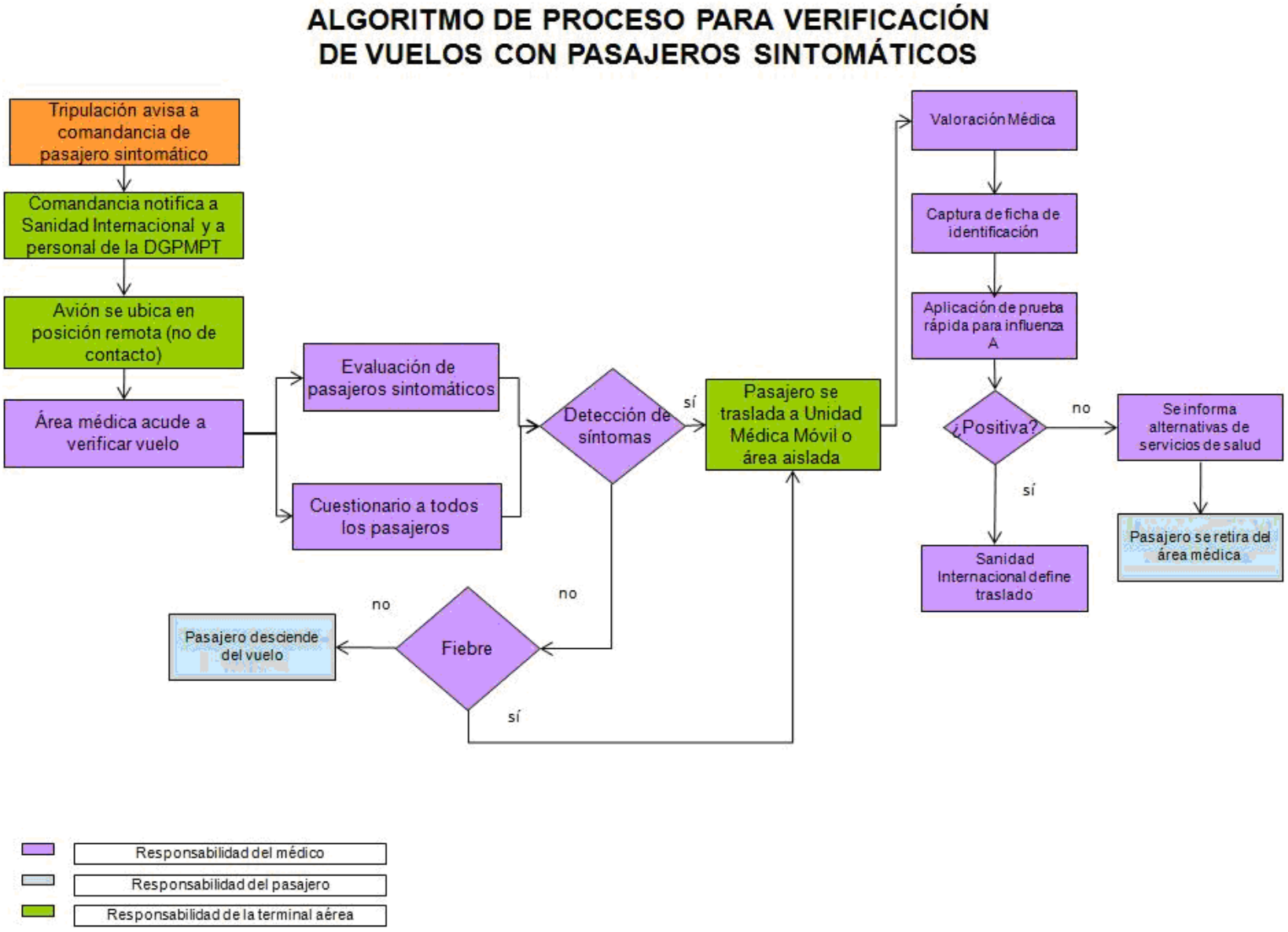
# PROCEDURE FOR FLIGHTS WITH SYMPTOMATIC PASSENGERS

- Locate aircraft in a proper position, that medical personnel can access and transfer of medical units.

