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PPE usage during the early days of the H1N1 outbreak in Mexico City

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- History of the initial outbreak
- About INER
- Measures initially taken
- PPE situation
- Training program
- Lessons learned

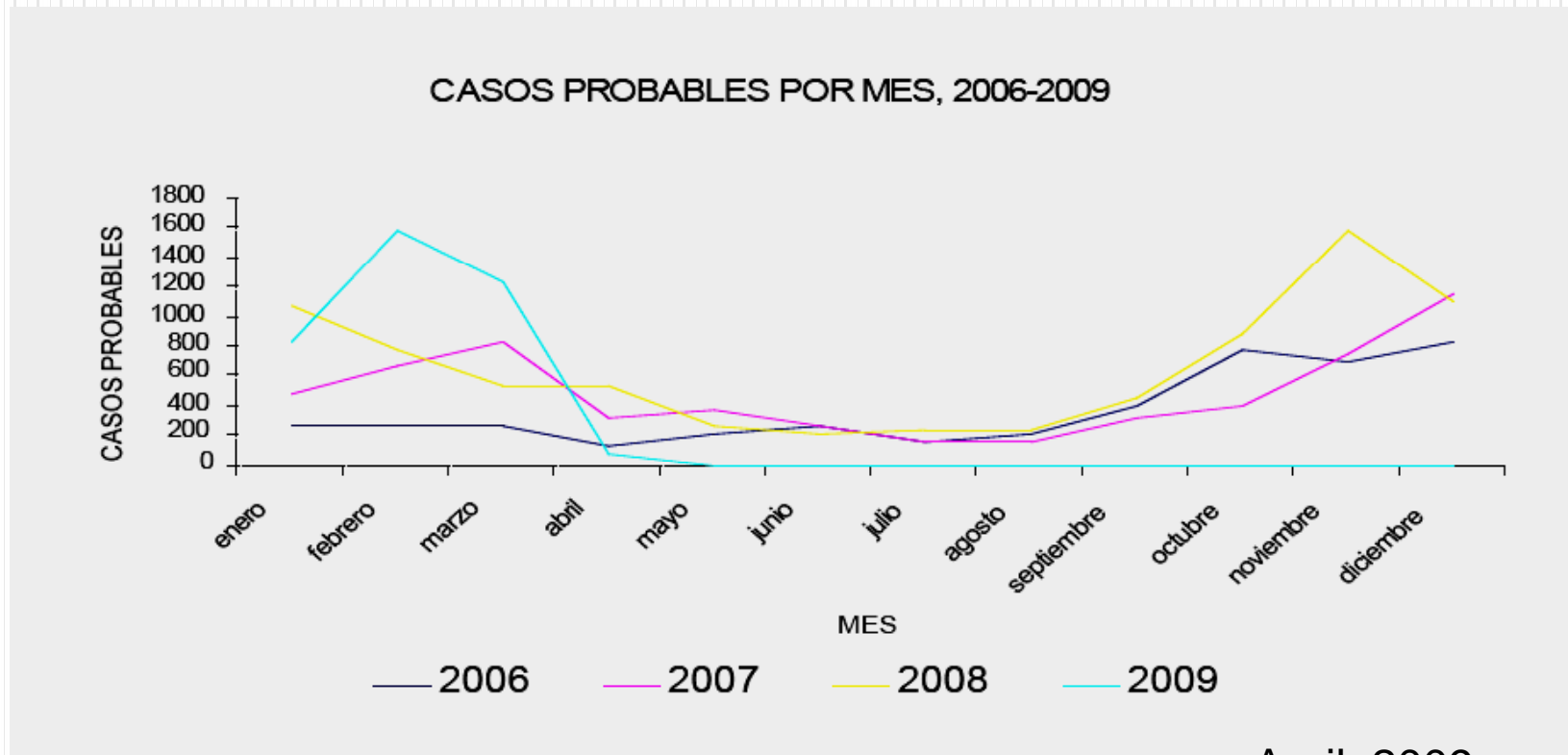


Once upon a time...

- Reported cases of **ANY** influenza in Mexico during 2008
 - Less than 200 cases
 - PPE usage not considered

Please note:
clinical personnel have
higher exposure tolerance

So, it happened...



