



From Email to Video: Changes in Healthcare

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Case Study

- ▶ Cold and Influenza season challenges:
 - ▶ High census (inpatient and outpatient)
 - ▶ staffing
- ▶ From a patient perspective: Now vs later
- ▶ Evolution of communication:
 - ▶ In person > telephone > email > video visit
 - ▶ Paper notes > paper chart > Electronic Medical Record
 - ▶ Small data > “Big Data” > Forecasting ?

IF technology has advanced....How do we optimize new tech & patient care?

Patient contact options: Email and Telephone or Video visits



The screenshot shows a medical software interface. On the left is a navigation menu with folders: CC Charts (1), CC Results (3), Open Charts, Pt Email (circled in red), Pt Messages, Referral/Dr Advice Requests, Results (7), Unsent Letters, Remote In Basket Preview, CC Results (1), Pt Messages, and Staff Messages (1). The main area is titled 'Folder Summary' and contains sections for 'Attached In Baskets', 'Opened Patients', and 'Folder Summary - In Basket'. The 'Folder Summary - In Basket' section includes a table with the following data:

Folder	Count	Folder
CC Charts	1 / 1	Pt Email
CC Results	3 / 3	Pt Messages
Open Charts	0 / 2	Referral/Dr Advice R

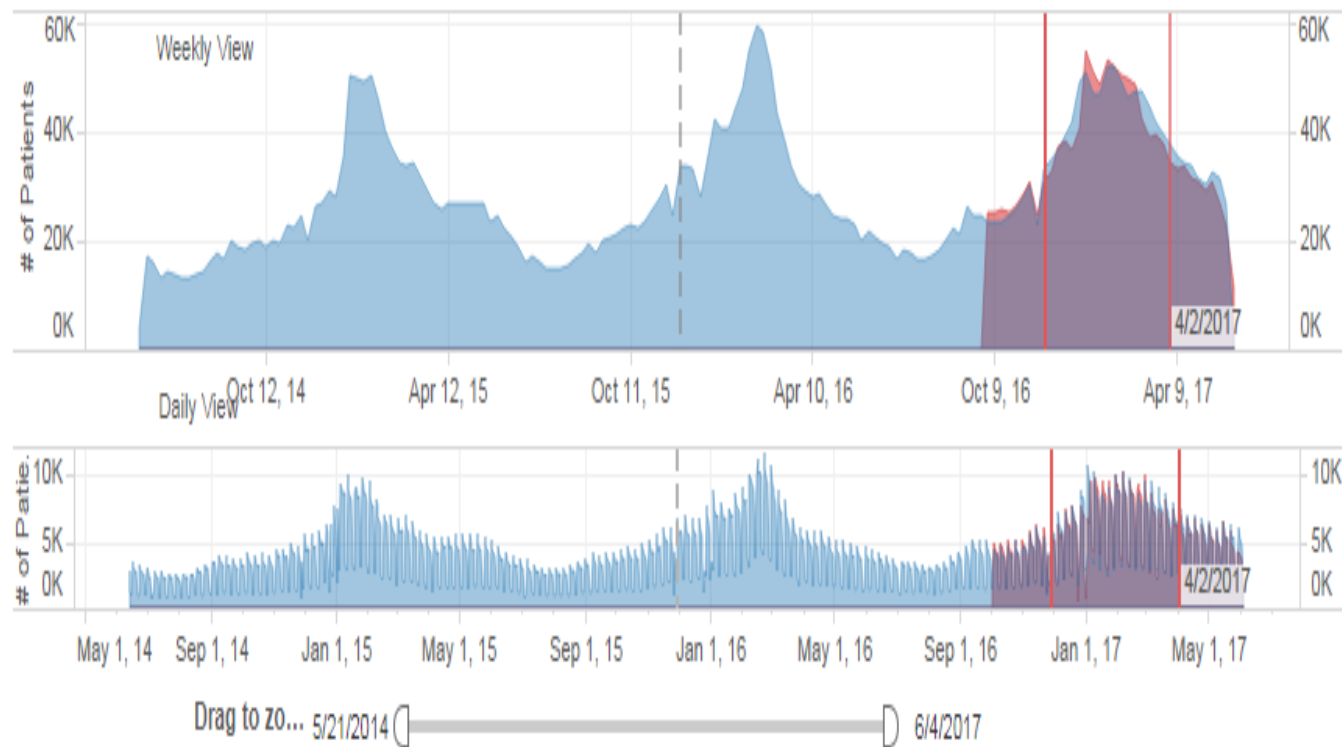
Below the table is a button labeled 'Open Charts'.

