



Swine Flu A H1N1 in Costa Rica

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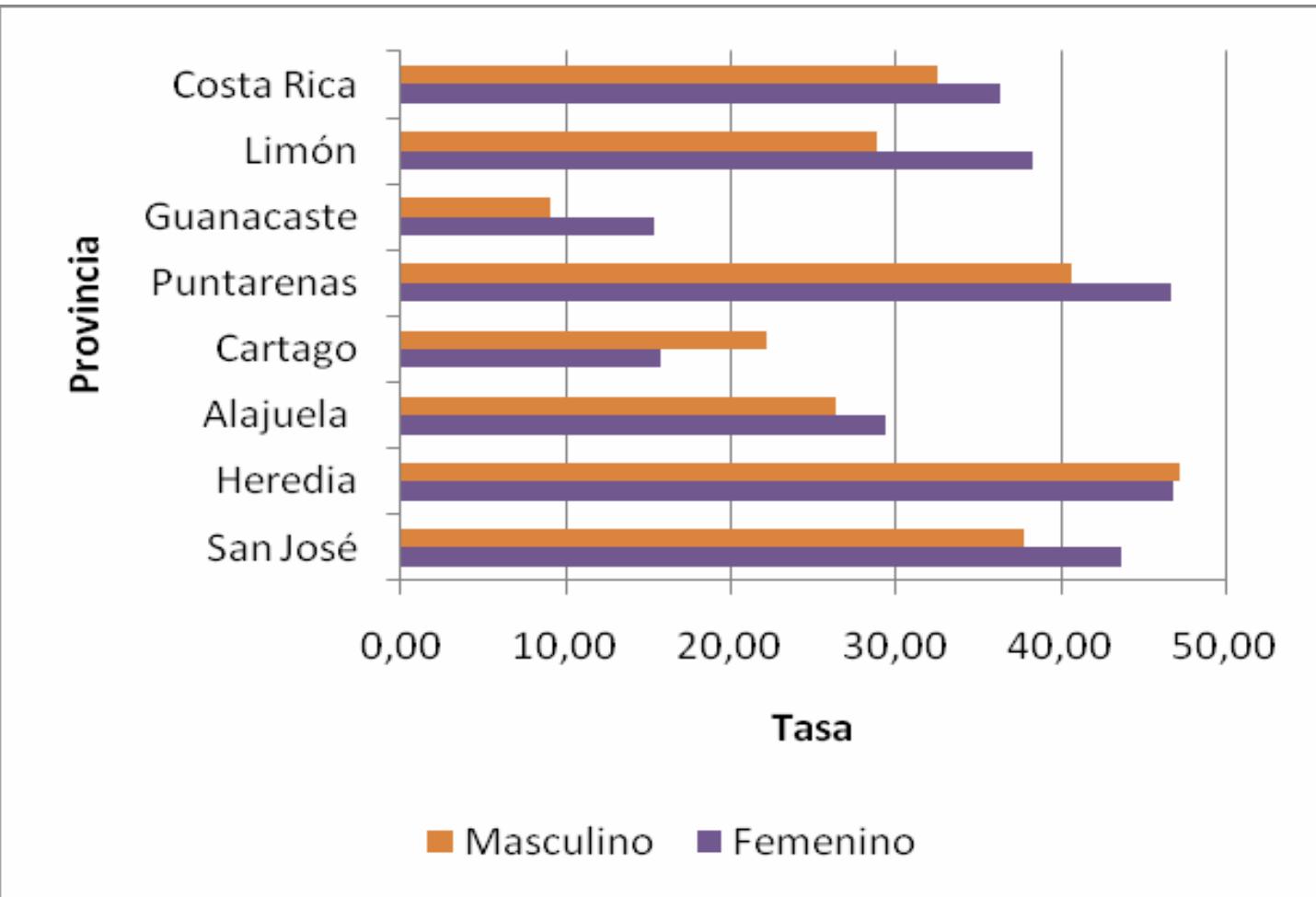
**Noviembre, 2009
Johannesburg, SA**

Clinical Diagnosed, confirmation as as Swine Flu and deaths Costa Rica, april 24th to october 14th 2009

