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U T M : R P M

C A S E S T U D I E S

2017-2020

Dr. Warren J. Wexelman, M.D., NYU-Langone Health

Case Study January 2018-2020

Patient I. M. is a 83-year-old hypertensive, diabetic white male who several years ago had an acute anterior wall myocardial infarction. During his acute MI, he underwent cardiac catherization and two stents were deployed to his left anterior descending coronary artery. The patient had a post MI ejection fraction of 38%.

Over the next several years, the patient's left ventricular function diminished significantly. He was placed on numerous medications, including beta blockers, ace inhibitors, nitrates, diuretics and spironolactone. The patient also underwent implantation of an auto implantable cardio defibrillator. He did well for a period of two years until his ejection fraction diminished to approximately 18%. He was evaluated by the congestive heart failure team and because of his age and renal function, which had been deteriorating, he was not deemed to be a candidate for LVAD or transplantation. It was agreed-upon by all of the consultants on the case that he be managed medically.

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The patient developed plural effusions and required frequent thoracentesis by interventional radiology. He had multiple admissions to the hospital within a several months. He was started on Entresto, but unfortunately he could not tolerate it secondary to his blood pressure falling and his renal function worsening. The patient ended up with multiple hospitalizations secondary to increased fluid retention and Pulmonary Edema.

Because of the need for strict monitoring of fluid intake and output, the patient was begun on remote patient monitoring. Every morning, while using the application on his phone, the patient would send his weight, blood pressure, pulse and oxygen saturation. Through this we were able to manage his weight-keeping his dry weight at 136 pounds.

During the course of the seven months, the patient had several episodes of 2 pound weight gain in the course of a 24 hour period. During the transmission he noted that his symptoms have worsened and that he was short of breath. When I got these transmissions, I gave him a very high dose of furosemide orally. The patient's weight return to his baseline value. He never required hospitalization.

Clearly RPM played an important role, and continues to play a vital role, in keeping this patient out of the hospital, and allowing him to function to the best of his ability with his severe cardiomyopathy.

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Case Study March 2019-2020

Patient R.C. is a 67-year old Hispanic female who presented to the office for consultation complaining of significant shortness of breath at rest and on exertion. The patient denied any history of hypertension or diabetes and had no prior history of coronary artery disease or congestive heart failure.

On further questioning, it was found that the patient smoked three packs of unfiltered cigarettes a day for the last 51 years. She had never been worked up or treated for chronic obstructive lung disease. Chest x-ray done showed hyperinflation of the lungs with evidence of COPD. Pulmonary function test showed severe obstruction and restriction. The patient was placed on a regimen of inhaled corticosteroids as well as Bronchodilator therapy. She was also placed in a pulmonary rehab program.

Over the next year, the patient's pulmonary function began to deteriorate- especially with any viral respiratory tract infection. Over the course of three months she has been hospitalized twice and intubated once, for a prolonged period of time. The patient would leave the hospital, go to

rehab and do well while being supervised. However, after a period of 2 to 3 weeks at home she would be readmitted to the hospital with exacerbation of COPD. On two further occasions she required re-intubation.

Four months ago it was decided that the patient would begin an intensive program of RPM, mainly concentrating on her oxygen saturation. On multiple occasions the patient's oxygen saturation went from 90% to 83%. During those times an alert was generated which allowed us to do vigorous pulmonary rehab at home, as well as more intensive inhaled bronchodilator therapy. Because of the vigorous program of RPM with intensive monitoring of her oxygen saturation, sometimes several times a day, the patient has only had one hospital admission (due to an upper respiratory tract infection), and has remained extubated for close to a year now. The only difference in her treatment was initiation of RPM, allowing intensive therapy at the moments it was needed the most. Had we not been able to monitor her it from a distance, I'm sure the results would've been a disaster.

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Case Study – 2016-Present

UTM's RPM succeeding for two years at Columbia Memorial Health

Dr. Ronald Pope, Vice President of Medical Services, Care Centers for Columbia Memorial Health initiated a remote patient monitoring system two years ago. Program coordinator, Tatiana Schoelles, affirms "it has been a real success for our discharged patients."