The screenshot shows the 'My Doctor Online' website for The Permanente Medical Group. The header includes a search bar, language selection (English), and navigation links for 'Our Doctors', 'Staying Healthy', and 'Salud en español'. The main content area features a large banner for 'Video Visits' with the text 'See your doctor from wherever you are' and a 'Join your visit' button. Below this is a section titled 'New to Video Visits?' with a video player showing a doctor and a patient, and a 'Watch now' link. At the bottom, there are links for 'Equipment setup' (with subtext 'Make sure your camera, microphone,') and 'FAQs and help' (with subtext 'Learn about video visits, how to').

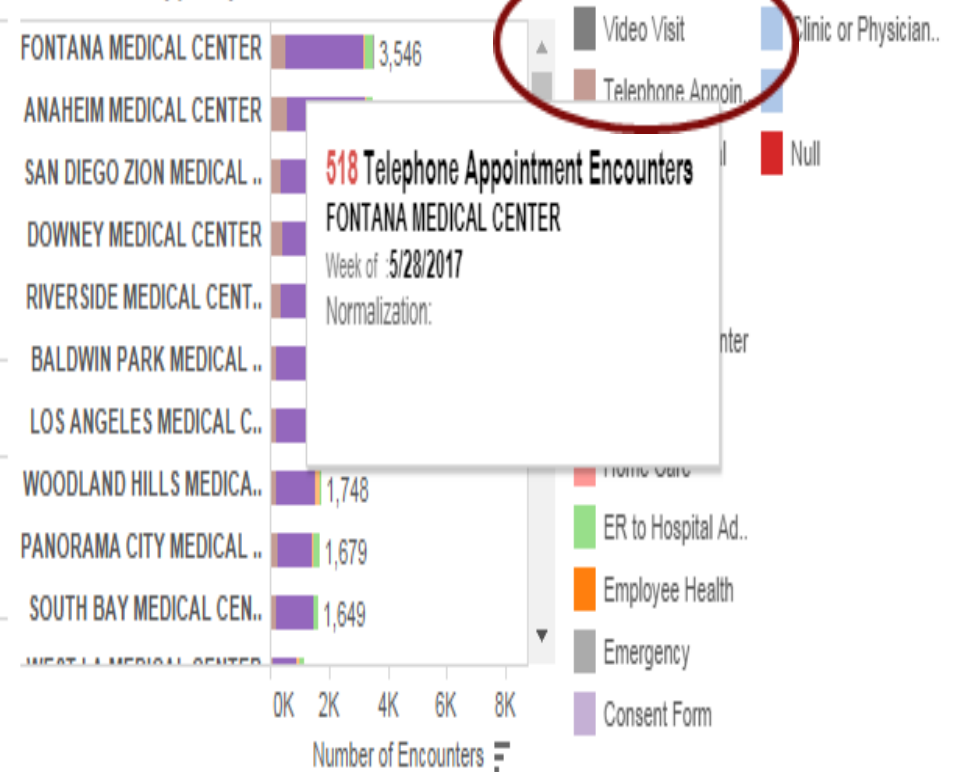
Scenario: Cold/Flu season 2016

Navigation: (1) Use the "Encounter Week" navigation bar to view the historical patient encounters. (2) Select individual medical centers to see additional details below.