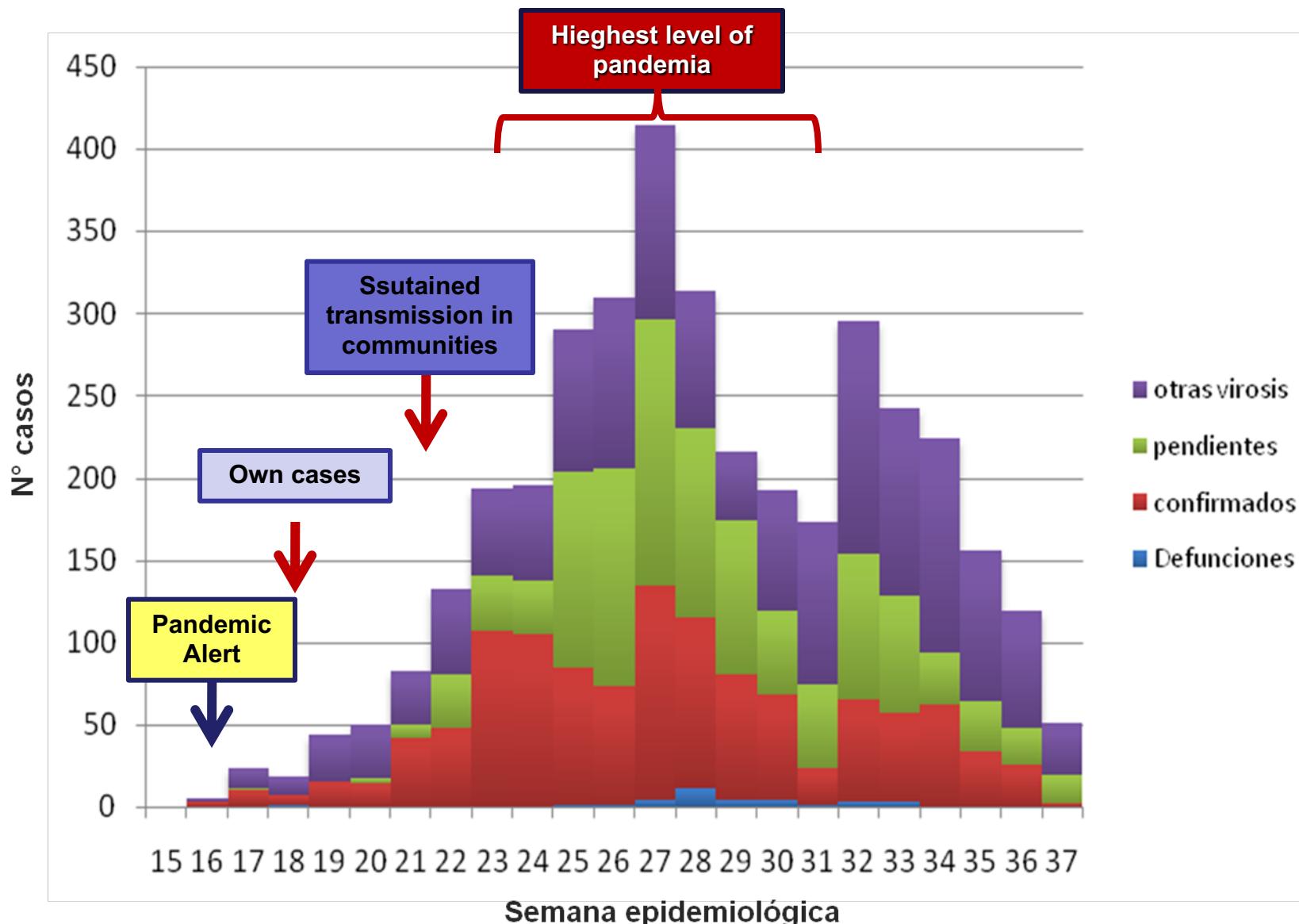
Clinical Diagnose As highly suspicious 10.176	Confirmed	1.530
	Rejected	7.404
	Deaths	38
	Not confirmed	1.242

Swine Flu Confirm cases by lab, by sex and province

Costa Rica 2009. (Rate 100.000/hab)

