



Improving Influenza Immunization Rates for High Risk Groups

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KAISER PERMANENTE

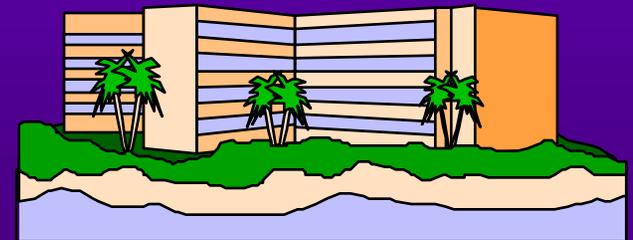
Southern California



Kaiser Permanente - Comprehensive Health Care

Southern California

- For 3.2 million members and 30,000 births/year
- At 12 hospital/medical centers and 92 outpatient clinics
- By over 3,500 providers





Using Two Computerized Systems to Improve Care

- KITS, the Kaiser Permanente Immunization Tracking System (immunization register)
- Health Connect (computerized medical charting system)



KITS: Kaiser Immunization Tracking System

- Computerized Recording and Tracking of Immunizations & Skin Tests
- Single Integrated Patient Profile
- Centralized Data Accessible from any Clinical Area in Southern California





KITS Goals -

- Improve Immunization Rates for ALL Members/Patients
- Documentation of Adverse Events
- Statistical Reporting : HEDIS, *ad hoc*
- Support Vaccine Research Studies
- Participate in the Development of Community-Based Immunization Registries





How Much Data is in KITS Now?

- **33+ Million Inoculations**
- **4.0+ Million Skin Tests**





How is KITS used to improve immunizations?

- **KITS is a tool which by itself it has limited ability to improve immunization rates.**
- **KITS can be used to**
 - ***find patients who are behind in their immunizations and should be notified to come in (“Outreach”).
 - ***identify patients who are behind in their immunizations as they register for their appointment (“Inreach” or provider reminder).



Health Connect (Epicare)

- Currently being installed in all Kaiser Permanente facilities nationwide; hospitals, clinics, ER's, etc.
- Complete automated charting system including physician and nurses notes, laboratory results, x-rays, prescriptions, etc.



Health Connect and KITS

- ▼ The Health Connect immunization module has not been completely upgraded to the KITS standard. Therefore:
 - Immunizations are ordered in Health Connect
 - Immunization administration is entered into KITS
 - KITS data is automatically ported to the Health Connect patient chart.



Intervention: Ambulatory Care

- Age-related immunization deficiencies print on the patient's visit form at check-in and/or appear on Health Connect "Snapshot" screen.
- KITS, clinic charts and Health Connect are reviewed as needed.
- High Risk patients contacted and encouraged to receive their immunizations; appointments made.
- Immunizations may be ordered by the provider, or for some vaccines and ages, given in shot clinic under a *policy and procedure protocol* without patient specific order.



Intervention Quality Assurance

- Monthly audits by immunization coordinator
 - Out-patients: visit forms, KITS, charts, and HC
 - In-patients: CMSS forms, KITS, charts and HC
- Results of deficiencies presented to individual providers and department administrators.



Background-the Problem

Many Kaiser Permanente members in high risk groups have not received the “flu shot”:

- Persons over 50 years of age
- Children (6-59 months of age)
- Persons who have (are):
 - Asthma
 - Coronary Artery Disease
 - Diabetes
 - COPD
 - Chronic kidney disease
 - Cystic fibrosis
 - Pregnant



Pre-Study Data (prior to 2005)

Influenza immunization rates:

- ▼ All ages: 22%
- ▼ Adults 65 and older 64%
- ▼ Children 6 – 24 months old 37%



Flu Immunization System Challenges

- 2005: Shortage of vaccine
- 2006: Shortage of some vaccines
Thimerosal-free legislation
Recommended children's age changed to
6 months-59 months
- 2007: Ample supply, no media warnings
about shortage or "epidemics"
All trimesters of pregnancy included



