

# **The Kaiser Permanente Northern California Epidemiologic Experience- Novel H1N1 Outbreak Spring 2009**

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## **Kaiser Permanente Northern California**

- 3.2 million members
- 6000 physicians
- 19 medical centers
- 52 medical offices
- Integrated Health Care system

## Kaiser Permanente H1N1 Influenza Response Timeline April 23 to May 5, 2009

### September 2001 to Present

The National Healthcare Continuity Management (HCM) was created immediately following September 11<sup>th</sup>, and the subsequent anthrax attacks. HCM has developed numerous programs and products including the Kaiser Permanente Pandemic Influenza Plan and associated member and staff educational materials, infection control guidelines and critical product strategies.

"With the exception of Kaiser Permanente, we have been unable to locate other healthcare specific entities that have addressed operational sustainability in a standardized or systematic format."  
*Letter from the US Department of Homeland Security to Skip Skivington asking him to speak to the Joint Advisory Research and Development/ Modeling, Simulation & Analysis Work Group (JAWG) on May 12, 2009 in Washington, DC*

Thursday, April 23, 2009	Friday, April 24, 2009	Saturday, April 25, 2009	Sunday, April 26, 2009	Monday, April 27, 2009	Tuesday, April 28, 2009
HCM alerted National and Regional executive leadership and the HCM National Work Group chairs	Began daily status reports to executive leadership Programwide	Communications, People, and Supply Chain work groups engaged throughout the weekend	Supply Chain Work Group began assessment of critical supplies and shortages	HCM continued to function as the connection point, clearing house, and "the glue" for all activated Kaiser Permanente command centers	People Work Group published business travel guidelines in light of H1N1 outbreak
Work Groups consist of stakeholders from all areas of the program including: Physicians, Pharmacists, Labor Unions, Laboratories, Emergency Planners, Nursing, Legal, Communicators & HR	Clinical Work Group began daily meetings to assess and plan response  Clinical Work Group recommended activating pandemic influenza plans and review of respiratory protection plans	In collaboration with Member Services, Clinical and Communications Work Groups developed and distributed clinical guidelines and call center scripts throughout the weekend	All work groups collaborated on a general H1N1 "Send All" email sent by Bernard Tyson Programwide the following day  John August and KPCU fully engaged	All work groups collaborated and published guidelines for use and preservation of anti-viral medications	HCM recommended that all Regional and Medical Center command centers activate regardless of patient impact  Supply Chain Work Group began reallocating critical supplies to meet identified shortages

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## Kaiser Permanente H1N1 Influenza Response Timeline April 23 to May 5, 2009

Wednesday, April 29, 2009	Thursday, April 30, 2009	Friday, May 1, 2009	Saturday, May 2, 2009	Sunday, May 3, 2009	Monday, May 4, 2009	Tuesday, May 5, 2009
First Kaiser Permanente members confirmed with H1N1 virus	Some Kaiser Permanente Medical Centers began receiving government stockpiles of Tamiflu and N95 respirators	People Work Group developed "Send All" email from Paul Records regarding the Kaiser Permanente response, personal precautions, hand washing, and travel	Began developing guidelines for the use and conservation of N95 respirators due to reports of low inventories	In collaboration with Member Services, Clinical and Communications Work Groups published visitor and in-patient H1N1 signage and visitor handouts	HealthConnect Teams developed "smartphrases" for H1N1 guidelines	Several portable air filtration systems were deployed to a Medical Center in order to create needed additional isolation rooms
Medical Centers continued to respond to patient surges in various creative ways to include triage tents, designated flu entrances, and reactivating seasonal flu clinics	In collaboration with Member Services, Clinical and Communications Work Groups continued distribution of H1N1 literature in multiple languages	In collaboration with Member Services, Clinical and Communications Work Groups developed and sent outgoing member messages via kp.org	Appointment and Advice Call Center calls and clinic visits began to decrease, but remained above seasonal average	Clinical Work Group disseminated guidelines for the use and conservation of N95 respirators due to reports of low inventories	Some Medical Centers began to return to normal operations where patient and call volumes decreased to close to normal levels	Schools began to reopen
New Confirmed Kaiser Permanente H1N1 Cases: <b>2</b>	New Confirmed Kaiser Permanente H1N1 Cases: <b>4</b>	New Confirmed Kaiser Permanente H1N1 Cases: <b>4</b>	New Confirmed Kaiser Permanente H1N1 Cases: <b>0</b>	New Confirmed Kaiser Permanente H1N1 Cases: <b>9</b>	New Confirmed Kaiser Permanente H1N1 Cases: <b>8</b>	New Confirmed Kaiser Permanente H1N1 Cases: <b>2</b>