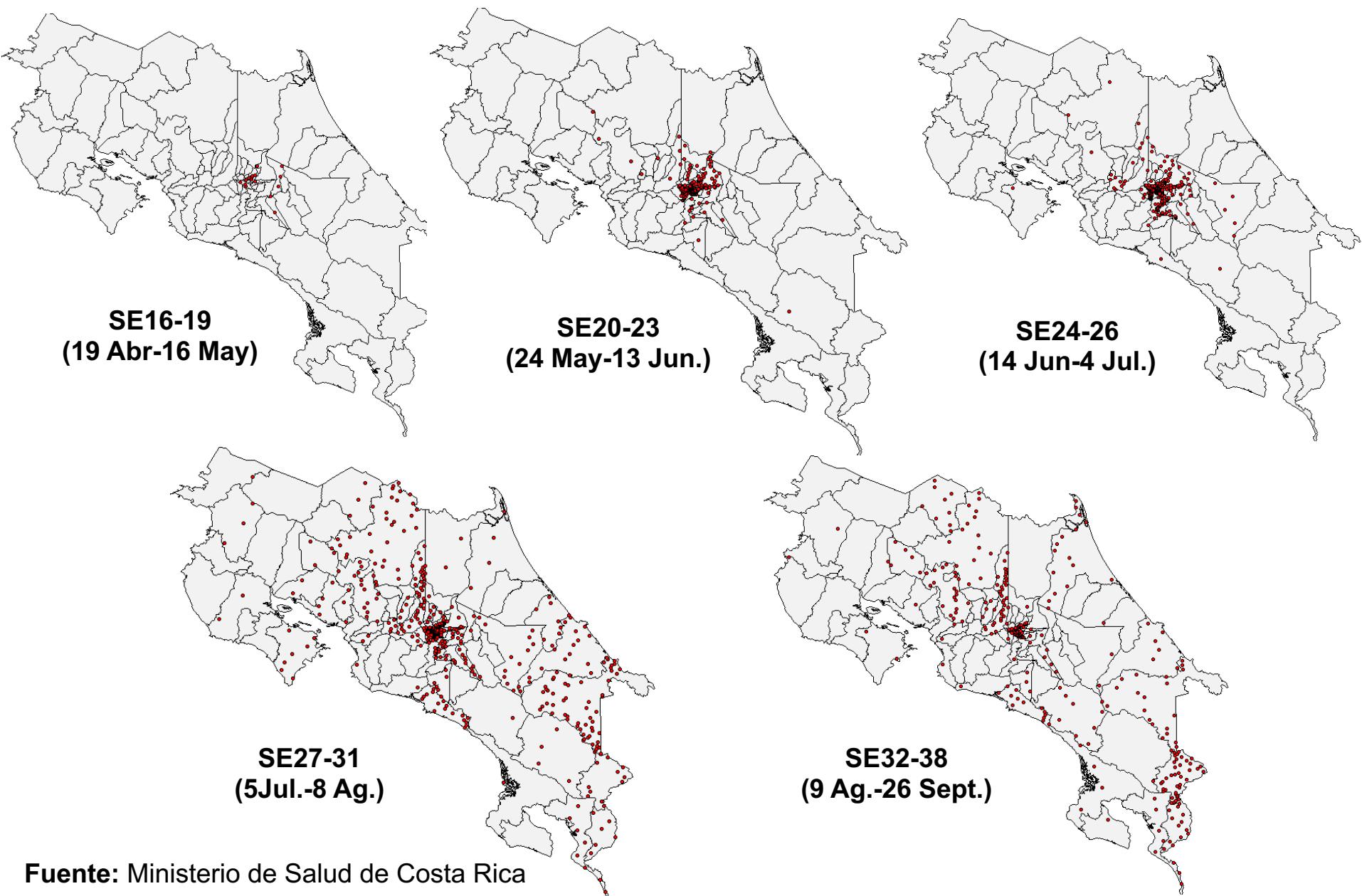


Pandemic wave evolution de in Costa Rica: Confirmed cases week 16-37 (April 19th to Sept 16th. 2009)

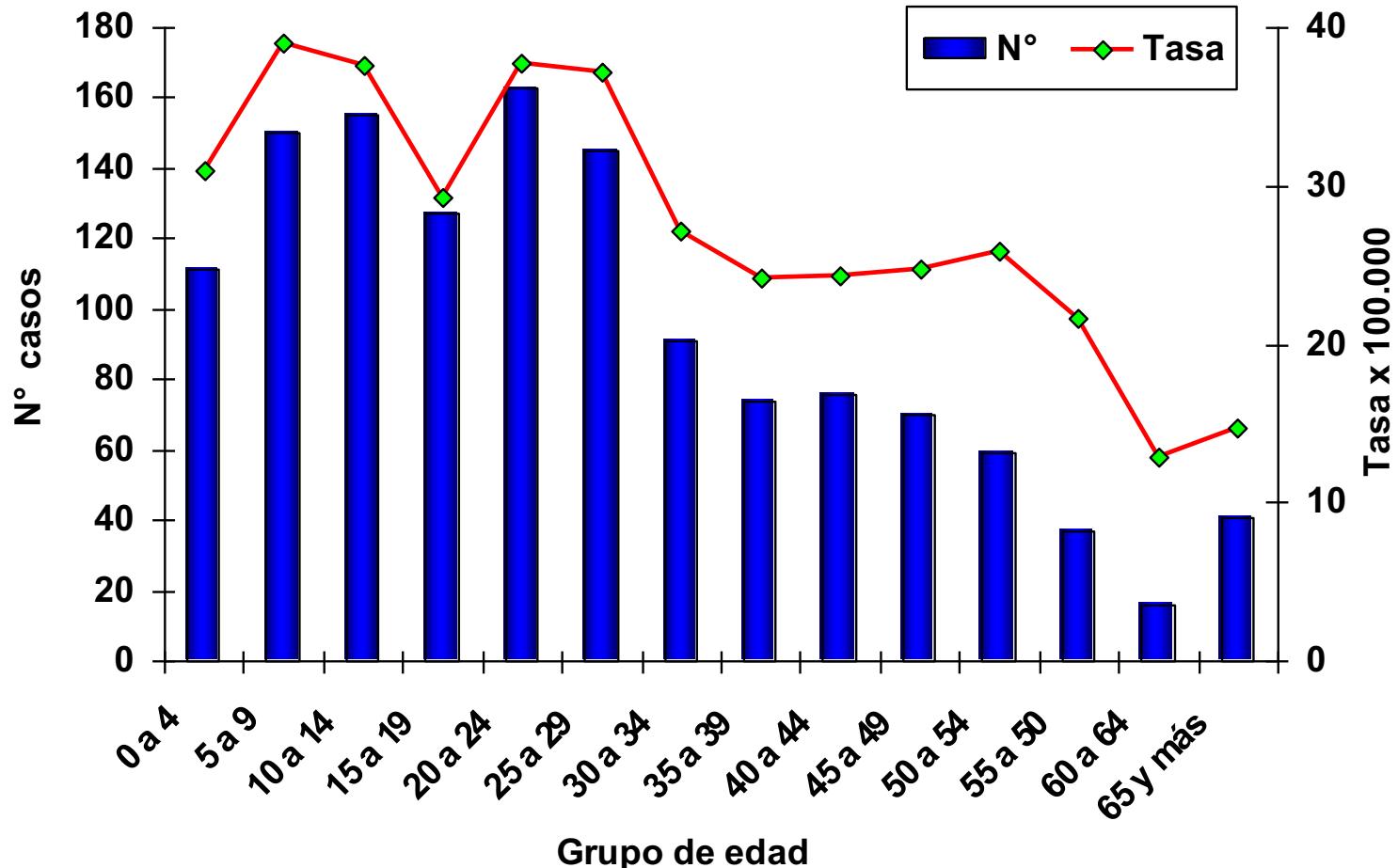


Fuente: Ministerio de Salud de Costa Rica.

Geographic dissemination of Influenza AH1N1 in Costa Rica by epidemiological week. 16-38/2009



Confirmed cases and rates (x 100.000 hab.) of Influenza A H1N1 by ege group. Costa Rica, 16 – 37/2009



Fuente: Ministerio de Salud de Costa Rica.

Numbers...

