Maximizing Healthcare Efficiency: How Deviceless Remote Patient Monitoring Saved a Physician-owned Practice $1.5 Million

April 24th, 2024

VBCExhibitHall.com

Educational Webinar Series

Agenda

This session will explore how population health leaders can work to reduce avoidable ED utilization using integrated patient engagement strategies:

- Identify specific, actionable strategies to increase proactive, clinically-relevant patient engagement
- Understand the role of RPM for supporting mental health and common comorbidities to deliver whole-patient care
- Examine quantitative outcomes: operational efficiencies, clinical results, and patient satisfaction

Nicole Krenik, BSN, RN, PHN- RN, Clinical Manager for Care Management, Mankato Clinic

Katie Dessner, LPN
CareSignal Care Manager, Mankato Clinic

Shelley Davis, MSN, RNC, CCM, Vice President of Clinical Strategy, Lightbeam Health Solutions

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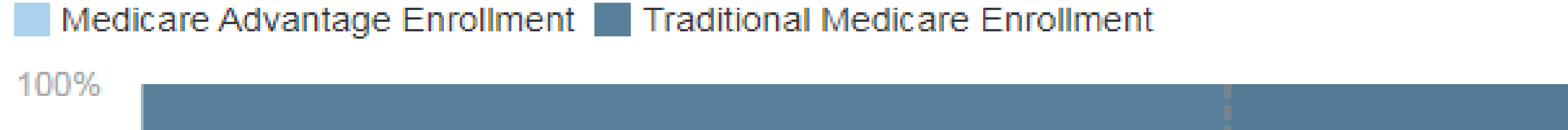
National Trends

Value-based Care Growth

Figure 2

Medicare Advantage and Traditional Medicare Enrollment, Past and Projected



SOURCE: KFF analysis Medicare Chronic Conditions (CCW) Data Warehouse from 5 percent of beneficiaries, 2010-2016; CCW data from 20 percent of beneficiaries, 2017-2020; and Medicare Enrollment Dashboard 2021-2023. Enrollment numbers from March of the respective year. Projections for 2023 to 2033 are from the May Congressional Budget Office (CBO) Medicare Baseline for 2023. • PNG

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Population Health Rising-risk Strategy

Success in value-based care requires proactive management of rising-risk patient populations

Care Management Only Focused on High-Risk Patients Will Not Bend Cost Curve

High-Risk
5% of population

Each year, 1 in 5 rising-risk patients become expensive, high-risk patients.[1]

"Our findings may also reflect fundamental challenges with the strategy of targeting super utilizers: **many patients whose medical costs are high today will not be as high in the future**."[2]

Rising-Risk
20% of population

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Mental Health Comorbidities Drive Higher Costs

Comorbidity Risk

- **24%**
  - Patients with diabetes have a 24% increased risk of developing depression
- **32%**
  - Patients with depression have a 32% increased risk of developing diabetes

Comorbidity Costs

- **2-4.5x**
  - Total costs for patients with diabetes and depression are 2–4.5 times higher than patients who are not depressed
- **$2,100**
  - Diabetic patients with depressive symptoms had total annual costs that were over $2,100 higher compared to diabetic patients without depressive symptoms
- **$1,550-$3,300**
  - Depressed women showed adjusted annual cardiovascular costs $1,550 to $3,300 higher than nondepressed group

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Mankato Clinic Background

About Mankato Clinic

- 190 Providers (90 Physicians & 100 APP's)
- 11 clinic locations in 5 communities
- Specialty outreach to an additional 8 communities
- Primary care services offered at 5 locations
- Over 30 specialties offered
- 850 employees
- 790,000 clinic visits
- 330,000 lab tests
- 35,000 imaging studies
- 800 OB Deliveries