As of May 7, 2009:  
 Total Confirmed Kaiser Permanente H1N1 Cases: **30**  
 Total H1N1 Related Hospitalizations: **32**  
 Total Deaths: **0**

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## National Response

- Clinical Workgroup
  - Chaired by VP for operations procurement and clinical lead of National Healthcare Continuity Management group
  - Daily telephone conferences at 1200 PST

## Regional response

- Regional emergency operations
- Daily phone conferences at 3pm PST
- Presentations by :
  - Chair of ID Chiefs
  - Director of Regional Call Center
  - Associate Executive Director for Primary Care
  - Hospital Operations
  - Pharmacy
  - Media Relations

## Local Response

- Local EOC activated
- Meetings at 830 am and 4pm PST
- Representatives of local EOC participate in regional 3pm call
- Hospital and outpatient operations discussed
- Composition of local meeting similar to regional meeting

## Patient Demand

- Single Point of Service for Pediatrics and Medicine- most facilities used tents
  - All personnel fit tested and following OSHA standards
  - Happened at medical centers primarily
  - Care at smaller clinics different standard

## Kaiser Permanente H1N1 Influenza Response Photos



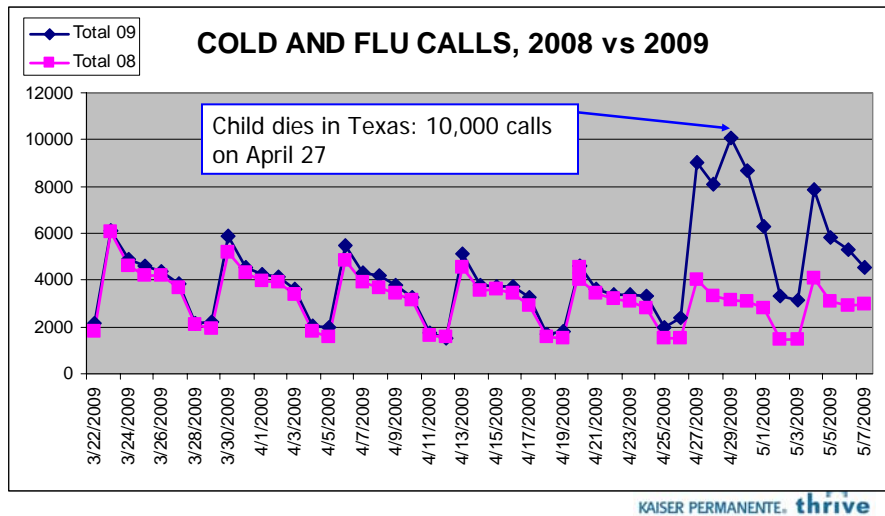
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## Call Center (AACC) Response to Demand

- Flu scripts for teleservice representatives who book to MD appt, message MD or transfer to RN
- Protocols for RNs who provide advice, book to MD appt or local TAV, transfer to Call Center MD
- Handle 50,000 calls of all types every day
- 6,900 cold and flu calls on the highest day in 2008-09 season
- By April 24, calls were down to 3,300/day

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## Cold and flu calls increased