- Rates 34,4/100.000 hab
- Women has a higher rate
- We found higher rates
 - 5 to 14 years
 - 20 to 29 years
- 62 % were less than 30 years
- 60 years and more
 - Lower rates

Characteristics of the respiratory virus identified Costa Rica, week 16 – 37/2009

Total cases analized (lab)	10.139
Total respiratory virus detected	5.763
Swine Flu AH1N1	1.381
Season Influenza A	86
Swine Flu AH1N1 + Adenovirus	222
Swine Flu AH1N1 + Parainfluenza 1, 2 o 3	196
Swine Flu AH1N1 + Respiratory Sincicial Virus	15

% Viral Coinfection = 18%

Fuente: Centro Nacional de Influenza, INCIENSA

Risk factors associated with hospitalized patients with clinical diagnose of Swine Flu AH1N1. Costa Rica (September 25th, 2009)

Hospitalizations	1.081	100%
Man	502	46%
Woman	579	54%
Average age	33,8 years	..
Critically ill - UCI	118	11%
Risk factors		
Asthma	273	25,3%
Diabetes mellitus	130	12,0%
EPOC	105	9,7%
Tobacco	94	8,7%
Obesity	93	8,6%
CV	84	7,8%
Pregnancy	50	4,6%

Fuente: Base de datos de egreso hospitalario de pandemia Influenza AH1N1, CCSS

Characteristics of deaths by Swine flu AH1N1 Costa Rica, Week 16 – 37/2009

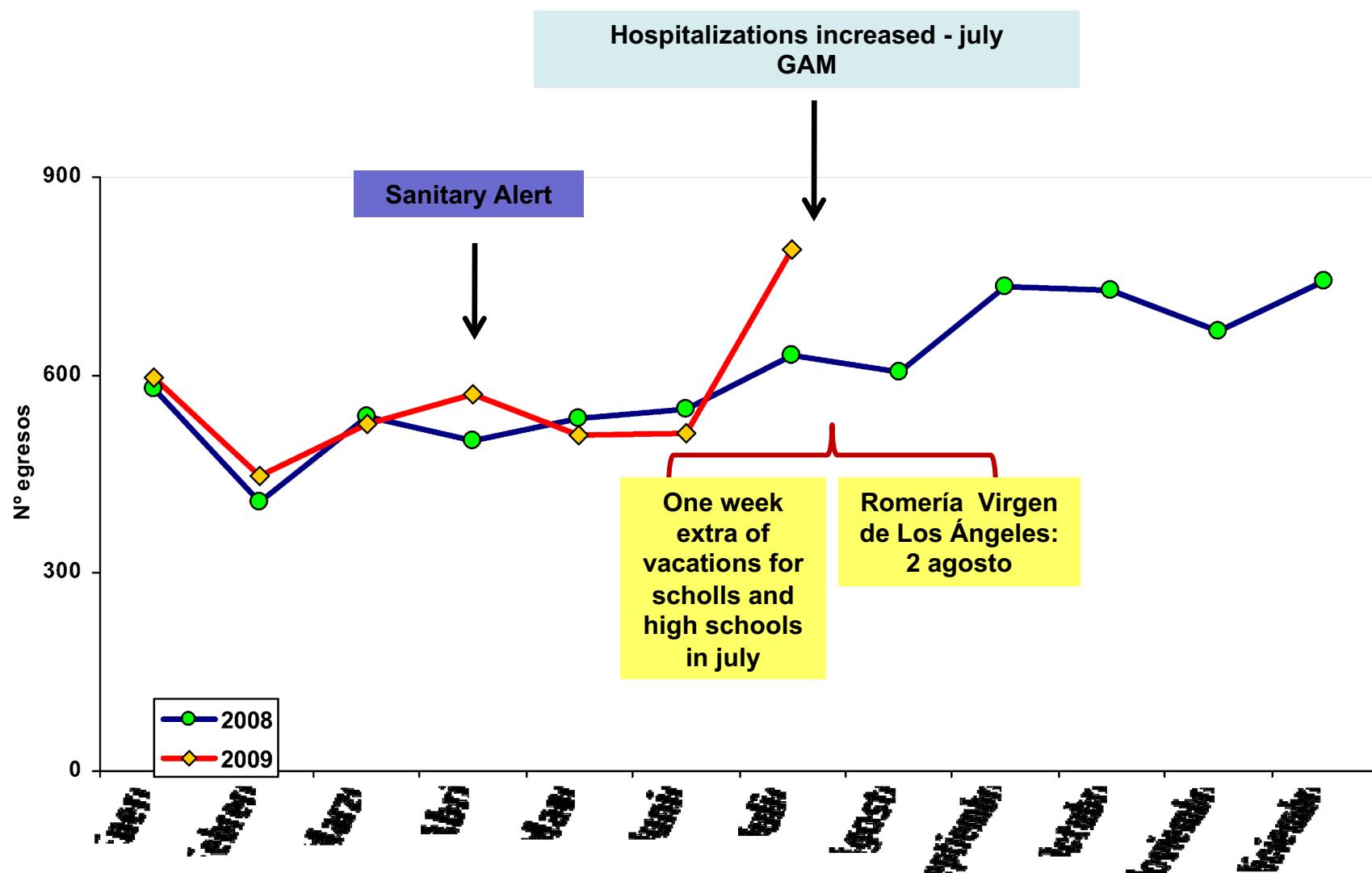
Residence		
Total	37	100%
Great Metropolitan Area (GAM)	32	86%
Out of GAM	5	14%
Sex		
Man	23	62%
Women	14	38%
Edad		
Rango	8 meses-79 años	
Average	41 años	
Associated Risk Factors	31	84%
Tipos de factores de riesgo		
Obesity	13	35%
Cardioc problems/HTA	12	32%
Chronic Bronquitis/Asthma	10	27%
Diabetes mellitus	9	24%
Tobacco	7	19%
Pregnancy	3	8%

Fuente: Ministerio de Salud de Costa Rica.