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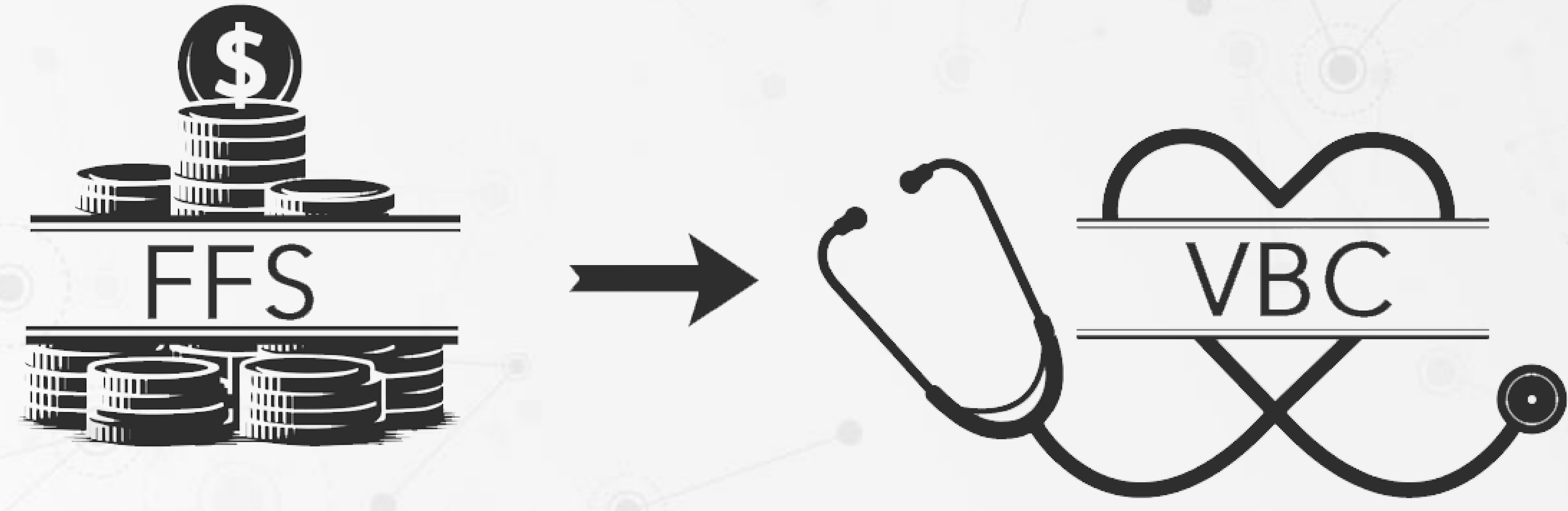
Moving from FFS to Value-based Care

How do we confidently transition to VBC when fee-for-service (FFS) is still our primary source of revenue?

- To bridge the two worlds, we are prioritizing strategies such as growing chronic care management (CCM) billing and automated tech such as Deviceless Remote Patient Monitoring (RPM). CCM & RPM strategies programs can be mutually beneficial



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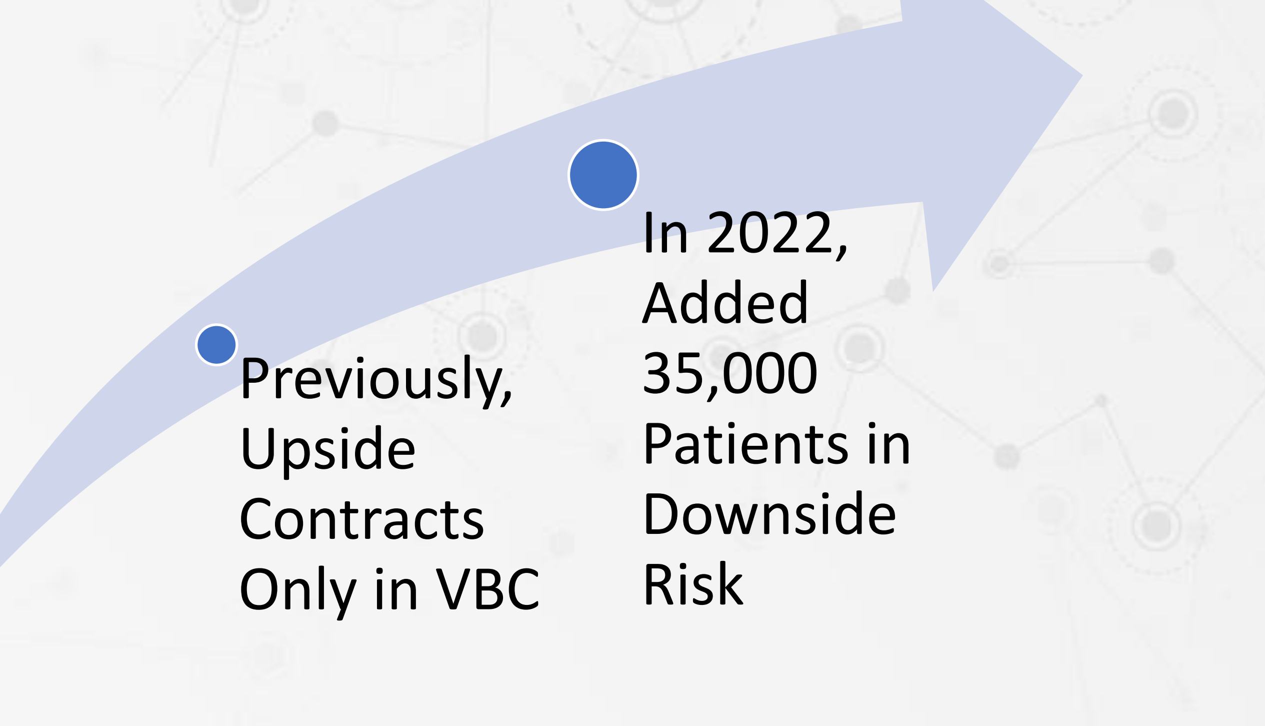
Higher Stakes with Downside Risk