The program, based on Dr. Pope's vision, was subsequently created and designed by UTM Healthcare, LLC and UThisMe, LLC. Marketed as UTM:RPM, it is a patient and case manager-friendly app for iOS or Android. It is used by case managers and their patients who have been discharged from the hospital who have chronic conditions such as CHF and COPD. UTM:RPM alerts case managers if any vital signs (blood pressure, weight, pulse oximetry) need medical attention.

"Our patients feel more involved with their own healthcare. This is reflected in their continued use of the biometric devices and the way our case managers shepherd the app." Ms. Schoelles cites a case of an elderly alcoholic patient with COPD who had previously been non-compliant with discharge instructions. This individual has "come around" and has even made major lifestyle changes over the past year. "We've been able to significantly reduce emergency department returns and hospital readmissions," Ms. Schoelles states.

Part of the success of the app, lies in the informal questions such as "Do you want someone to call you today?" and "Do you feel worse than yesterday?" that give the patients reassurance that a human is "behind the scenes" and will call them if they desire or if there is something wrong with their vitals.

Dr. Ronald Pope, Columbia Memorial Health

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According to Dr. Pope, “We’ve definitely seen a decrease in Emergency Department visits post discharge and lower levels of readmissions.” There have been fifty (mostly elderly) patients monitored on the system. Alerts are sent if weight, blood pressure or oximeter readings change beyond the gradients set for each individual. “We have six case managers that are notified daily if anyone requests a call or if any readings warrant intervention,” Ms. Schoelles states.

Following some chronic patients for the past two years has demonstrated positive changes in the pattern of admission before and after using UTM:RPM

Patient Prior to Kit Admissions for Manageable Conditions	**Post Kit Admissions for Manageable Conditions**		Percent Change
A	1	0	100%
B	7	1	85.7%
C	3	1	66.6%
D	4	2	50%
E	6	1	83.3%

Note: Small number (n) does not demonstrate statistical significance. However, results similar to these were typical over a two-year period.

Case Study: Thomas Dinardi

House Calls: CMH’s high-tech ‘House Calls’ helping local veteran

Eli Fanning For Columbia-Greene Media

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Thomas Dinardi was making frequent visits to the Columbia Memorial Emergency Room due to worsening congestive heart failure and shortness of breath.

After an ER visit in March 2017, CMH Cardiologist Dr. Barton Schoenfeld enrolled Dinardi in a new Remote Patient Monitoring kit that includes an iPhone, bluetooth-based biometric devices and a clinical case manager.

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The goal is to use the monitoring system to improve the health of patients like Dinardi and avoid costly and time- consuming ER visits.

Contributed photo

Thomas Dinardi works with the Remote Patient Monitoring system at his home in Hudson with case manager Kelly Meus, RN, at right, and his daughter, Sandra Merritt. The system includes an iPhone and Bluetooth-based medical tools.

So far, it's working for Dinardi, who is a 93-year-old Hudson resident and U.S. Army veteran who served in World War II. And, CMH is planning to roll out even more kits in the next few weeks.

"When I started the program, I couldn't walk to the mailbox and back. Now, I can," said Dinardi, who has achieved consistent weight loss and improved mobility since starting the program.

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Remote Patient Monitoring, or RPM, was created in a partnership between CMH and YouThisMe — a Hudson-based company that is known by the abbreviation UTM. It was designed for patients with common chronic conditions such as congestive heart failure, myocardial infarction (heart attack), COPD (chronic obstructive pulmonary disease), diabetes and pneumonia.

Here is how the RPM system works:

Upon discharge from the ER or hospital, a patient is given an iPhone pre-loaded with the RPM app and several wireless biometric devices. The devices include a Bluetooth-based scale, blood pressure cuff and pulse oximeter. A provider enters acceptable data ranges into a patient monitoring dashboard before issuing the kit.

From home, the patient electronically sends vital information each day including pulse/pulse oximetry, blood pressure and weight. They also answer three simple health-related questions: Do you feel better?, How is your breathing? and Do you want a call?

A case manager reviews the patient data on a smartphone or desktop computer and intervenes if an automated alert shows data outside the preset vitals range or if the patient requests a call.