April, 2009

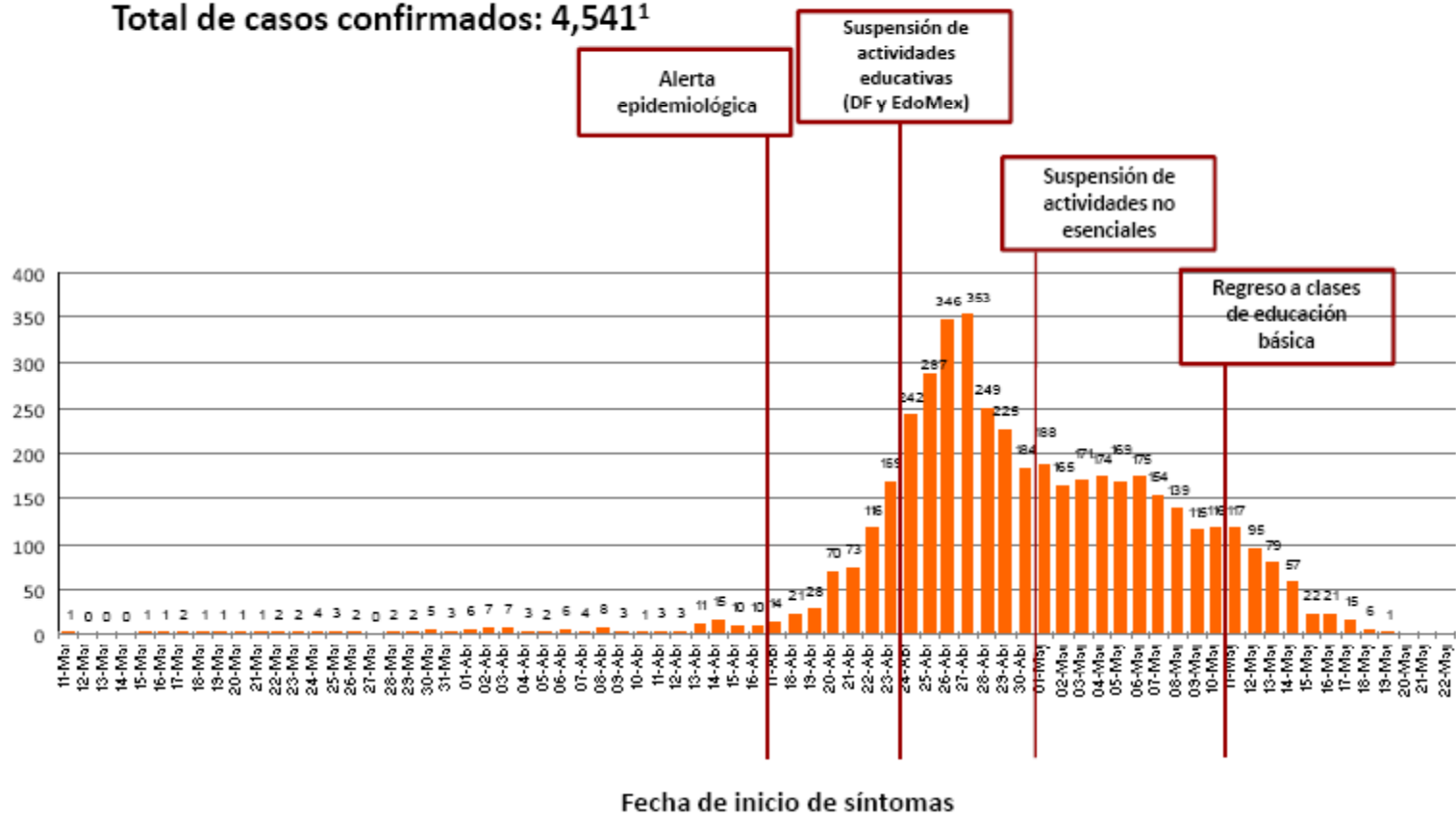
March – April 2009

- “Apparent” increase of seasonal flu cases associated with pneumonia in otherwise healthy subjects
- Localized outbreaks around the country since the beginning of the year
- Increased Epi-Surveillance
 - Swabs
 - Gloves
 - Facemask
 - Labcoat



A new virus...