- Limited additional resources, financially unsustainable to grow care team
- We need to **improve care team efficiency** to support at-risk patients and reduce avoidable utilization

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Solution & Workflow

Goals of Partnership

Establish a scalable, proactive chronic care management strategy to bolster longitudinal care for Mankato Clinic's high and rising-risk, Medicare and Medicaid patient populations

- **Goals to Succeed in FFS & VBC**
  - Increase chronic care management enrollments and instances billed per month = (FFS Value)
  - Reduce avoidable utilization = (VBC Value)
  - Scale care management to reach more patients = (Efficiency)

Financial Outcome:
Increase CCM Billing & Shared Savings Upside

Patient Impact:
Improve Quality & Reduce Utilization

Action:
Grow CCM & RPM Enrollment

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Deviceless Remote Patient Monitoring

Transform care management from manual outbound outreach to automated inbound insights with Lightbeam's Deviceless RPM™, CareSignal

- **No new devices required**
  No apps, downloads, or passwords
- **Accessible for all patients**
  Promote and elevate health equity
- **Clinically-Validated**
  13+ Peer Reviewed Publications
- **Engagement powered by AI**
  Predict and prevent drop-off

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Portfolio & Proven Results

Chronic Conditions

- Heart Failure
- COPD
- Diabetes
- Hypertension
- Asthma

Behavioral Health

- Depression
- Anxiety
- Substance Use
- Opioid Management
- Caregiver Support

Specialty Support

- SDoH
- Maternal Health
- Dialysis
- Surgery

Post Discharge

- Post Discharge
- General Medical
- Vital Signs
- Pneumonia

Care Coordination

- Screening Reminders
- Appointment Reminders
- Referral

General Programs

- COVID Suite
- Influenza
- Fall Risk
- Wellness
- Medication Adherence

13+ Publications

in Peer-Reviewed Medical Journals

62% decrease
in hospitalizations
for patients with COPD

46% decrease in CHF ED visits

1.15% drop in HbA1c
over 4 months

50% improvement in blood pressure control
over 12 weeks

28% drop in PHQ-9
for patients with depression

>2.1x increase in follow-up appointment adherence

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RPM Program: Depression

Alert Thresholds:

- Very Low Mood
- Suicidal Ideation (with automatic connection to caring crises line)
- PHQ score > 15 (if using PHQ-9)
- Response of > 0 to any individual PHQ-9 questions (optional)

Status Thresholds:

- High Risk: Mood of 0-1 or 3+ alerts in last 2 weeks
- Medium Risk: 1-2 alerts
- Low Risk: All other

Monthly Screeners:

- PHQ-2, PHQ-9, GAD-7

How are you feeling now? Please rate from 0 (very bad) to 10 (very good)

8

Thank you. Have a great day.

We noticed your mood is low and want to check in with you.

Some people with low mood feel bad enough that they think life isn't worth it. Have you been having any of these thoughts?

Yes

Alert Triggered

Have you been thinking about ending your life? (yes/no)

Yes

Auto Connect to National Suicide Hotline

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Mankato Clinic & CareSignal's Workflow

CareSignal
Enrolls eligible patients via text, email, mailers, and direct phone calls

Mankato Clinic Patients
Answer automated SMS and phone call prompts, sending in clinically-relevant data

CareSignal
Categorizes at-risk patients and triggers alerts in real-time

Mankato Clinic Care Team
Care Managers monitor dashboard and follow standard operating procedures