## Coordinated Response

- AACC Leadership met daily with
  - Regional Emergency Operations Team
  - Regional MGAs and Infectious Disease physicians
  - Program-wide Clinical Workgroup
  - Program-wide Communications Team
- AACC leads met twice daily to plan day-to-day operations

## H1N1 Response

- Protocols – refined so only people w/ fever >102 were seen via TAV or appointment
- Daily updates to TSRs, RNs and MDs about H1N1 spread, school closures, testing, etc.
- Communicated to callers
  - If you are well, no need to be tested
  - If you are mildly ill, stay at home, self-care advice given
  - If you have severe symptoms, book to MD in clinic or Point of Care area

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## H1N1 Response

- April 29 and May 4 – Flu Hotline messages
- April 28 and May 4 – upfront AACC option for H1N1 flu information
- Once local Point of Entry sites established, directed appropriate patients to them, thereby keeping them away from Medicine, Pedi and OB clinics

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## Outcomes

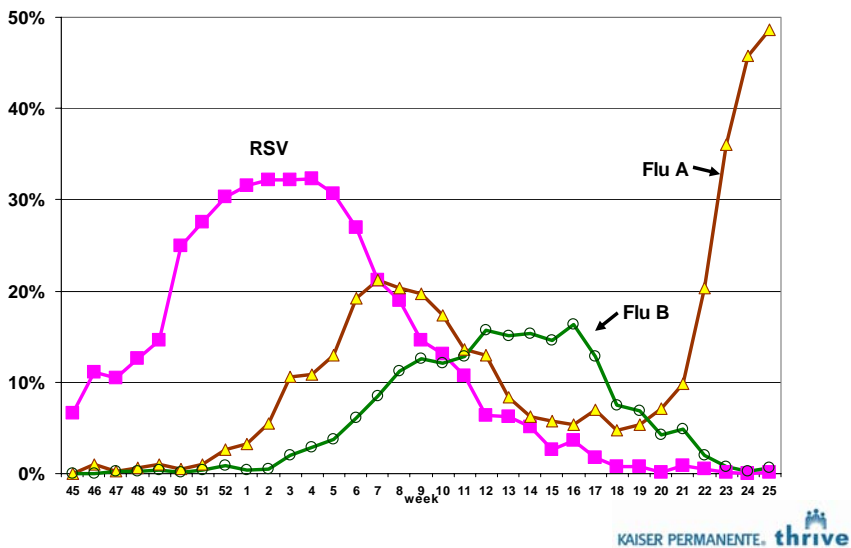
- Majority of calls were handled within the AACC
  - Message to MD, TAV appt or advice given
  - 17% of pedi cold & flu calls resulted in an in-person appt at the facility.
  - 12% of adult cold and flu calls resulted in an in-person appt at the facility
  - Data for May 4 when 3,369 pedi and 4,521 adult calls were handled

## Surveillance

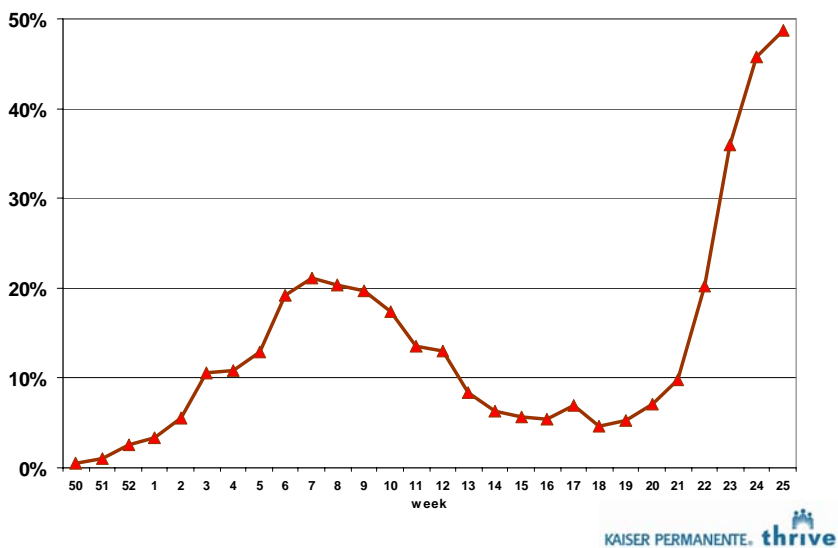
- KPNC Regional Lab- processed all specimens-
  - Commercially available PCR test for Influenza A, B ,and RSV
- All test identified as Influenza A sent to State Lab