ILI Encounter - Flu Peak Season W/ Forecast



Encounter Type by Medical Centers



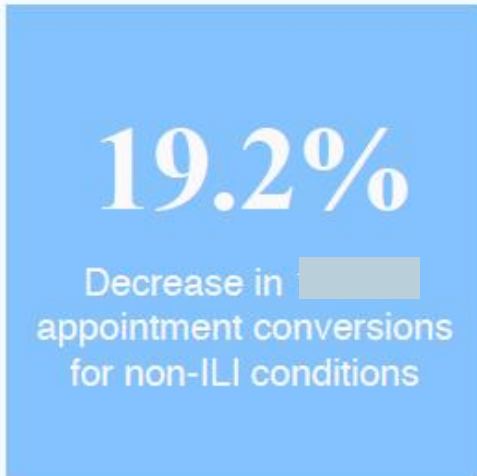
Question: impact of email/telephone/video visits

- ▶ Pilot program: during “high peak” cold/flu season
- ▶ Dedicated cold/flu clinic
 - ▶ Email to MDs: advice vs MDs re-direct to cold/flu hotline or clinic
 - ▶ Advice RN: 48 hour and s/s guide -> telephone/video visit vs. in person
 - ▶ What happened ...?

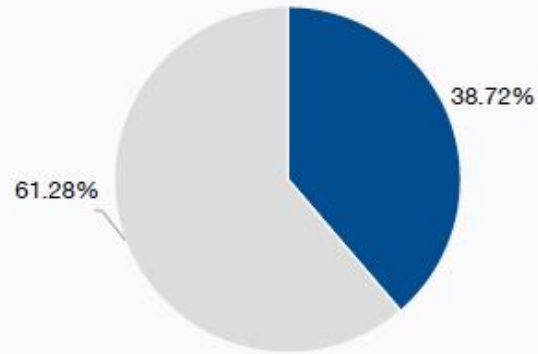
Cold & Flu Clinic

West LA Medical Center

Decreased conversions to shorter appointments during “surge” situations

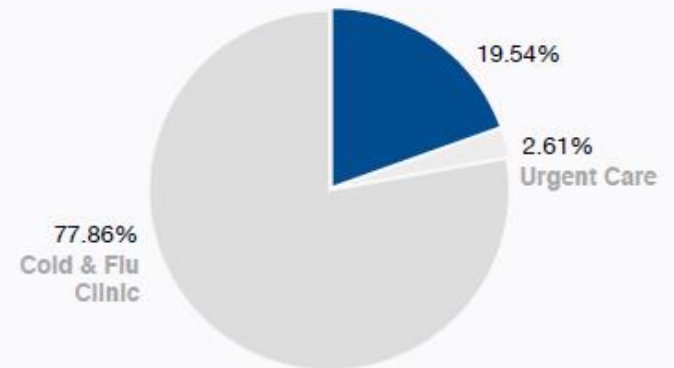


Last season, 38.72% of the appointment conversions were **non-ILI**



Sample size: 625

This season, 19.54% of the appointments were **non-ILI**



Sample size: 998

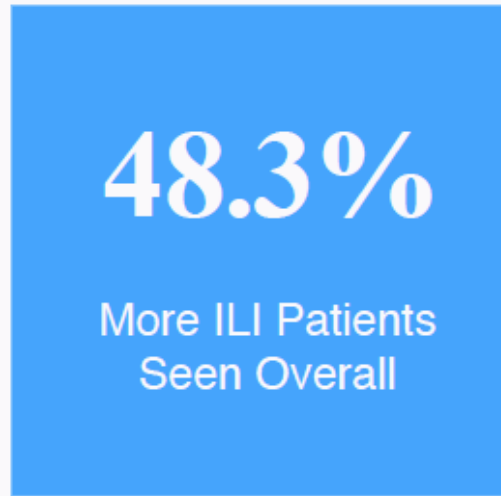
Figure 4 – Comparison only takes into account appointment conversions during Cold & Flu Clinic hours and equivalent shifts from last season