Organization and response

- Simulations for the avian flu pandemic helped
 - Necessary to change and “re-learn” some things
- Decrees
 - *Sanitary Emergency*
 - *Regulate the oseltamivir administración*
 - *Especific guidelines for different sectors an ministries –health, tourism, work, education, others,*
 - *Distance work for pregnant women*
 - *Vaccine as a regulated public good.*
- Quick shift from surveillance to a more effective and efficient mitigation strategy
- Unify and unique guidelines to health services network
 - Public and private sectors
 - Local level as the way of entrance.
- Social separation strategy
 - Cost effectiveness and risk criteria
- Controlling dissemination
 - Protecting health services capacity

Flu and pneumonia (J100-J189) hospitalizations by month. Costa Rica, 2008 y 2009

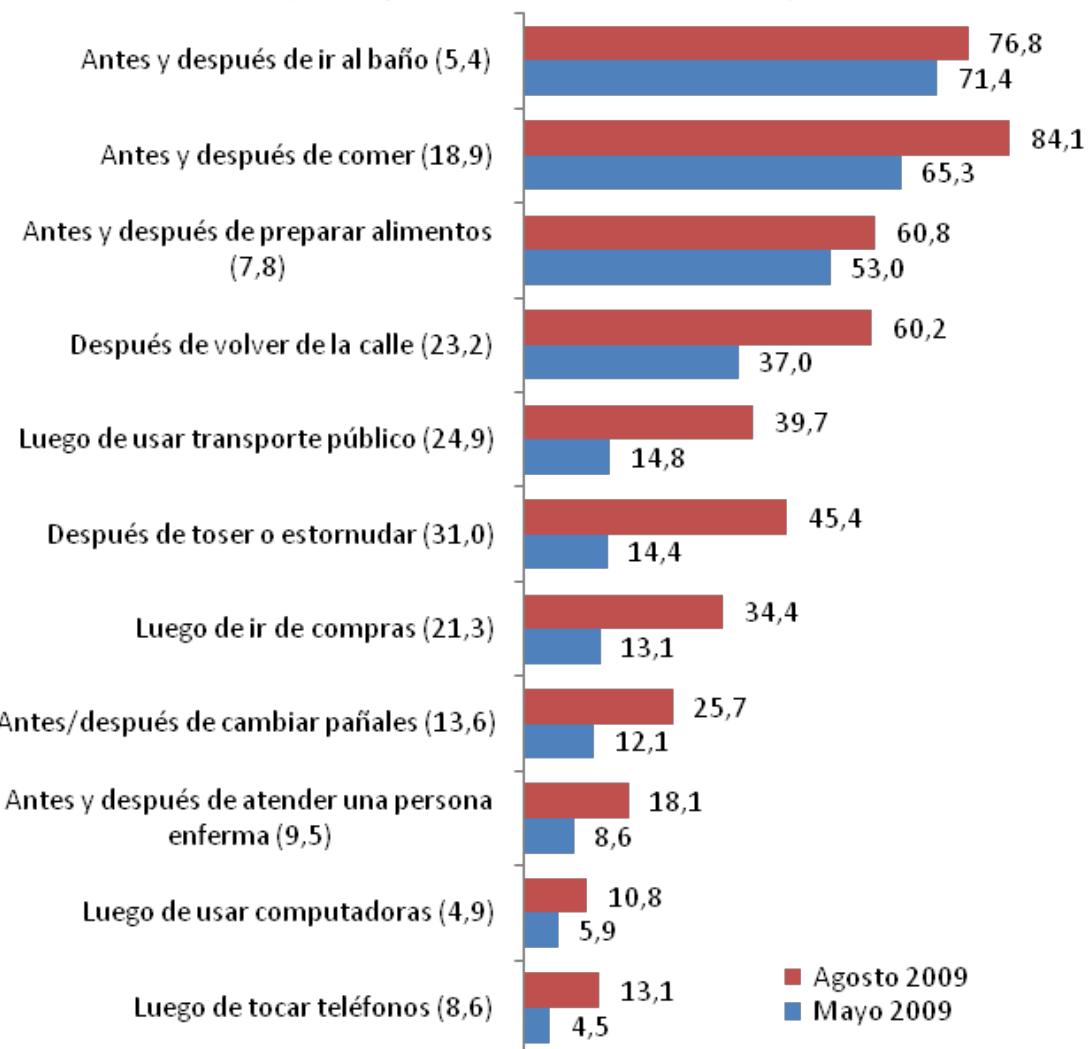


Fuente: CCSS, Base de datos egresos hospitalarios * Se incluye causa (J100-J189) de 1-2-3 -4 y 5 diagnóstico de egreso

Using polls to evaluate and follow up the pandemia

Working together
Statistics School,,
University of Costa Rica

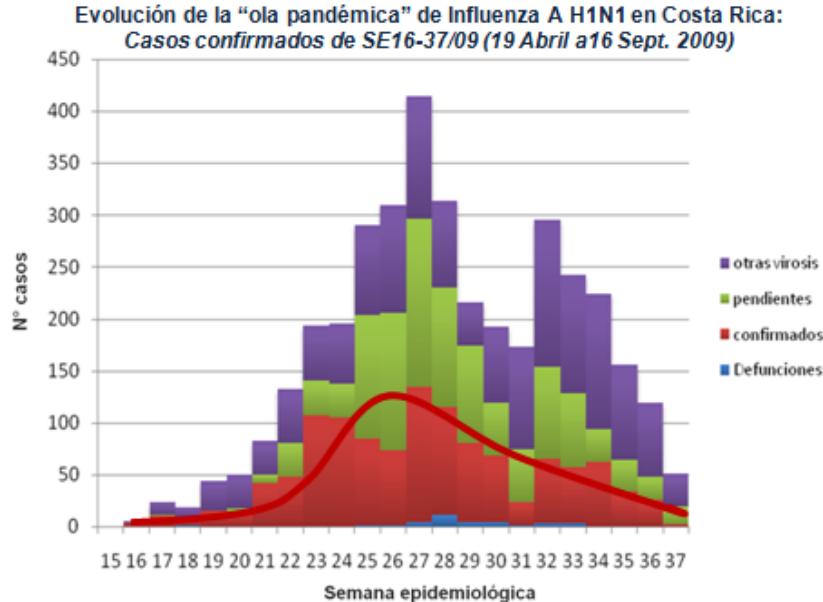
Porcentaje que responde espontáneamente a los hábitos para el lavado de manos
(excluye alternativa "no lo hace")¹