Mankato Clinic Providers
receive escalations, only as needed

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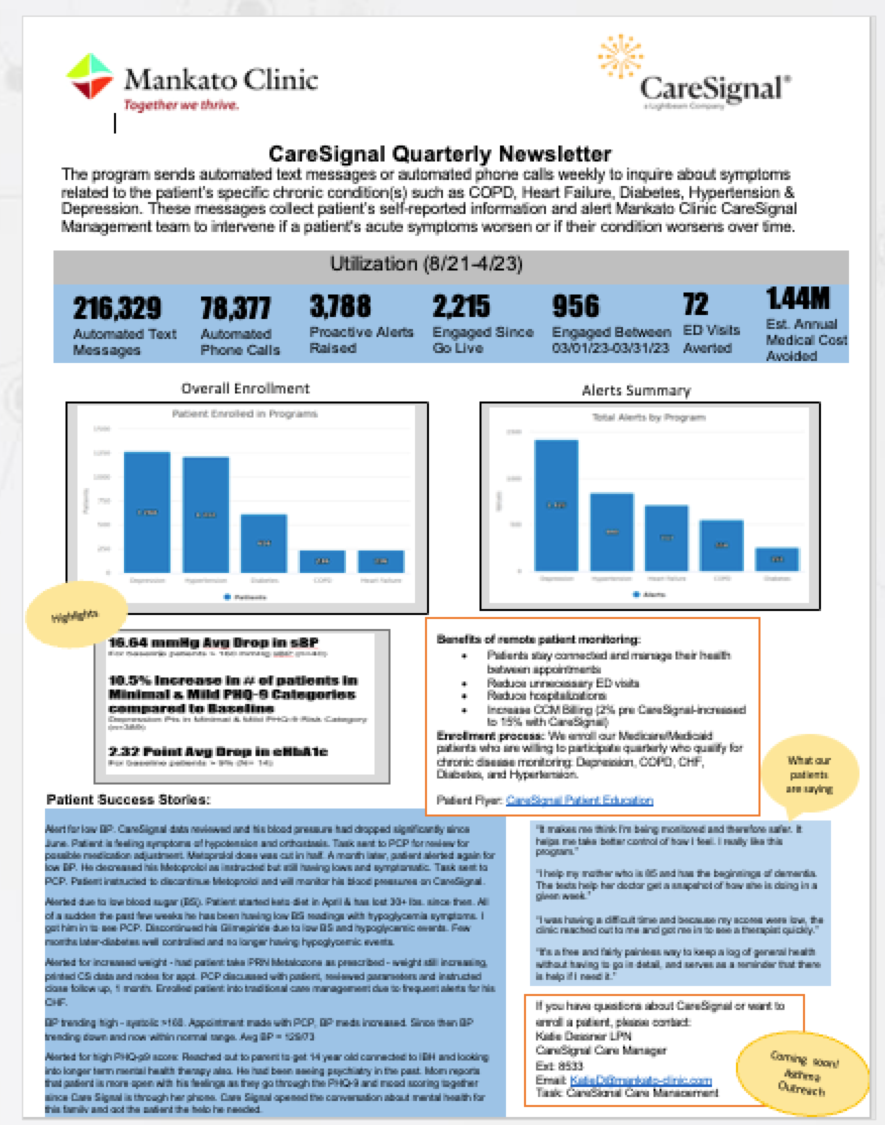
Building Provider Buy-in

- Created a quarterly newsletter shared internally with providers
- Featured the goals, benefits, utilization, and results of the program
- Included internal point of contact to learn more
- Purpose is for continued awareness, education, and promotion to increase program utilization



Mankato Clinic
Together we thrive.

CareSignal

CareSignal Quarterly Newsletter

The program sends automated text messages or automated phone calls weekly to inquire about symptoms related to the patient's specific chronic condition(s) such as COPD, Heart Failure, Diabetes, Hypertension & Depression. These messages collect patient's self-reported information and alert Mankato Clinic CareSignal Management team to intervene if a patient's acute symptoms worsen or if their condition worsens over time.

Utilization (8/21-4/23)						
216,329	78,377	3,788	2,215	956	72	1.44M
Automated Text Messages	Automated Phone Calls	Proactive Alerts Raised	Engaged Since Go Live	Engaged Between 03/01/23-03/31/23	ED Visits Averted	Est. Annual Medical Cost Avoided

Overall Enrollment

Patient Enrolled in Programs

Alerts Summary

Total Alerts by Program

Highlights

16.64 mmHg Avg Drop in sBP

10.5% Increase in # of patients in Minimal & Mild PHQ-9 Categories compared to Baseline

2.32 Point Avg Drop in eHbA1c

Benefits of remote patient monitoring:

- Patients stay connected and manage their health between appointments
- Reduce unnecessary ED visits
- Reduce hospitalizations
- Increase CCM Billing (2% pre CareSignal-increased to 15% with CareSignal)

Enrollment process: We enroll our Medicare/Medicaid patients who are willing to participate quarterly who qualify for chronic disease monitoring: Depression, COPD, CHF, Diabetes, and Hypertension.

Patient Flyer: CareSignal Patient Education

Patient Success Stories:

Alert for low BP. CareSignal data reviewed and his blood pressure had dropped significantly since June. Patient is feeling symptoms of hypotension and orthostasis. Task sent to PCP for review for possible medication adjustment. Metoprolol dose was cut in half. A month later, patient alerted again for low BP. He decreased his Metoprolol as instructed but still having lows and symptomatic. Task sent to PCP. Patient instructed to discontinue Metoprolol and will monitor his blood pressure on CareSignal.

Alerted due to low blood sugar (BS). Patient started keto diet in April & has lost 30+ lbs. since then. All of a sudden the past few weeks he has been having low BS readings with hypoglycemia symptoms. I got him in to see PCP. Discontinued his Glimepiride due to low BS and hypoglycemic events. Few months later-diabetes well controlled and no longer having hypoglycemic events.

Alerted for increased weight - had patient take PRN Metolazone as prescribed - weight still increasing, printed CS data and notes for appt. PCP discussed with patient, reviewed parameters and instructed close follow up, 1 month. Enrolled patient into traditional care management due to frequent alerts for his CHF.