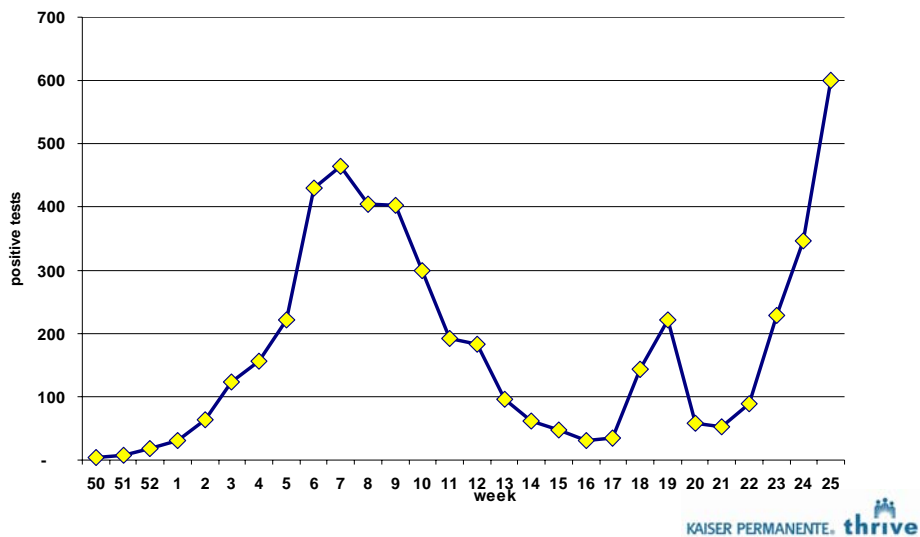
## Respiratory Viral Testing, Percent Positive KP NCR, 2008-09



## Influenza A, Percent Positive KP NCR 2008-09



## Influenza A, Total Number of Positive Tests KP NCR 2008-09



## Antivirals

- Modest Tamiflu supply in regional pharmacy ( very little of national stockpile releases to KPNC- varied by county)
- Due to uncertainty about severity of disease and supply on medication conservative approach to Tamiflu use adopted- By ID approval only
- If required would have liberalized prescribing to include TTP ( Telephone Treatment Protocol at Call center

## What Worked

- KPNC's Integrated System
- Small group of key leaders made the major decisions
  - Critical ID/ Infection control decisions made by Chair of ID Chiefs
- Conserved resources- Tamiflu, N-95 masks

## What Didn't Work- KPNC

- Response was too slow
- Overall level of preparedness inadequate
  - Disaster preparedness work focused on inpatient setting too much- few outpatient personnel N-95 fit tested
  - Equipment insufficient or inadequate- tent at Walnut Creek leaked
  - EOCs concentrated on inpatient and outpatient service provided at medical centers

## How the CDC/ State/ Counties Helped

Communication- in general concise and effective

Basically Consistent message delivered by all levels of public health

## Problems in CDC/ State/ Counties Response

- Overstated value and supply of Tamiflu
- Still unrealistic expectations on use of infection control measures – more based on OSHA and protection of hospital personnel( i.e. N-95 masks)- outpatients, especially MD offices ignored
- Testing system overwhelmed
- Social distancing not emphasized in addition to school closures
- Once clear disease not as virulent it took too long to “ramp down”