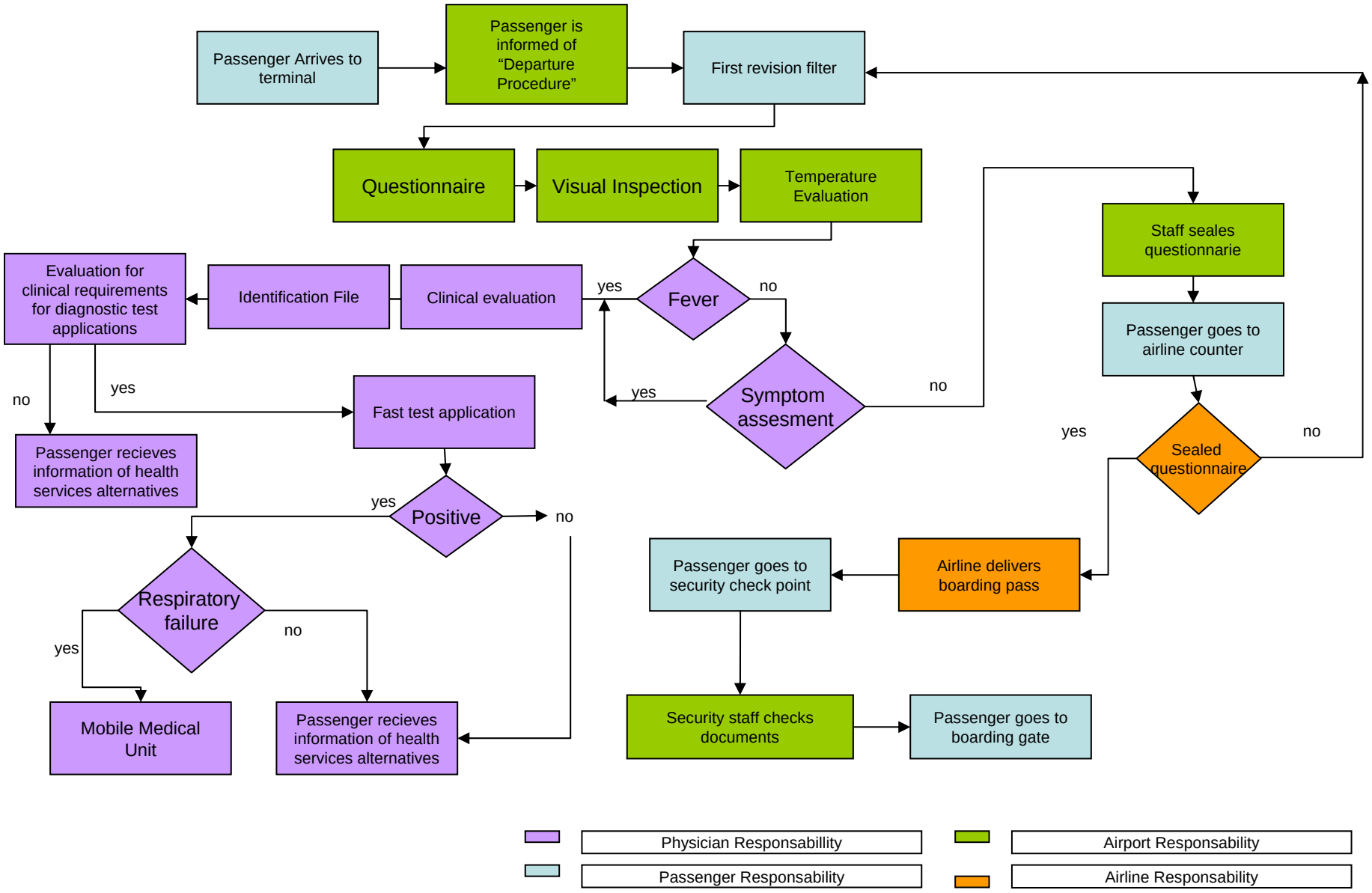
  Medical personnel check passengers (one doctor for every 30 passengers)

  A doctor will assess the passengers reported symptoms and the others will valuate other passengers.