BP trending high - systolic >160. Appointment made with PCP, BP meds increased. Since then BP trending down and now within normal range. Avg BP = 129/73

Alerted for high PHQ-9 score. Reached out to parent to get 14 year old connected to IBH and looking into longer term mental health therapy also. He had been seeing psychiatry in the past. Mom reports that patient is more open with his feelings as they go through the PHQ-9 and mood scoring together since Care Signal is through her phone. Care Signal opened the conversation about mental health for this family and got the patient the help he needed.

What our patients are saying

"It makes me think I'm being monitored and therefore safer. It helps me take better control of how I feel. I really like this program."

"I help my mother who is 85 and has the beginnings of dementia. The texts help her doctor get a snapshot of how she is doing in a given week."

"I was having a difficult time and because my scores were low, the clinic reached out to me and got me in to see a therapist quickly."

"It's a free and fairly painless way to keep a log of general health without having to go in detail, and serves as a reminder that there is help if I need it."

If you have questions about CareSignal or want to enroll a patient, please contact:
Katie Dessner LPN
CareSignal Care Manager
Ext: 8533
Email: KatieD@mankato-clinic.com
Task: CareSignal Care Management

Coming soon! Asthma Outreach

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Outcomes

Mankato Clinic Impact Summary

Utilization		Highlights	
356,010 Automated Text Messages	**109,484** Automated Phone Calls	**122** ED Visits Averted	**$1.52M** Estimated Medical Cost Avoided
5,036 Proactive Alerts Raised	**967** Engaged Between [12/31 – 1/31]	**20.77** mmHg Drop in sBP for Baseline Patients > 160mmHg (n=42)	**2.3** Average Drop in eHbA1c for Diabetes patients w/ baseline >8% (n=30)
6 Programs Currently in Use	**3,254** Enrolled Between [8/9/21 – 1/31/24]	**10.5%** Decrease in High Risk PHQ-9 category patients compared to baseline	**2.4%** Average alert rate

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Overall Enrollment

Patients Enrolled in Programs

Program	Patients
Depression	1 377
Hypertensi...	1 326
Diabetes	667
Asthma	365
Heart Failure	253
COPD	247

Patients (y-axis: 0, 500, 1000, 1500)

● Patients

3254

patients enrolled into CareSignal programs 8/9/21 – 1/31/24

**A patient can be enrolled in more than one program at a time*

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Comorbidity Enrollments

Program Enrollments		
Programs Enrolled In	Count	Percentage
Depression Only	832	59.9%
Depression + Physical Health	557	40.1%

40% of our depression enrollees are also enrolled in in an additional Deviceless RPM program to manage a physical health condition (e.g., diabetes, hypertension, etc.)

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Alerts Summary

Total Alerts by Program

Program	Alerts
Depression	1 851
Hypertension	1 014
Heart Failure	1 005
COPD	642
Diabetes	337
Asthma	187

Values: 0, 500, 1000, 1500, 2000

● Alerts

5,036
Proactive alerts raised
8/9/21 – 1/31/24

122
ED Visits Averted
8/9/21 – 1/31/24

2.4%
Avg. Alert Rate
8/9/21 – 1/31/24

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Diabetes Program Outcomes

Key Insights:

- Average drop in eHbA1c of 3.14 points for baseline patients >9% (n=13)
- Average drop in eHbA1c of 1.64 points for baseline patients 8-9% (n=17)
- Weighted Average 2.3 drop in eHbA1c for patients >8% (n=30)

HbA1c Pre - Post Changes

Avg. HbA1c (%)

	Baseline	Most Recent
< 7% (N=312)	5.86	6.14
7% to 8% (N=59)	7.46	6.9
8% to 9% (N=17)	8.53	6.89
> 9% (N=13)	10.42	7.28

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Hypertension Program Outcomes

Key Insights:

- 7.42 mmHg average drop in sBP and 4.25 mmHg average drop in dBP for baseline patients 140-160 sBP (n=136)

- 20.77 mmHg average drop in sBP and 8.34 mmHg average drop in dBP for baseline patients >160 sBP (n=42)

BP Pre-Post Changes

Average Systolic Blood Pressure (mmHg)

200
100
100

159.82 139.05 145.63 138.21 126.65 125.55

Average Diastolic Blood Pressure (mmHg)

50
0

86.27 77.93 79.88 75.63 73.73 72.69

High Risk (N=42) Medium Risk (N=136) Low Risk (N=488)