¹ Incluye entre paréntesis la diferencia de puntos porcentuales entre agosto y mayo del 2009

Fuente: UCR. Escuela de Estadística. XXIII Encuesta de Confianza del Consumidor. Mayo y Agosto del 2009.

México: Casos confirmados de Influenza A H1N1, 2009

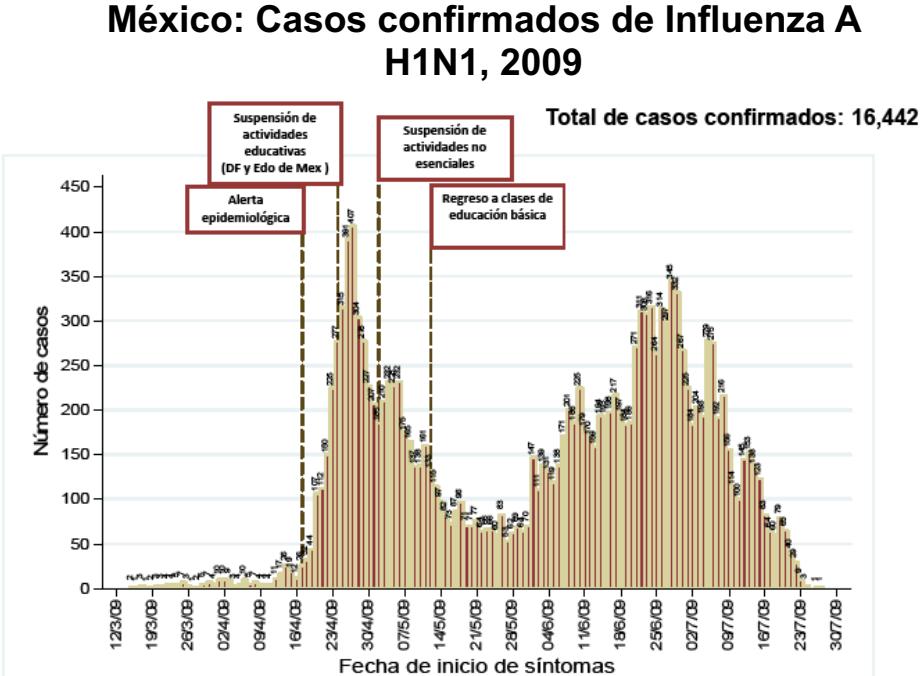


Fuente: Ministerio de Salud de Costa Rica.

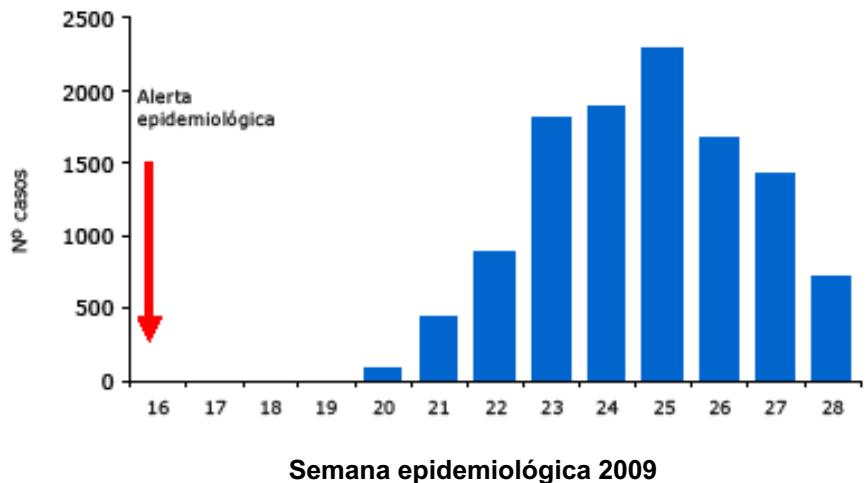
Waves changes in time and context:

IMPORTANT:

- We can't avoid the wave
- We can change it
- Grow up slowly and try to lower the peak