# PROCEDURE FOR AIRPLANES WITH SUSPECT PASSENGERS ON BOARD



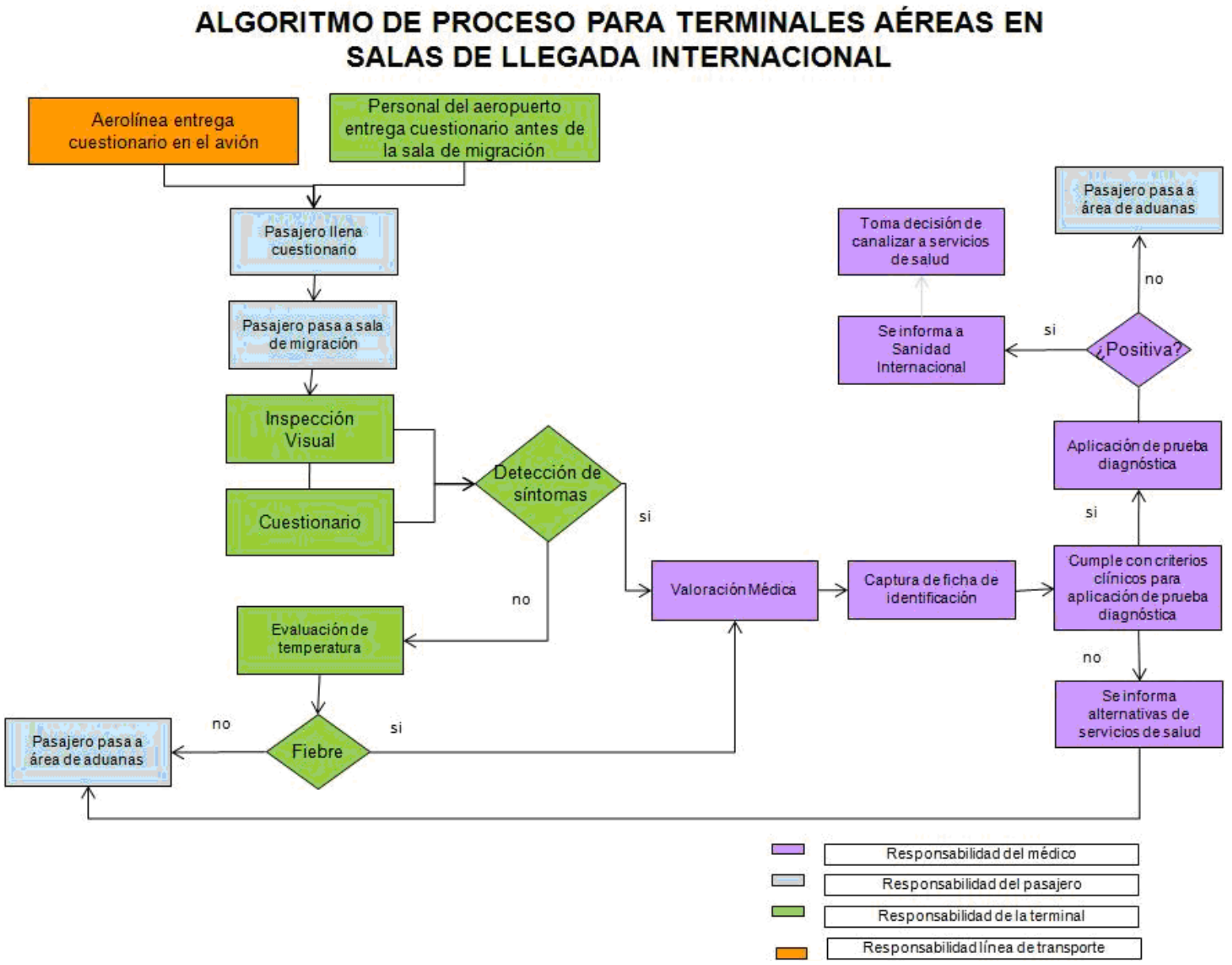
# AIRPORT
# DEPARTURE PROCEDURE



# PROCEDURE FOR INTERNATIONAL ARRIVAL GATES

This procedure will take precedence when there is a contingency with a health risk of passengers coming from areas affected and are potential carriers of disease, to delay as far as possible the entry of disease into the country, the airport is located