Baseline Most Recent

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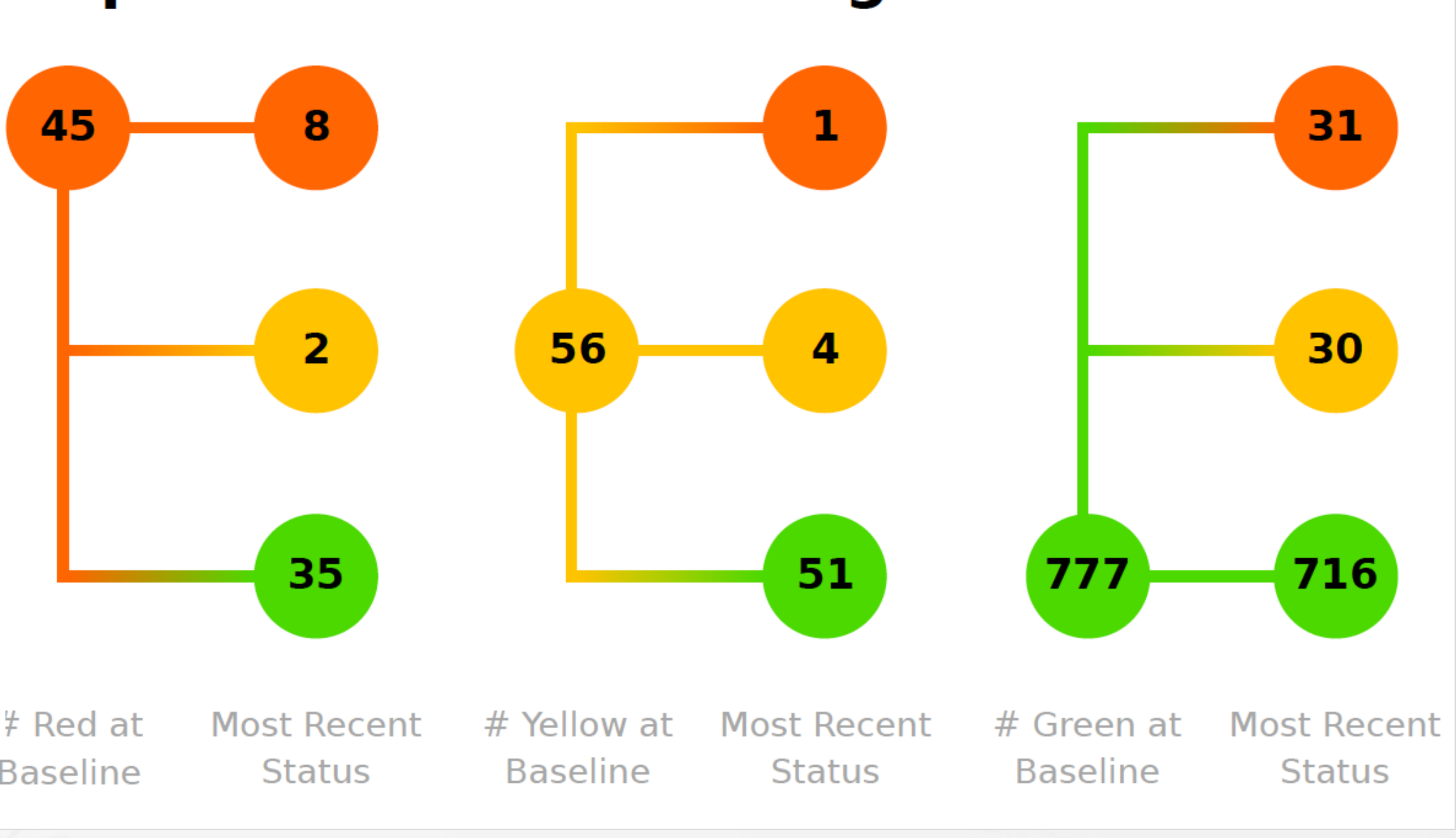
Depression Program Outcomes

Key Insights:

- 82% of High Risk improved (n=45)
- 91% of Rising Risk improved (n=56)
- 92% of Low Risk maintained (n=777)



Alert Breakdown

PHQ-9 Score	Low Mood	Feeling Suicidal	High GAD-7	GAD-7 Factors
1,226	455	122	21	27

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Depression PHQ-9 Pre-Post Changes

Key Insights:

- 8.5% Increase in the number of patients in the *Minimal* and *Mild* categories compared to baseline.

- 10.5% Decrease in the number of patients in the *Moderate, Moderately Severe,* and *Severe* categories compared to baseline.

PHQ-9 Stratification for Depressive Disorder

Starting Score vs End Score

Patients per Category	Baseline	Most Recent
Minimal (=< 4)	211	243
Mild (5-9)	163	163
Moderate (10-14)	156	145
Moderately Severe (15-20)	114	93
Severe (>20)	33	33

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Improving Whole-Patient Health

Condition	Non-Comorbid Group (1 condition)		Comorbid Group (2 conditions)		Difference
Diabetes	A1c	3.32% (>9% baseline) 1.53% (8-9% baseline) reductions in A1c	A1c	3.2% (>9% baseline) 1.67% (8-9% baseline) reductions in A1c	• Comparable average reductions in A1c
Hypertension	BP	14.52 sBP, 6.94 dBP reductions among high and medium risk	BP	17.96 sBP, 7.74 dBP reductions among high and medium risk	• 3.43 sBP, 0.8 dBP reduction. The comorbidity group saw a greater reduction in BP among high and medium risk patients than those with HTN alone
Depression	PHQ-9	10.11% decrease in moderate to severe depression	PHQ-9	11.11% decrease in moderate to severe depression	• 1% more patients moved out of the moderate to severe depression group in the comorbidity group

The analysis suggests that patients managing comorbid chronic and mental health conditions with RPM experience improvements to both conditions that are equal to or greater than those of patients managing one condition with RPM.