Cold & Flu Clinic

West LA Medical Center

Increased throughput and access by preferentially converting more ILI appointments to 10 minutes rather than non-ILI UC visits



Data Time Ranges
Last Year: 12/1/15 – 3/18/16
Current Year: 11/29/16 – 3/17/17

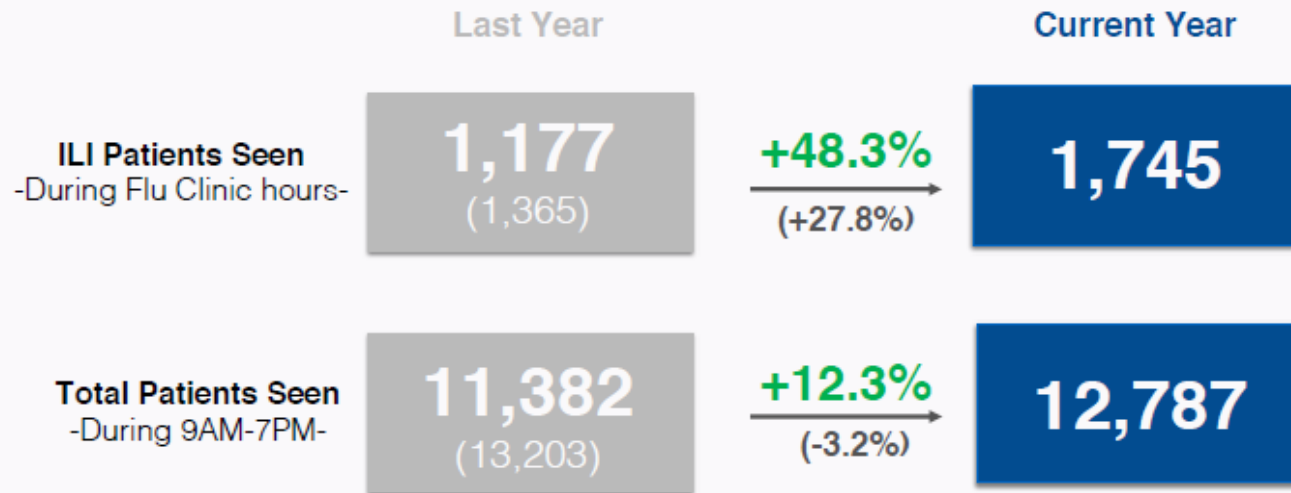


Figure 5 – Values indicated in parentheses () have been adjusted by 1.16x to account for membership growth from last to current year.