# PROCEDURE FOR INTERNATIONAL ARRIVAL GATES



***DOF 19 de julio de 2006***

## *III.- Epidemiological Surveillance*

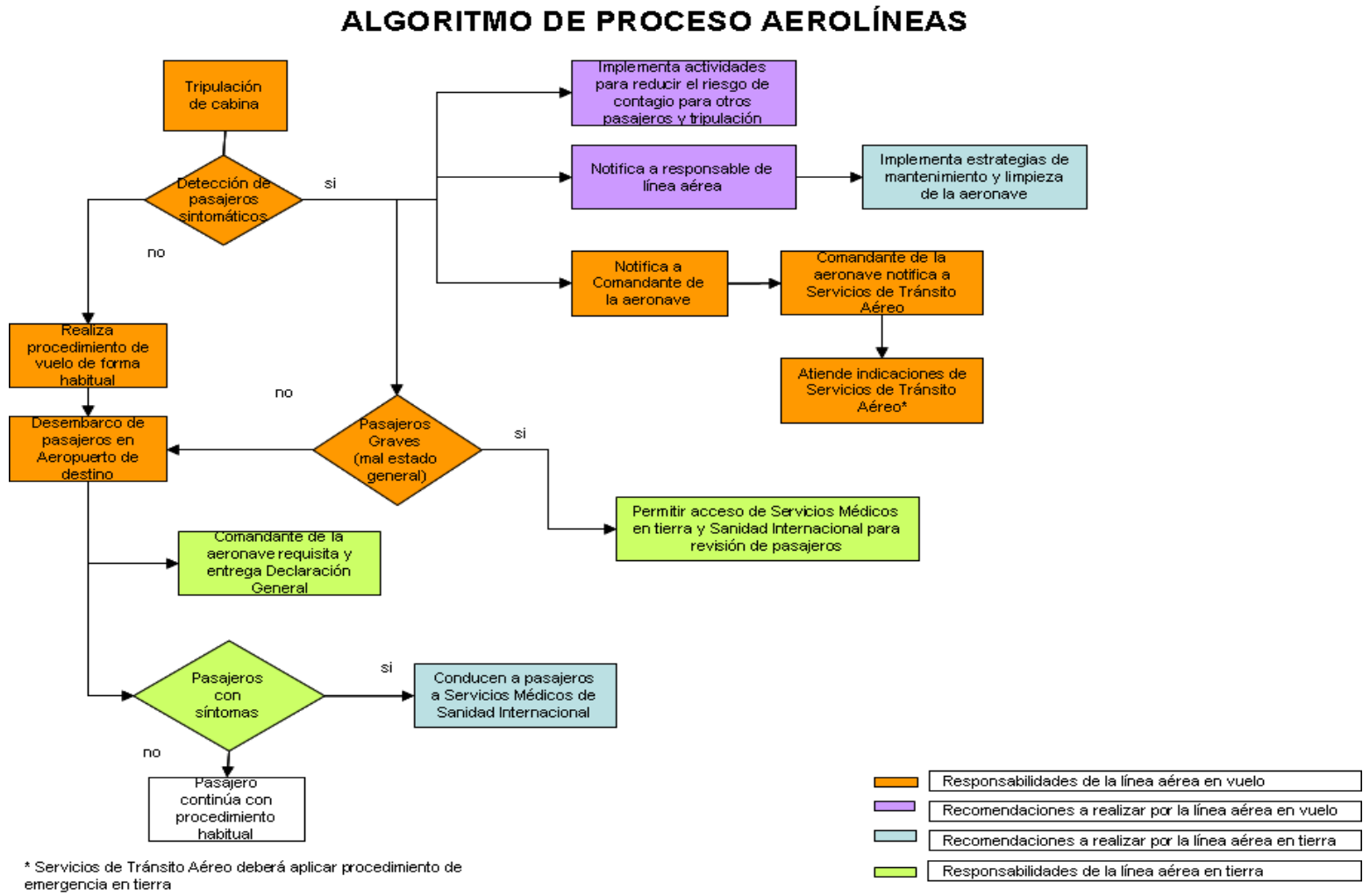
- Strengthen the monitoring and surveillance of morbidity and mortality in humans and animals
- Analyze the epidemiological information and follow up the evolution of the pandemic events and response to actions

*DOF 19 de julio de 2006*

## *IV.- Medical Attention*

- Establish strategy for the triage of patients for the proper distribution of resources
- Ensure the availability of protection garments and procedures for health personnel
- Guarantee medical attention to the community, with emphasis on vulnerable and increased risk groups.