Chile: Casos confirmados de Influenza A H1N1, 2009

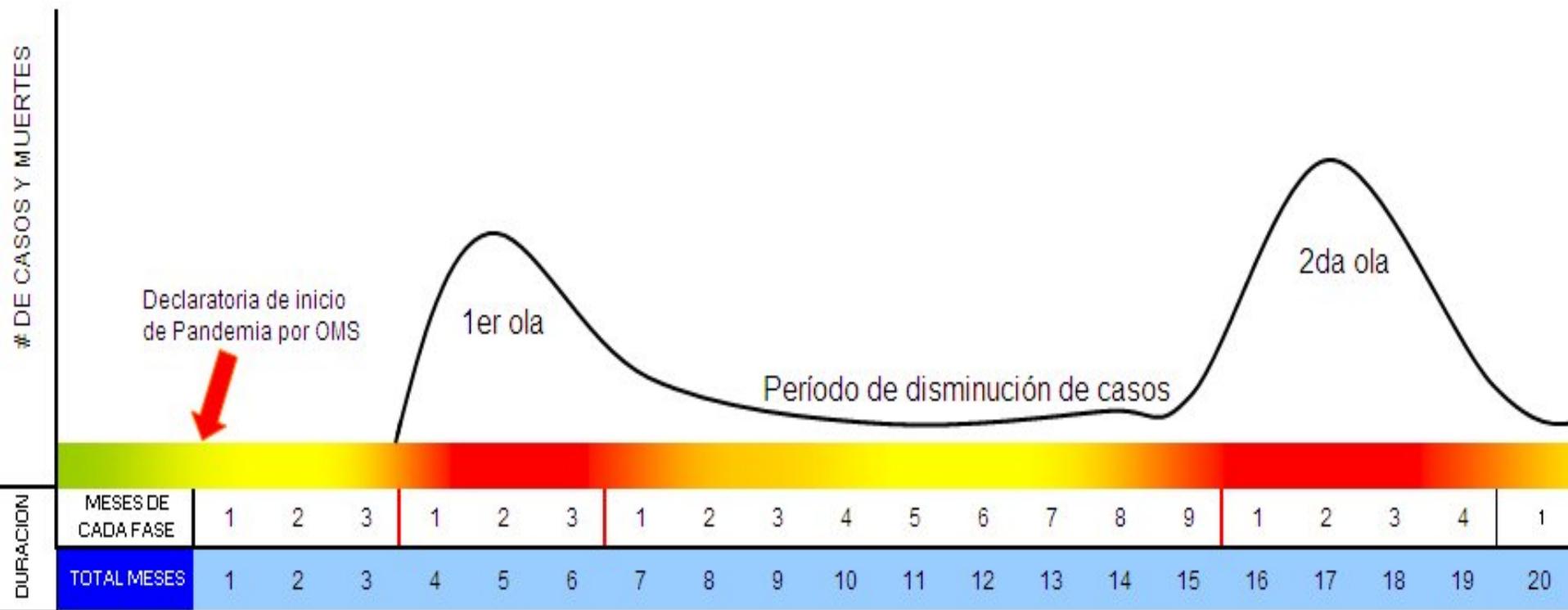


Communication and information

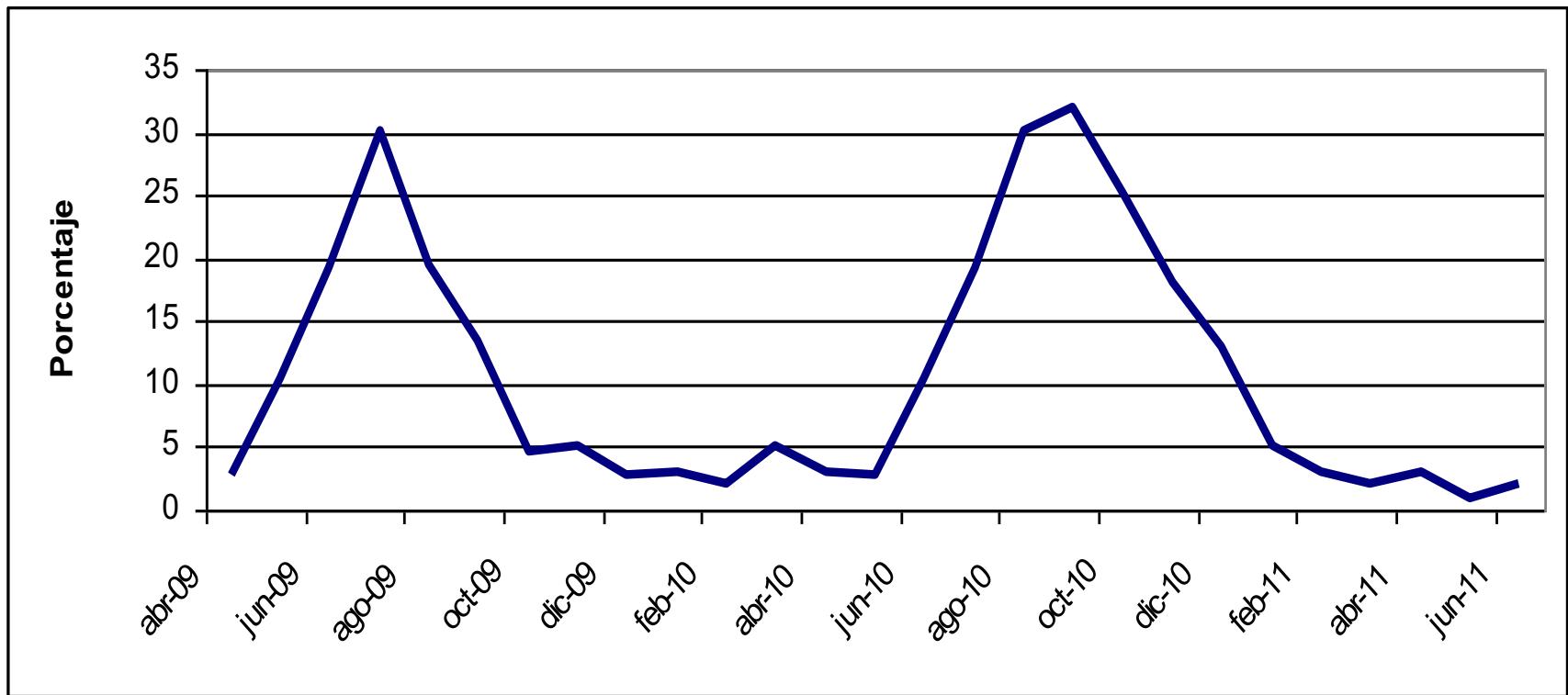
- Comunication focused on risk
 - Always keep the people informed
 - Health services must never collapse
- Only one speaking
 - Very high political level
 - Very good knowledge
 - Permanent access to media
- Transparency and accuracy in información
 - Bulletins, press conferences, interviews, forums, videoconferences, otros
- Turn out “crisis” or “ghossip”
 - Educational opportunities
- Informative materials for differente audiences
- Alliances with mass media
 - Inform and educate permanently