Cold & Flu Clinic

West LA Medical Center

Increased patient satisfaction by **decreasing wait times** in the Urgent Care

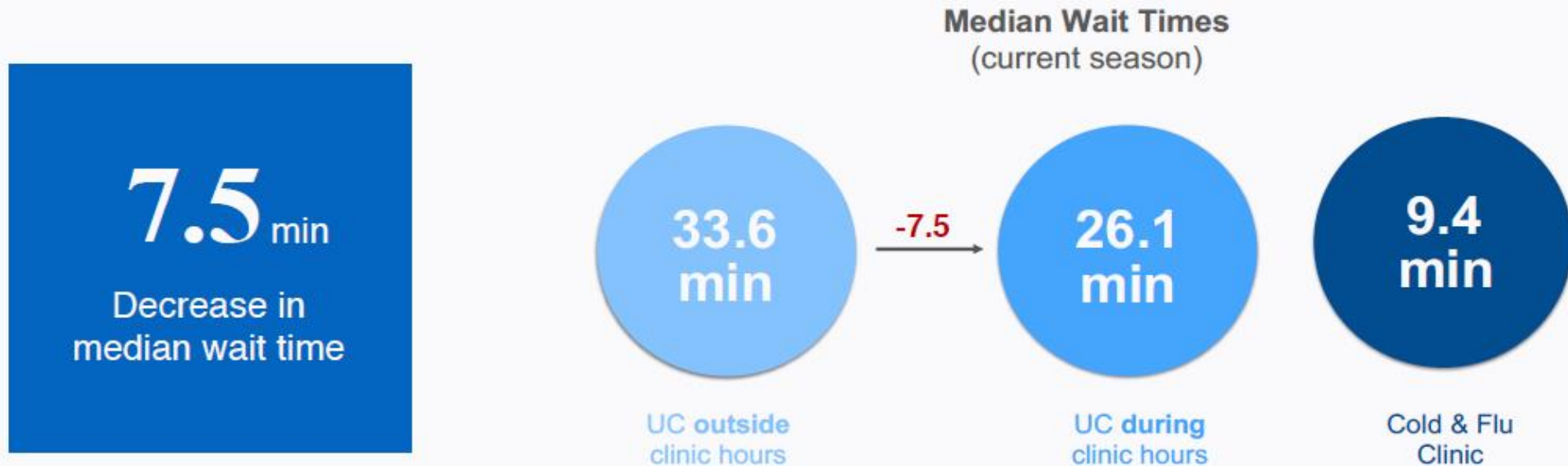
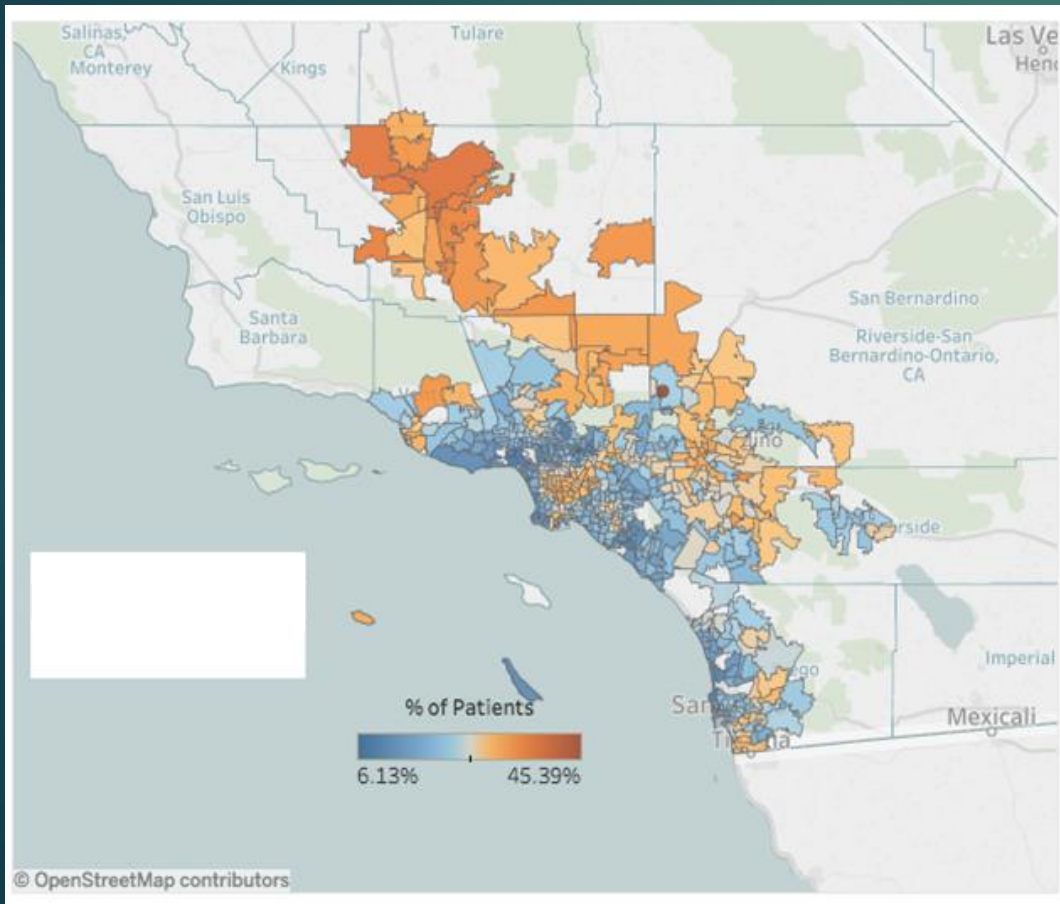