# AIRLINE PROCEDURE



# PROCEDURE

**Departing Travelers**

**Incoming Passengers**

**Self report health card**

**Thermal scanning**

**Thermographic camera Fluke *TI20***

***Calibration 36° C – 42°C***

***Positive cases were referred to on-site medical eveluation***

***Rapid test Quickview Cat 20183 Quidel Corp.***

***Positive cases referred for medical attention***

## PROCEDURE

**From April 24 to May 15, 2009**

**More than 1 million passengers in Mexican airports.**

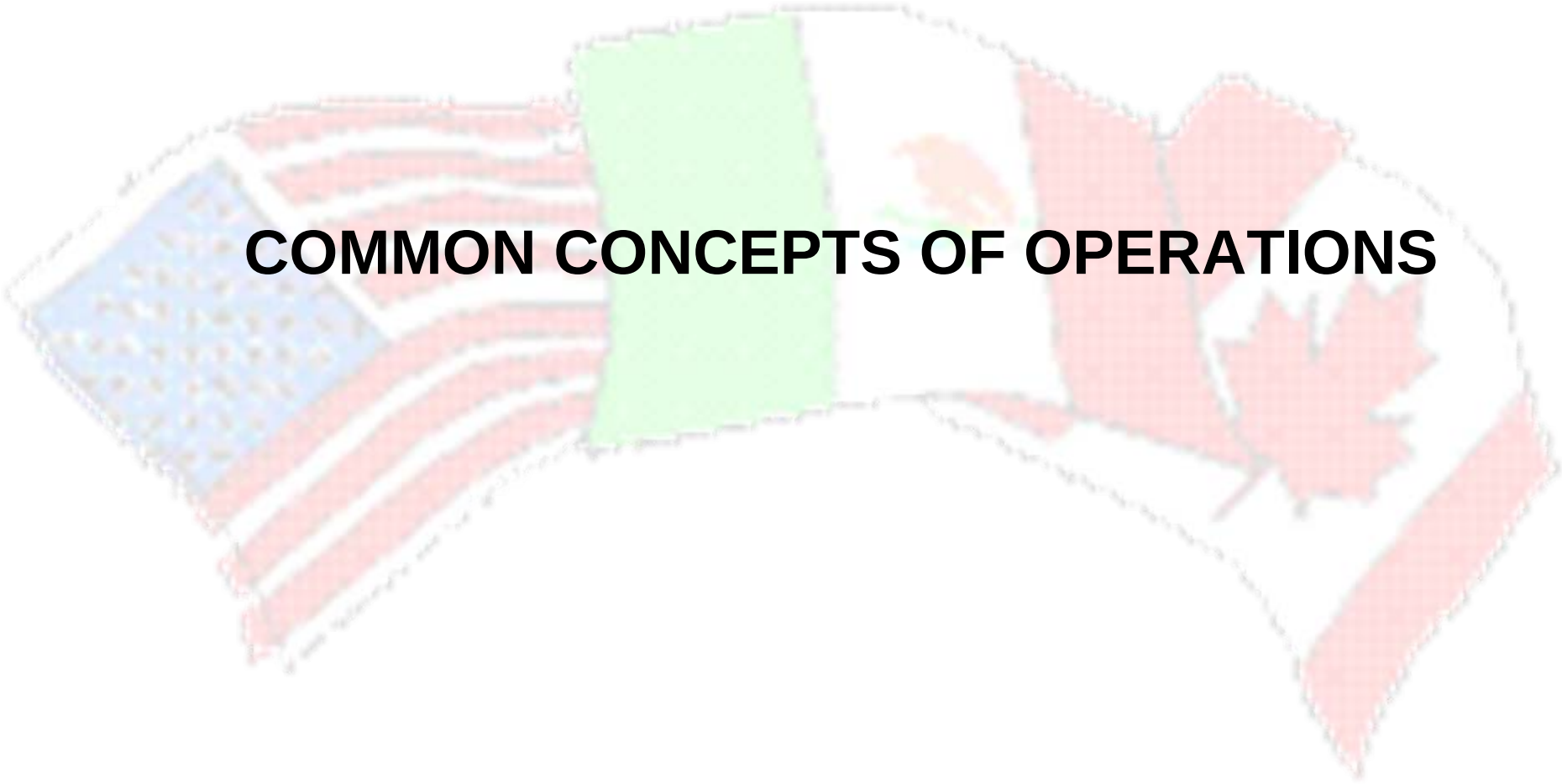
**501,397 self reported surveys**

**36 suspect cases (7 in 100,000)**

**42,000 rapid test – ten positive-**

**Confirmed for Influenza H1 N1**

**One case detected by camera alone**



# COMMON CONCEPTS OF OPERATIONS

# COMMON CONCEPTS OF OPERATIONS

**The primary objectives of the response efforts of the three States to a pandemic influenza event include:**

- a) Stopping, slowing, or otherwise limiting the spread of pandemic influenza into North America.
- b) Countering the spread of the disease within the States.
- c) Mitigate the impact of the disease on the population, economies, and social orders of the States.

# COMMON CONCEPTS OF OPERATIONS

**Common Objectives and Principles**

- a) The Parties will sustain the continued operation of the North American aviation system to the extent practicable, addressing their respective air transport needs

- b) The Parties will support containment efforts while mitigating the impact of aviation operational response efforts and of pandemic influenza events on the North American aviation system, including enabling air operators to adhere to their flight plans to the extent practicable