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Mankato Clinic ROI

ROI Since Go-Live	Heart Failure	Diabetes	COPD	Hypertension	Depression
Estimated Medical Cost Avoided	$866K	$14K	$174K	$178K	$293K
PMPM Reduction	$311	$2	$71	$14	$28
Total Cost Avoidance	$1.52M	in Estimated Total Medical Cost Avoided			

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Deviceless RPM Enables Mankato to Capture More CCM Revenue

CareSignal Enrollment Process

- CareSignal's Enrollment Specialists give all Medicare patients the CCM enrollment script over the phone so they are automatically enrolled in CCM when they agree to CareSignal. Our enrollment is quarterly for new patients.
- With go live we had up to 370 monthly billable instances during that enrollment period

Responding to alerts

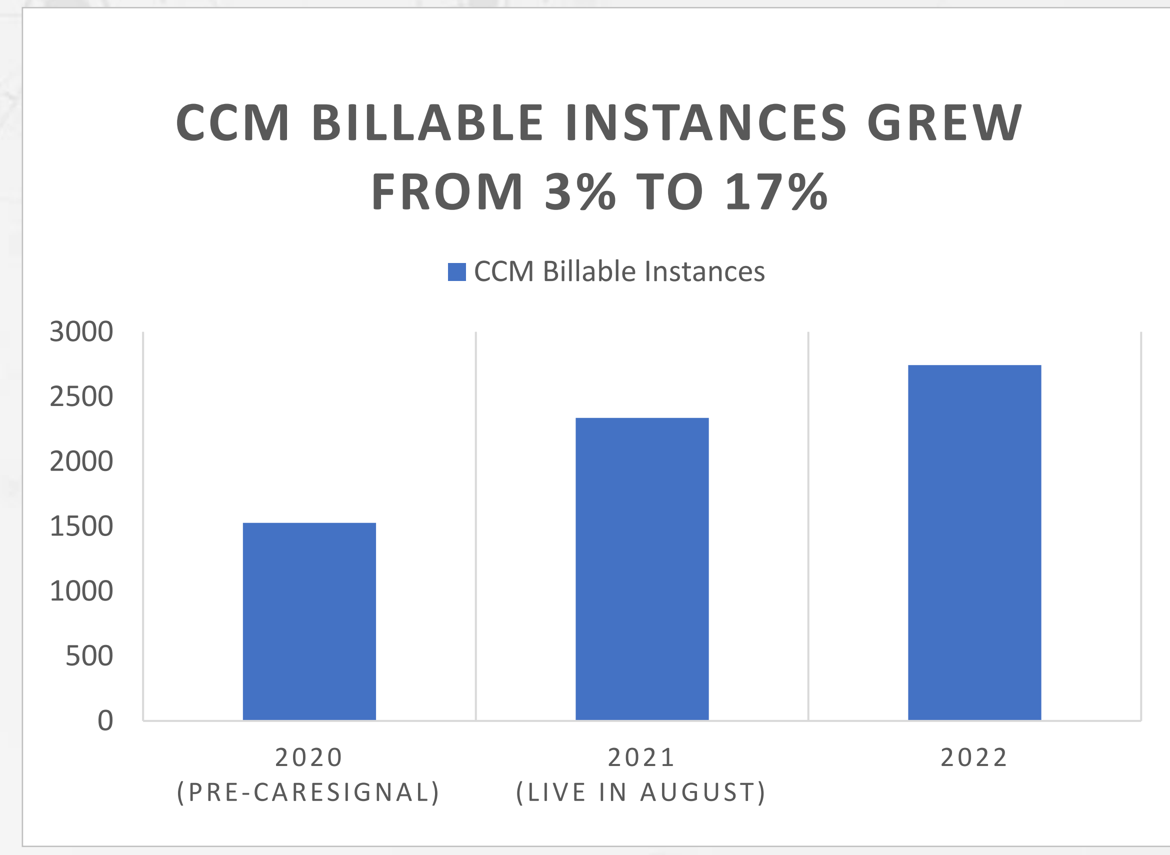
- 3788 proactive alerts raised
  Alerts = Intervention and Follow up

Patient trending less optimal

- Actively reaching out to patients that are trending less optimal, but not necessarily triggering an alert.