Total de casos confirmados: 4,541¹



May 09

Primary measures for (H1N1)v

- (At the beginning of the epidemic)
- Handwashing or gels
- Use PPE “available”
 - Goggles, gloves, suitable respiratory protection, labcoat
 - If possible use N95
 - Gown for isolation cubicle or area
- “Use available barriers” to prevent exposure to body fluids or contaminated objects
- If N95 unavailable, cover nose and mouth with cloths and do not stay in close proximity to the patient



PPE availability
Training



**Stress
Misinformation
Conspiracy theories**

INER©09

National Institute of Respiratory Diseases - Mexico



- Third level hospital
 - 180 hospital beds
 - 6 shifts
- Research
 - Basic and clinical
- Influenza Committee
 - Formed in April
 - Made PPE available
 - Task-force for PPE training

Risk assessment

- New virus
- At the end of April it was unclear...
 - Pathogenicity?
 - Lethality?
 - Transmissibility?

seasonal H1N1

H5N1

Task force

- Planning stage April 24-26
 - Visited hospital and labs
 - Designed strategy
 - Training sessions according to risk

Hospital



Pabellón



Cubículo



- Hospital
 - General hygiene
 - Optional respiratory protection
- Critical services
 - Uniform (scrubs)
 - N95
- Patients' cubicles
 - Eye protection
 - Water-resistant gown
 - Gloves

PPE Situations

- Water-resistant gowns 1 per cubicle
 - Daily
- N95
 - No fit-testing
 - 5 days
 - Unless damaged, splashed, etc.
- Availability

- **Critical intervention**

- April 26-30

- Critical areas: ER, ICU, P5

- May 1-4

- Critical services: Clinical Lab, Microbiology, Food Services and others

- 220 people trained

- **Subcritical**

- May 5-9

- Informative sessions

- Other services

- 211 people



“How long does the virus survive?”

Virus	Survival Time	Substrate	Authors
Influenza A (PR8 strain)	>3 hours	stainless steel	Sattar <i>et al.</i> , 2006
Influenza B	48 hours	stainless steel	Bean <i>et al.</i> , 1982
Influenza A (H1N1)	72 hours	stainless steel	Bean <i>et al.</i> , 1982
Low Pathogenicity Avian Influenza	~6 days	steel	Tiwari <i>et al.</i> , 2006
Influenza A (PR8 strain)	> 3 days	cloth sheet	Edward <i>et al.</i> , 1941
Low Pathogenicity Avian Influenza	~6 days	cotton fabric	Tiwari <i>et al.</i> , 2006
Low Pathogenicity Avian Influenza	~6 days	plastic	Tiwari <i>et al.</i> , 2006
Influenza A (PR8 strain)	4 wks	glass slides	Edward <i>et al.</i> , 1941

Donations

- USA-aid
- China-aid
 - Respirators
 - Gowns
 - “Tyveks”
 - Goggles
 - Aprons

N99 Chinese respirator

福美 神盾

可变平面-腔式

FS 9901-L型 医用防护口罩

生物材料

产品特点：
 1. 性能：对 0.075µmNaCl 粒子、细菌、病毒的过滤效率 >99% 密封贴合度 >150
 2. 注意事项：
 ① 注意按使用方式使用，防止佩戴错误。
 ② 使用前应检查口罩有无破损，佩戴时不能将毛发或胡须夹在口罩内。一次性使用，用后消毒，包括破损伤后，不得使用。
 ③ 使用中如发现气阻、咳嗽和面部刺激等类似事件，应立即更换，换下的口罩应进行严格的消毒处理。
 ④ 本品为一次性用品，不可清洗重复使用。注意防潮、防压、切勿折叠、揉搓。
 ⑤ 在已知或怀疑污染区域使用后，不能重复使用。废弃的口罩应按医疗废物进行处理，不可随意丢弃。
 ⑥ 本品不适用于气溶胶物质的防护。口罩厚度优于 18% 的基础上不宜使用。
 3. 贮存要求：
 ① 应在通风干燥的环境中储存，储存温度为 -30℃~40℃，相对湿度不大于 90%。
 ② 产品储存期限不得超过 3 年。
 生产日期、密封口有效期、密封口

使用方法：
 1. 佩戴前洗手
 2. 从顶部解开
 3. 从底部解开
 4. 从侧面解开

产品型号：
 型号规格：L—大号，M—中号，S—小号
 产品型号：FS9901-L型医用防护口罩
 口罩滤材对 0.075µmNaCl 粒子过滤效率不低于 99%
 口罩滤材中的“福”、“神”字样表示开头
 产品执行标准：GB 26110-2006/YZ03-2006-2006
 产品注册证：鄂食药监注（第）字 2006 第 2640002 号
 产品许可证：鄂食药监生生产证 20060302 号
 9901 一次性使用
 使用前请仔细阅读使用说明书
 鄂美生物科技有限责任公司研发
 鄂美生物科技有限责任公司生产
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alibaba.com.cn

- May 2009
- ??????
- Help!
- ...
- Google Translator!

Training videos



Learned lessons for training

- Small groups
- At their workplace
- Confidence
- Answers



- Effective communication
- Respect, involvement
- Increase certainty
- Reduce rumor, noise

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