# COMMON CONCEPTS OF OPERATIONS

**Common Objectives and Principles**

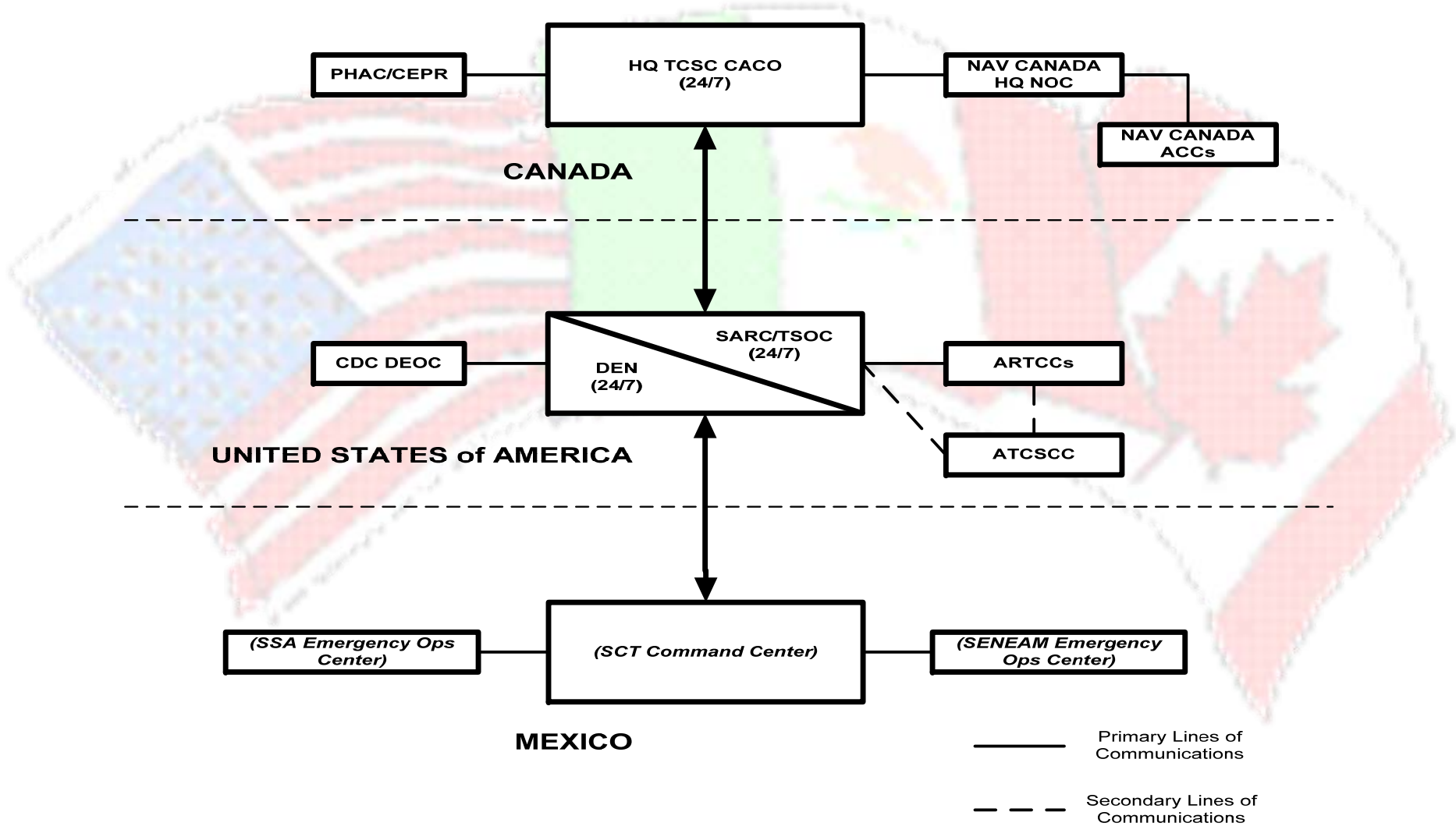
c) **The Parties will maintain an effective aviation operational response capability to address other, concurrent natural disasters or security incidents**

**d) The Parties will share information pertaining to aviation operational response, including best practices and health risk analyses.**

**e) The Parties will coordinate aviation operational response decisions regarding real-time incidents such as flights suspected of carrying persons infected with pandemic influenza or other similarly dangerous pathogens.**

# COMMON CONCEPTS OF OPERATIONS

**Appendix C – Aviation Operational Response Cells and Related Nodes**



# COMMON CONCEPTS OF OPERATIONS

**List of Appendices**

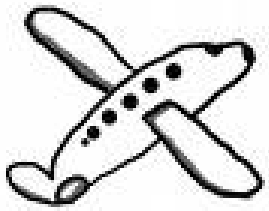
- - Appendix A. Participating Departments and Agencies
- - Appendix B. Acronym and Definitions
- - Appendix C. Diagram of Aviation Operational Response Cells and Related Nodes
- - Appendix D. List of EOCs and Contact information
- - Appendix E. Air Traffic Management Coordination Protocols
- - Appendix F. Exercise Protocols
- - Appendix G. List of International Airports
- - Appendix H. List of Established Quarantine Stations
- - Appendix I.  FIR Charts

# TRILATERAL HIGH LEVEL MEETING CONCLUSIONS

- **Implementing a Health Emergencies Procedures Manual for Transport Terminals.**
- **Resume Common Concepts of Operation (CONOPS) for civil aviation operations in the Northern Hemisphere in the event of possible health crises.**
- **Establish trilateral mechanisms for sharing, real-time warning information to travelers and decisions related to international transport operations when cases, carriers or contacts of influenza or other diseases may be involved.**
-

SCT

SECRETARÍA DE COMUNICACIONES Y TRANSPORTES



# Sanitary Surveillance in the Transport System Temperature Scanning

**JUNIO 2009**

# Body temperature measurement by Remote-sensing Infrared Thermography as mass screening of suspected Febrile patients at International Mexico City Airport

- **Objetive:**

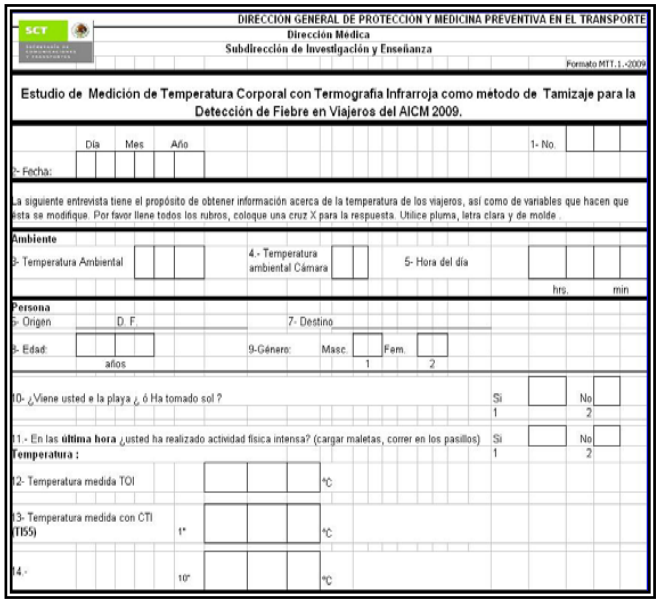
Determine the cut point of Body temperature measurement by Remote-sensing Infrared Thermography as mass screening of suspected Febrile patients at International Mexico City Airport