Figure 6 – Comparison only takes into account wait time during current flu season. All categories are mutually exclusive. Difference in wait times during vs outside clinic hours is significant ($p < 0.001$)

How?

- ▶ Blocked off: 4 telephone/video visits in each half-day clinic
- ▶ Emails and telephone calls RE: cold/flu symptoms routed to:
 - ▶ RN advice hotline -> OTC or
Video/Telephone MD visit or
Cold/Flu clinic
- ▶ - 3.2% patients seen in person compared to prior year (adjusted for member growth)
 - ▶ Decrease in person wait time
 - ▶ Increase total patients taken care of for cold/flu
 - ▶ Decreased need to shorten in person visit appointment time

Using new Tech to optimize resources: targeted patient outreach



“Heat mapping” diseases :who do we use “email blasts”, telephone and video visits?

- ▶ BMI (obesity)
- ▶ COPD /asthma flares
- ▶ STD risk
- ▶ Domestic violence
- ▶ Zika, Ebola

(increase in patient questions = new ways to deliver answers)

How would we measure success?

- ▶ Patient waiting times; patients seen vs prior year; patient safety
- ▶ Start slow: EMR or billing data; situational awareness/staffing/ comp

ILI Encounter Heat Map **2015-2016** Season

Weekday of Enc..	July	August	September	October	November	December	January	February	March	April	May	June
Sunday	184	221	249	294	431	418	619	698	452	347	402	283
Monday	528	743	590	859	1,339	1,211	1,392	2,256	1,190	936	987	728
Tuesday	494	491	743	734	791	1,240	1,334	1,730	1,434	918	952	610
Wednesday	694	550	836	772	769	1,355	1,250	1,649	1,447	891	750	862
Thursday	637	515	588	832	625	1,067	1,222	1,561	1,393	818	655	687
Friday	661	502	578	850	813	809	1,329	1,621	1,058	1,025	668	615
Saturday	193	261	270	422	379	447	632	811	529	387	314	279

Helpful Tips

- ▶ Pick one disease
 - ▶ Resource heavy
 - ▶ Seasonal or high penetrance
 - ▶ Non-procedural
- ▶ Calculate your baseline desired metric
 - ▶ If email/telephone/video -> what is your goal?
 - ▶ Goal: increase appointments/patients seen vs “touched” vs other
- ▶ 1 intervention
 - ▶ Diversion clinic vs. blocked off time vs. other staff (email)
 - ▶ Email blast , telephone visit ?
 - ▶ Video visits, example: ? 3% of dept visits are video/telephone/email
 - ▶ Simple syndromic symptoms only (sore throat, rhinorrhea; rashes/derm)
 - ▶ Public health topics: obesity; HBA1C; med adherence; wheelchair; TG

Implementation considerations

- ▶ Training : telephone , video*
- ▶ ICD
- ▶ Setup: advice nurse, primary care MDs (emails) education on pilot
- ▶ Roll out:
 - ▶ Education first
 - ▶ Start small
 - ▶ One (or a few small) department
 - ▶ Set goals
 - ▶ Get feedback (provider/patients) → ? reset
 - ▶ spread

The patient must not get lost in the rush for new technology, rather, new technology should help find the patient.

