

Using IVR Technology to Expand Clinical Capacity and Improve the Quality of Life for Older, Chronically Ill Patients

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Reducing Hospital Admissions, Readmissions, Emergency Department Visits

- **Rochelle is a 72 yo lady with COPD, her care manager followed up with the patient because the IVR survey reported worsening symptoms. The nurse called the patient to confirm condition change.**
- **Rochelle's GP was informed of her COPD exacerbation; doctor instructed the patient to initiate emergency prescriptions that prevented an unnecessary ED/UCC visit, hospital admission.**

Easing Informal Caregiver Burden

- **Donald is a 67 yo gentleman with COPD who lives with his daughter, his primary caregiver. After missing an IVR call, the care coordinator called the patient.**
- **He was lying down and “not feeling good.” The care manager confirmed that the patient remains in “Green Zone,” however, he has experienced increased weakness. The patient received an expedited doctor appointment.**

Patients Staying in their Chosen Residence

- **Edith is an 84 yo lady with COPD who lives alone. Her daughter is the primary caregiver who works during the day and sleeps at the patient's home at night.**
- **Edith became more aware of her symptoms and notifies the comprehensive care clinic (CCC) when she is not feeling well. Edith has avoided the ED 3x. She continues to remain stable in her home with her daughter.**

HealthCare Partners Medical Group

Physician-owned, Serving Southern California,
USA, Integrated, Globally Capitated, Full Risk.

Facilities/Physicians

- 66 Staff Model Facilities (Primary Care, Urgent Care, Walk-In, Ambulatory Surgery, Pharmacy)
- 753 Independent Physician Associate (IPA) Medical Offices

Physicians

- 235 Employed
- 975 IPA
- 290 Employed specialists
- ~578,000 lives

~479,000 commercial, ~99,000 senior



COPD Burden: 3rd leading cause of death by 2020.

- **Disease Registry of COPD Patients**
 - 2009: 16,642**
 - 2011: 20,357**
- **Economic burden of COPD is significant.**
- **Greater than \$1,000 per member, per month**
- **Inpatient hospitalization accounts for ~50% of all costs**
- **Consistently one of the top 10 ranked for inpatient admissions (#8 in 2008, #4 in 2010); top 20 for readmissions.**

Interventions/Operations/Systemization

- **Initial face-to-face visit for patient assessment and education.**
- **Regular telephonic outreach for patient self-management education and evaluation of symptoms.**
- **Facilitates health delivery access and earlier intervention.**
- **Yellow and red zone action plans.**

Patient Monitoring Process

Telehealth survey call to patient's home phone on Mondays and Thursdays. First call at noon, if that call is missed, second call at 7:00pm is sent.

Patients respond to the survey by pressing 1, 2 or 3 on their telephone keypad.

Using the National Jewish zones of symptoms as a reference, patients gauge their COPD with the green, yellow or red zones.

"Change Greater Than 2" indicates the patient has an increase in their survey score since last report. Nurse will follow-up with these patients for possible COPD "flare-up."

"Answered 3 for Any Question" indicates patient is in the red zone with possible "flare-up" or exacerbation. Nurse will contact these patients as priority.

Vendor collects data after patients complete survey. Four different reports of the survey results are e-mailed to care team.

"Incomplete or No Survey Taken" lists patients who did not respond to survey. The care coordinator will contact these patients for follow-up. If a patient has a question or COPD concern, an e-mail 'alert' is sent to the nurse for intervention.

"Trending Report" offers a longitudinal overview of all the patient survey responses, legends, and demographical information.

Care managers can expand clinical capacity for patients who have symptom exacerbation.

Optimizing Telehealth Operations

Detecting Exacerbations Sooner.

- **Not intrusive: brief calls that engage patients.**
- **Avoid timely and complicated set up: patient uses their own phone**
- **Convenient: calls occur either at noon with a back-up call early evening**
- **Provides critical and actionable information for clinicians.**
- **Survey captures yellow zone or red zone symptoms earlier.**

Actionable Monitoring

Patient Trending Home | My Subscriptions | Help

Month:
 Region:
 Status:
View Report

100% Find | Next

PATIENT NAME	04/10/11 Sun	04/12/11 Tue	04/14/11 Thu	04/17/11 Sun	04/19/11 Tue	04/21/11 Thu	04/24/11 Sun	04/26/11 Tue	04/28/11 Thu	05/01/11 Sun	05/03/11 Tue	05/05/11 Thu
	9	12	13	12	12	13	14	12	12	12	11	11
	N/A	N/A	9	17	16	17	17	17	17	17	17	17
	10	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	0	0	15	0	14	12	0	0	17	18	0	14
	10	10	10	10	10	10	10	10	10	10	10	10
	10	11	0	11	0	11	9	10	10	10	11	9
	14	14	12	0	13	0	0	0	0	0	0	0
	13	13	9	9	0	9	9	0	9	9	12	10
	13	13	13	15	13	14	0	14	14	0	14	0
	0	10	0	0	0	12	0	12	0	0	0	0
	17	20	19	0	19	17	0	0	16	0	0	14
	12	12	12	13	12	12	12	12	13	12	14	13
	12	0	12	0	12	14	0	14	13	13	15	13