# Methods

1. In a total of 223 travellers was taken the Body Temperature

   – Infrared Ear drum Termometer IRT (**GOLD STANDARD**).

   – Remote-sensing Infrared Thermography (RIT) 3 m distance, an exposition one and 10 seconds



DIRECCIÓN GENERAL DE PROTECCIÓN Y MEDICINA PREVENTIVA EN EL TRANSPORTE
Dirección Médica
Subdirección de Investigación y Enseñanza
Formato MTT.1.-2009

Estudio de Medición de Temperatura Corporal con Termografía Infrarroja como metodo de Tamizaje para la Detección de Fiebre en Viajeros del AICM 2009.

1- No.
2- Fecha: Día Mes Año

La siguiente entrevista tiene el propósito de obtener información acerca de la temperatura de los viajeros, así como de variables que hacen que ésta se modifique. Por favor llene todos los rubros, coloque una cruz X para la respuesta. Utilice pluma, letra clara y de molde.

**Ambiente**

3- Temperatura Ambiental
4.- Temperatura ambiental Cámara
5- Hora del día hrs. min

**Persona**

6- Origen D. F.
7- Destino
8- Edad: años
9-Género: Masc. 1 Fem. 2

10- ¿Viene usted e la playa ¿ ó Ha tomado sol ? Si 1 No 2

11.- En las **última hora** ¿usted ha realizado actividad física intensa? (cargar maletas, correr en los pasillos) Si 1 No 2

**Temperatura :**

12- Temperatura medida TOI °C

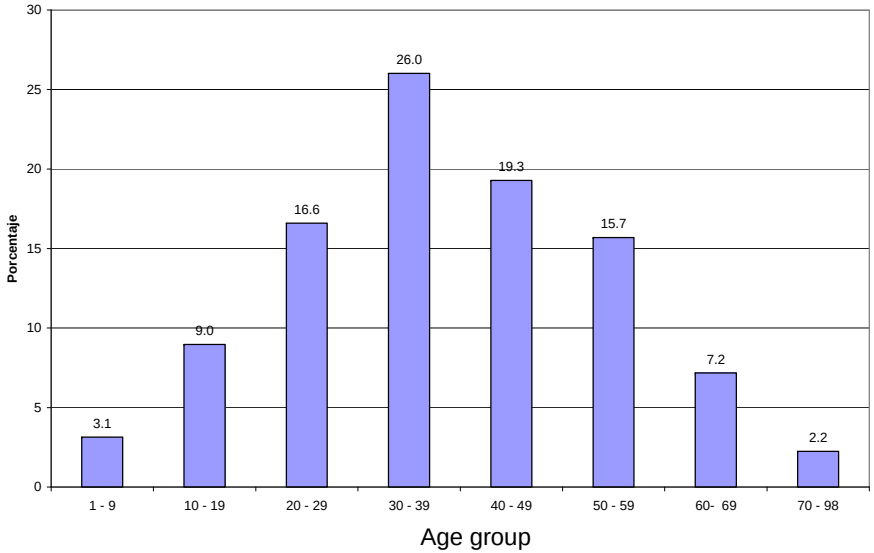
13- Temperatura medida con CTI (TI55) 1° °C

14.- 10° °C

2. A questionnarie with 11 variables was applied.

# Preliminary Results

Age distribution of travellers who was taken Body Temperature




Sex

48.4% (108) female

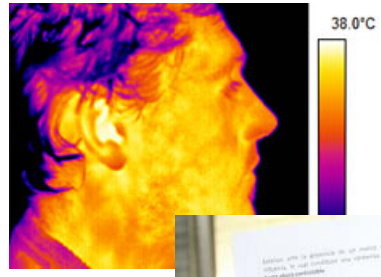
51.6 % (115) male

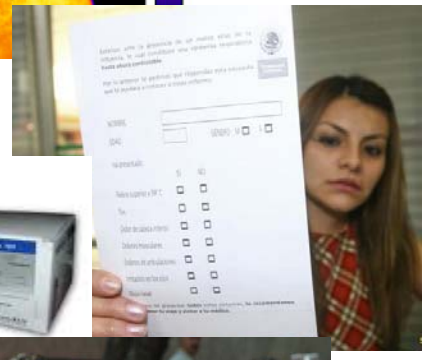
| Instrument | Min | Max | Average | S.D. |
|---|---|---|---|---|
| Infrared Ear drum Termometer | 34.4 | 37.3 | 35.9 | ±0.5 |
| Remote-sensing Infrared Thermography One second | 34.0 | 37.5 | 36.2 | ±0.6 |
| Remote-sensing Infrared Thermography Ten seconds | 33.0 | 37.9 | 36.4 | ±0.6 |

# Discussion

- The Body temperature measurement as mass screening with Remote-sensing Infrared Thermography is complementary to other strategies.