Perspectives and challenges

- **Pandemic wave in CR**
 - Broad bases
 - Moderate rates
 - Limited to certain geographic areas
- **Modulate the pandemic wave**
 - Keep the responde capacity of health services
 - Extend spreading time
- **Essential**
 - Be alert without panic
 - Make a change healthy habits
- **Plan step by step**
 - Appropiate decisions
 - Adapting response to the moment of the pandemia
- **Unique guideline**
 - Based in knowledge
 - Different source of data



Segunda ola inicia mayo-junio 2010



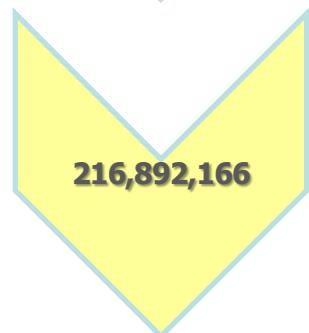
Test Costs Influenza AH1N1



- Costo análisis PCR (sin e **US\$ 24 ,851.78**)



- Costo análisis Inmunofluorescencia **US\$ 50** ₡27,917.70)



- Corte abril al 30 agosto (5 meses) (Fuente CNRV)
- 2.831 análisis PCR
- 9.116 análisis IFA
- 43,3 millones por mes **US\$ 71.600/mes**

Private Health Facilities

(al 26 de setiembre del 2009)

Establecimiento	No PCR	Monto PCR	N° IFA	Monto IFA	Total
Clínica Bíblica	15	448,436	45	652,871	1,101,307.95
Clínica Católica	36	1,076,248	177	2,567,960	3,644,208.33
Clínica Coopesaín de Tibás	14	418,540	57	826,970	1,245,511.17
Clínica Coopesalud R.L., Pavas	91	2,720,515	318	4,613,623	7,334,139.48
Clínica Coopesana	8	239,166	50	725,412	964,578.74
Clínica COOPESIBA, Barva	9	269,062	52	754,429	1,023,491.02
Clínica Jerusalén	2	59,791	6	87,049	146,841.06
Clínica Santa Ana	-	-	5	72,541	72,541
Clínica Santa Catalina	17	508,228	76	1,102,627	1,610,855
Hospital Cima	115	3,438,014	292	4,236,409	7,674,423
Laboratorio Clínico Coopesana R.L.	1	29,895	1	14,508	44,404
Laboratorio Clínico Sarchí	1	29,895	5	72,541	102,437
Laboratorio Clínico Servisalud	57	1,704,059	152	2,205,254	3,909,313
Laboratorio Clínico UCR	18	538,124	106	1,537,874	2,075,998
Laboratorio Microbiología Industrial	1	29,895	2	29,016	58,912
Los Ángeles (Santo Domingo)	1	29,895	1	14,508	44,404
TOTAL	386	11,539,771	2.044	18,860,725	31,053,367

Costo PCR	29,895.78
Costo IFA	14,508.25

**US\$ 51.600 total
(10.000/month)**

Samples for Swine Flu

Facility	%
Hospitals	69
Clínicas, EBAIS, other	31

Change of guideline:

- From risk factor to hospitalization.

Social security Health Care network ccss

Tipo	Total	Nacional	East	South	North East	%
Total	138	9	34	25	70	50,7%
Hospitals	28	6	5	5	12	42,9%
Clínicas	13	3	4	3	3	23,1%
Health Areas	97		25	17	55	56,7%

Health care network CCSS

• Week 34, 35, 36	Total: 1.284		
• Ambulatory	Total: 428	33,3%	
• Hospitalized	Total: 856	66,7%	
• Network			HNN 9,5%
• NorthEast			
– H. México			
– Ambulatory	Total: 169	39,5%	
– Hospitalized	Total: 347	40,5%	
• South			
– HSJD			
– Ambulatory	Total: 37	9,0%	
– Hospitalized	Total: 244	28,5%	
• East			
– HCG			
– Ambulatory	Total: 214	50,0%	
– Hospitalized	Total: 263	30,7%	

Vaccine

- Priorities
 - *Personal salud y equipos respuesta inmediata: policía, bomberos, fronteras.*
 - *Pregnant women – last three months*
 - *People with risk factors (6 m to 64 years)*
- Estimated: 1,8 millones (40% pob)
- Public health good
 - Regulated purchase
 - No aditional cost
- Revolving fund - PAHO
- Trying to negotiate a “benefit back” with industry
- Preparing guidelines and strategy

Lab descentralization

- Great impact
 - Time and resources
 - Packing the samples
 - Transferring samples (risk, ambulance costs)
 - Less days of hospitalization or treatment
 - Second wave (scenarios)
 - Sorting samples (high and low risk)
- **Epidemiologic surveillance**
- **National Reference Center**
 - **Quality Assurance and External performance Evaluation**

Pandemia brings opportunities

- **Improve coordination**
 - Institutions
 - Public and private sector
 - Mass media, authorities and people
- **Strengthen surveillance**
 - Neumonia and respiratory infections
- **Creating experience**
 - Sanitary alert management
 - International Health Regulation
- **Improve**
 - People with better health practices
 - Improving environmental conditions
 - Less infectious diseases in general

Muchas Gracias!!!