Region-Wide Interventions

- **2005 Flu Season**
 - **Postcards sent to all high risk groups**
 - **Inreach Provider Reminders**
 - **Telephone hot-line for information**
- **2006**
 - **Postcards (several languages) sent to high risk groups**
 - **Inreach Provider Reminders**
 - **Telephone hot-line for information**
 - **Personalized letters sent to some high risk groups**



2005 and 2006 All Ages Flu Immunizations

Medical Centers	2005 Percent Immunized	2006 Percent Immunized
One	20	18
Two	26	25
Three	19	19
Four	21	20
Five	20	20
Six	25	26
Seven	19	18
Eight	22	21
Nine	25	23
Ten	18	16
Eleven	39	37
Twelve	20	20
TOTAL	23	21



2005 Medical Center-Specific Flu Immunizations, High Risk Groups

Medical Center	65 and older	Asthma	Coronary Artery Disease	Congestive Heart Failure	Chronic Kidney Disease	Diabetes
One	61	34	40	45	36	37
Two	72	37	52	57	50	45
Three	74	33	44	42	40	37
Four	67	33	47	53	41	39
Five	57	28	39	42	33	35
Six	57	39	53	66	51	46
Seven	66	28	36	39	36	34
Eight	56	31	44	47	38	42
Nine	65	33	45	53	45	41
Ten	69	26	33	36	28	29
Eleven	53	51	62	72	57	58
Twelve	86	n/a.	n/a	n/a	n/a	67
Total	64	34	45	49	41	43



2005 Medical Center Specific Flu Immunizations, Pediatric Groups

Medical Center	All Pediatrics	Peds Asthma	Other Peds ICD's
One	45	40	30
Two	50	51	42
Three	29	35	31
Four	38	30	47
Five	33	30	27
Six	57	60	96
Seven	36	33	36
Eight	36	36	26
Nine	44	40	32
Ten	36	33	35
Eleven	74	53	54
Twelve	27	n/a	24
Total	38	38	38



2006 Medical Center Specific Flu Immunizations, Pediatric Groups

Medical Center	All Pediatrics	Peds Asthma	Other Peds ICD's
One	34	32	35
Two	58	50	48
Three	37	40	29
Four	34	29	52
Five	31	30	28
Six	51	43	98
Seven	53	31	37
Eight	33	31	20
Nine	37	36	28
Ten	36	29	34
Eleven	60	57	55
Twelve	36	31	33
Total	39	35	39



Influenza Immunizations, Three year comparisons

Age group	2004	2005	2006
Adults 65 and over	64	66	60
Pediatrics*	37	38	39
All	22	23	21

**2004-5 : 6 months-24 months*

2006: 6 months – 59 months



Characteristics of High and Low Medical Centers

➤ High

- Higher education level
- Higher income level
- Less diverse membership
- Drive-through clinics

➤ Low

- Lower Education level
- Lower income level
- More diverse membership
- Construction on site, more remote parking
- No full-time permanent immunization coordinator



Why did patients not receive their flu immunizations in 2006?

- “I’m healthy, don’t need any shots”
- “I don’t believe in shots”
- “Shots make you sick”
- “I don’t like needles”
- “Shots are bad for your heart”
- “I (or my child) gets sick 2 days after the flu shot every year.”
- (Parents) Child has a routine appointment for February, and I don’t need to bring him/her in before just for a flu shot.
- Provider attitude



Region-Wide Interventions

2007

- **Postcards sent to all high risk groups**
- **Inreach Provider Reminders**
- **Telephone hot-line for information**
- **Personalized letters sent to some high risk groups**
- **Telephone calls to high risk groups 2 weeks into flu clinic season (currently in progress)**



Specific Observations 3 weeks into 2007 Flu Clinic Season

- Turn-out for immunizations to date is approximately 66% of last year's.
- No media statements as to "shortages", because there is an abundant supply.
- No media coverage as to possible epidemics, outbreaks, etc.



What now?

- More emphasis on patient education
- Added provider education
- California declination form for providers who do not personally receive flu immunization
- Other ideas?



The Future?



The goal should not be to just collect and exchange quality data, but to help our health care providers do a good job... in other words, the real goal is

Quality Patient Care!