- Identify travellers who course with fever at international airports, determine clinical assesment and establish the disease and clinical management .

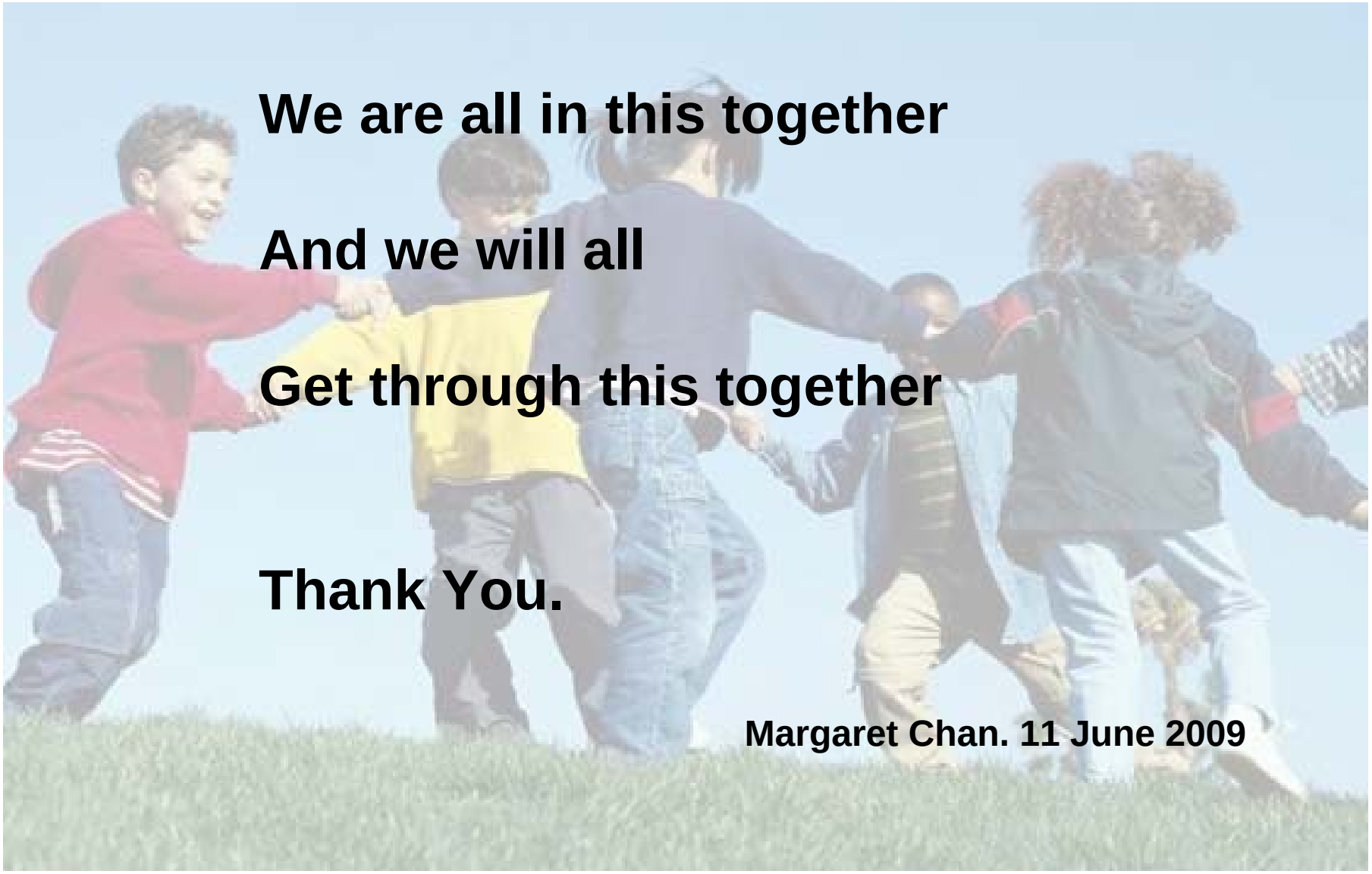


# Conclusions

- This study suggest that temperature readings obtening by remote-sensing Thermography (RST) in a mass-screening exposition could be one second when there is traffic at the airport.

- It is needed to perform a study with bigger sample and during more time.



**We are all in this together**

**And we will all**

**Get through this together**

**Thank You.**

**Margaret Chan. 11 June 2009**