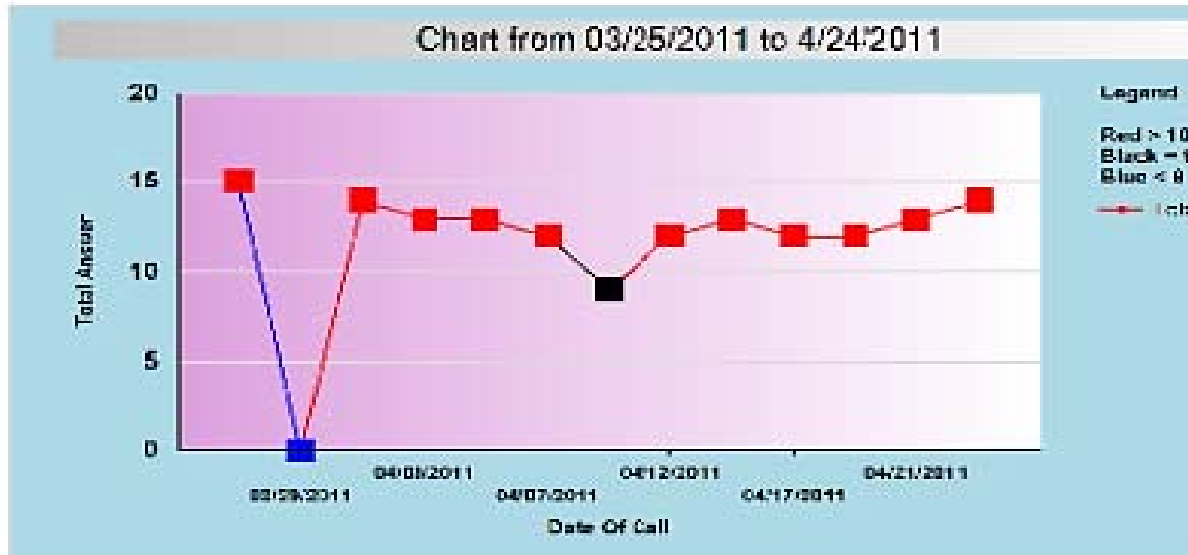
Longitudinal Trending

4/25/2011 1:51:36 PM

Patient Trending Chart

Chart from 03/25/2011 to 4/24/2011

Patient ID:			
Patient Name:			
Address:			
Phone:			
Doctor:			
Region:			
Begin Date:	03/27/2011	End Date:	N/A



Operational Refinement/Learning Lessons

- **Changed calling frequency/timing for patient surveys; now 2 calls, or 1 call weekly for patients.**
- **Patients more inclined to answer survey calls; less of an intrusion.**
- **Enhances self-management during an exacerbation and implementation of the COPD action plan.**
- **Patient and staff Surveys**

Expanding Clinical Capacity

- IVR Technology
 - Expand the clinical capacity of our nurses; expected Case Loads ~200 patients; 5% triggering follow up.
 - Supports the administration of emergency prescriptions; patients recognize worsening symptoms and are taking action
- Clinicians' Reports
 - Reports are easy to read/actionable; “We know which symptoms the patient is experiencing.”
 - Frees-up time and allows clinicians to focus on patients who are more at-risk.

Enhancing Activation and Quality of Life

- **Did not substitute a nurse call or face-to-face meetings with patients; only supplemented that activity.**
 - **“Calls were easy”**
 - **“Did not take too much time”**
 - **“Helped me become more involved in my healthcare”**
- **Encourages patients to monitor their own symptoms; it has been more effective than a paper handout regarding zones of symptoms.**
- **Prior to IVR, patients hesitant to contact nurse.**

“Right Care at the Right Time.”

- **Patient/family caregivers are “captains of the ship.”**
- **Knowing what they don’t know. Asking questions.**
- **Patients/family need to know how to monitor and treat symptom exacerbation, thereby being able to remain at their chosen residence.**
- **Reinforces the need for patients to self-manage their own condition with appropriate support that expands clinical capacity of the staff.**

Operational Details Ad Infinitum

- **How do we further enhance patient/family activation to improve care, improve health, and reduce costs?**
- **How does one ramp-up diffusion of telehealth throughout a large, integrated health organization?**
- **Do we use behavioral economics to enhance adherence to treatment?**
- **What return on investment studies have been developed to support patient monitoring programs to senior management?**

Future Plans and Diffusion

- **Return on investment analysis, evaluate clinical metrics, senior executive management “buy-in.”**
- **Scalable to other geographic sites.**
- **Expand to include CHF.**
- **White papers, case studies (“what went wrong”), publications, and presentations.**

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Team:

- **Patients and their informal caregivers**
- **Chronic Disease Management Nurses**
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