Case managers like Kelly Meus, RN, use the patient data dashboard to monitor patients. It's like a high-tech version of house call visits doctors once made, she said.

"Patients like Mr. Dinardi often go home feeling overwhelmed. But, the Remote Patient Monitoring System gives them a sense of empowerment and makes them feel like they have a blueprint to follow for better health," Meus said.

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When Dinardi got started, his daughter Sandra Merritt created a set of flashcards to help use the iPhone and medical equipment. The cards helped and Dinardi become more consistent with daily reporting.

With a good sense of humor, Dinardi acknowledged he has witnessed huge changes in medical care since his days as a U.S. Army medical tech aboard Merchant Marine hospital ships in the Mediterranean during the 1940s. The ships treated wounded soldiers from the battlefield and ferried them back to the United States.

“So with this new system, if nobody calls me at home, that means I’m doing something right,” Dinardi joked.

Dr. Ronald J. Pope is the Medical Director of CMH Care Centers and a board-certified family physician who helped create the RPM system. He believes hospitals across the nation may end up using similar systems in order to reduce readmission costs and meet federal government directives.

“About 20 percent of all hospital or ER patients are readmitted within 30 days on a national scale,” Pope said. “Many patients don’t recognize deterioration in their symptoms and don’t ask for help until they are back in the hospital. With the RPM system, we can identify symptoms much earlier and intervene to help patients.”

Pope and his team of support staff and case managers plan to begin offering the kits in the next few weeks and hope to have 50 or more in action by the end of 2017.

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Case Study: Pilot with Somml Connex in Albany Medical Center

FOR IMMEDIATE RELEASE

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UTM Healthcare Remote Patient Monitoring System Improves Health Outcomes in Pilot Program, Expands to Albany Medical Center

HUDSON, N.Y. (Jan. XX, 2020) – After a successful pilot at a smaller hospital, mobile health technology company UTM Healthcare, LLC announced that its remote patient monitoring (RPM) solution is part of a technology pilot at Albany Medical Center aimed at ensuring a secure, seamless connection of health care data and communication between patients and providers.

Somml Health, whose Connex software provides real time patient information to patients' families and caregivers, has partnered with CDPHP, a health plan, in launching a pilot at Albany Medical Center. This platform will include the UTM:RPM system that allows patients to take vital signs at home using a smartphone and Bluetooth-enabled biometric devices and to send the data to clinical staff via a secure app.

UTM Healthcare also recently partnered with another health care system in the region, Columbia Memorial Health, on a pilot program that has produced positive results among discharged patients utilizing the UTM:RPM system in connection with case managers.

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"The opportunity to scale UTM:RPM to this larger, academic medical center is tremendous, and we look forward to helping keep patients with significant medical conditions, such as heart disease and chronic obstructive pulmonary disease, out of the hospital," said Seth Lachterman, a partner and co-founder of UTM Healthcare and its parent, YouThisMe.

The Columbia Memorial study cohort of five elderly patients had 21 hospital admissions for manageable conditions. After the intervention, there were five such admissions – a 76 percent reduction. "We've definitely seen a decrease in emergency department visits post-discharge and lower levels of readmission," said Dr. Ronald Pope, Vice President of Medical Services, Care Centers at Columbia Memorial Health. The pilot at Columbia Memorial has been expanded to include 50 patients.

The CDPHP pilot with Somml Connex is expected to target between 100 and 200 patients.

"Our patients feel more involved with their own healthcare. This is reflected in their continued use of the biometric devices and the way our case managers shepherd the app," said Pope.

UTM:RPM is a seamless, HIPAA-compliant, simple-to-use remote patient monitoring system that enables hospitals and health systems to remotely manage common chronic conditions such as congestive heart failure, myocardial infarction (heart attack), COPD, diabetes and pneumonia.

About UTM Healthcare

UTM Healthcare LLC is a wholly owned subsidiary of UThisMe, LLC (YouThisMe), developer of a seamless, secure, HIPAA-compliant, and simple-to-use remote patient monitoring system that allows patients to remain in their homes while giving providers essential information for managing chronic conditions and avoiding hospital readmissions. For more information, visit www.utmhealthcare.com.

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