Pre Visit Planning/Chart Reviews

- Engaged CareSignal Care Manager and Care Teams



We averaged 3% of the CCM population billed before CareSignal to 17% of the CCM population billed after implementing CareSignal (entire population-not just ACO)

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Provider Experience

Maximizing Care Team Efficiency & Reach

Reduction in cold calls increases efficiency

Patients can connect with the team when they need help

Allows team to manage broader population without adding FTE (promotes top-of-license work)

Care team frees up provider time by escalating when necessary

Mankato care team caseload = 1:2,000

Typical Mankato care manager caseload = 1:100

~20x increase in care team capacity

**based on data from AHRQ*

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Match Patient Acuity to Intensity of Care Resources

High Intensity: Care Management

- Patients improving step down to Deviceless RPM

Low Intensity: Deviceless RPM

- Frequent alerters escalate to CM

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Patient Experience

Patient Satisfaction

Care Satisfaction · You are getting the best possible care from Mankato Clinic.

Average	N
7.68	1,756

1 - Strongly Disagree — Strongly Agree - 9

Improved Communication · These messages have improved your communication with Mankato Clinic.

Average	N
6.99	1,892

1 - Strongly Disagree — Strongly Agree - 9

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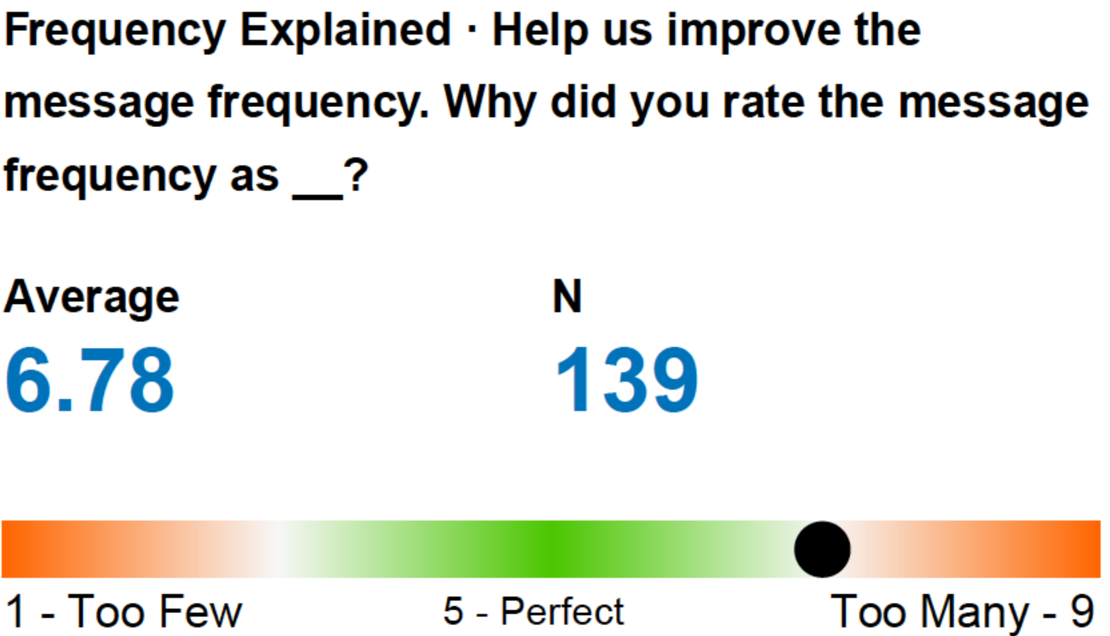
Message Frequency

Message Frequency · Messages from Mankato Clinic are sent at just the right frequency.

Average	N
7.31	1,851

1 - Strongly Disagree   Strongly Agree - 9



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Patient Satisfaction

Health Literacy · Messages from Mankato Clinic have helped me understand my condition better.

Average	N
6.07	176

1 - Strongly Disagree   Strongly Agree - 9

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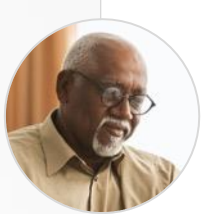
Patient Satisfaction



"I appreciate that these texts help me keep a closer eye on my mental well being and understand what I actually need to tell my doctors when I need help." -Patient

"I like that it helps me keep track of my moods, as I'm bad at managing that myself. It should make it easier to tell my providers how the past few weeks have been." - Patient

"I like if I answer below a 5, you ask if I need someone to call me." - Patient

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Key Takeaways

- Balanced transition from FFS to VBC
- Focus on high and rising-risk patients
- Use technology, don't just grow care management. Grow efficiency.
- Identify and manage the patients that need support
- Recognize the prevalence and costs of mental illness and manage comorbid conditions
- Capture some FFS (CCM) to maintain financial stability
- Be confident in downside risk with scalable, financially sustainable, proactive care management solutions like Deviceless RPM

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Q&A

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