Quarterly Report to Ohio Department of Medicaid and CMS

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CMP Request Number: G-2021-04-0300

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1. Project Overview/Summary

Program Name:	Reducing Falls with AI; Proactive Approach to Mobility Improvement and Fall Prevention
Project Start Date and End Date:	01/01/20 – 1/01/23
[Contract/Agreement] Number:	G-2021-04-0300
Location of Project:	Ohio
Reporting Period:	01/01/20 – 03/31/20

1.1 Project Description/Introduction

We will partner with Long-Term Care (LTC) communities to identify resident risk levels through a series of standardized assessments captured by machine vision infrared sensors and analyzed using artificial intelligence (AI). Research shows deficiencies in balance, gait, and/or function are significant factors that contribute to senior falls; therefore, VSTBalance was developed to specifically address each one. VSTBalance can objectively assess and identify the musculoskeletal and sensory deficiencies—all in less than three minutes. These assessments are holistic and can cover the range of balance, gait, and function. The analysis of these assessments is undergirded with normative data according to age group as defined in peer reviewed studies, National Institute of Health (NIH), academic journals, and CMS research.

Each assessment offers a personalized comparison with normative data and calculates each resident's mobility level (High, Medium, or Low Mobility) according to the normative data for that assessment. Additionally, for residents over the age of 70, the Gait Assessment will calculate not only the mobility level but also the probability for the resident to suffer a fall within the next 12 months. Following identification of mobility level, the AI engine, along with clinician feedback, will create clinical pathways to route residents appropriately. With the information generated from their assessments, the care team will have specific musculoskeletal movement data to form a plan of care appropriate to the resident mobility level (High, Medium, Low) and their identified movement deficiencies. Following the initial clinical pathway, our AI engine will flag residents with minimal progress and provide the clinician actionable data to formulate an alternate plan of care.

Currently, resident risk level and changes in functional status data are not easily communicable between therapy, nursing, and wellness in a LTC community. If the clinicians were equipped with this data in real-time, then they can design contingency protocols such as increased rounding, reduced bed heights, and other protocols to prevent falls. Our HIPAA-compliant cloud dashboard is accessible from any browser-based device such as a smartphone, tablet, or computer to all levels of care providers in LTC. To establish the efficacy of our project in helping residents, we will seek to achieve the following outcomes:

1. Cedarview Care Center, Lebanon, OH
Total Beds - 83, **Administrator** – Elliott Polsky
DON: Gina Brown
MDS Coordinator: Gina Brown
Therapy DOR: Jessica Wichner
Project Facilitator: Jessica Wichner

2. Clovernook Health Care & Rehabilitation Center, Cincinnati, OH
Total Beds - 119, **Administrator** – Debby Bisel
DON: Trish Jett
MDS Coordinator: Sharon Nigh
Therapy DOR: Mary Phillips
Project Facilitator: Mary Phillips

3. Countryside Manor Nursing & Rehabilitation, Fremont, OH
Total Beds - 82, **Administrator** – Jen Vaughan
DON: Lisa Rawson
MDS Coordinator: Marci Kimmet
Therapy DOR: Larry Hill
Project Facilitator: Larry Hill

4. The Glen, Cincinnati, OH
Total Beds - 54, **Administrator** – Valerie Wallen
DON: Jenny Todd
MDS Coordinator: Krista Harmon
Therapy DOR: Christie Jennings
Project Facilitator: Christie Jennings

5. Harrison Pavilion Care Center, Cincinnati, OH
Total Beds - 84, **Administrator** – Greg Carson
DON: Casondra Gordon
MDS Coordinator: Lisa Osterling
Therapy DOR: Jacob Davis
Project Facilitator: Jacob Davis

6. Lincoln Crawford Care Center, Cincinnati, OH
Total Beds - 100, **Administrator** – Yoseph Ottensoser
DON: Kell'e Gentry
MDS Coordinator: Holly Ponder
Therapy DOR: Jess Kotsko
Project Facilitator: Jess Kotsko

7. Northcrest Rehab & Nursing Center, Napoleon, OH
Total Beds - 94, **Administrator** – Kim Dunlap-Johnson
DON: Vicki Dawson
MDS Coordinator: Susan Arps
Therapy DOR: Tonya Richard
Project Facilitator: Tonya Richard

8. Sunrise Nursing Healthcare, Amelia, OH
Total Beds - 78, **Administrator** – Mona O'Bryant
DON: Cindy Schmidt
MDS Coordinator: Tina Drake
Therapy DOR: Andrew Needles
Project Facilitator: Andrew Needles

9. Traditions at Chillicothe, Chillicothe, OH
Total Beds - 80, **Administrator** – Chuck Berry
DON: Heidi Colbrun
MDS Coordinator: Heidi Colbrun
Therapy DOR: Matt Geise
Project Facilitator: Matt Geise

10. Westbrook Place Rehabilitation & Nursing Center, Westlake, OH
Total Beds - 190, **Administrator** – Kevin Trockley
DON: Joel Mayes
MDS Coordinator: Mindy Hall/ Cindy Bevington
Therapy DOR: Sarah Kline
Project Facilitator: Sarah Kline

CCH Facilities

J1800

Improvement

J1900 B&C

Decline

*Includes Clovernook and Countryside Manor, who did not use our system within this quarter.

*94% of J1800 MDS items (since deployment) took place before an initial VSTBalance assessment

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The Glen & Traditions

Total Falls

Decline

Total Falls with Major Injury

Improvement

*These sites informed VirtuSense that they were unable to pull baseline MDS items. Therefore, we are reporting improvements via Total Falls as opposed to MDS specific items.

*As reported by The Glen MDS Coordinator, one resident fell a total of 30 times between February & March 2020.

*Falls with a minor injury was not able to be pulled, as according to each site.

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Hip Fractures

Improvement

*Excludes Traditions as they were unable to pull this data

VSTBalance Improvements

170 residents assessed since deployment
61 reassessed residents

Testimonials

"We are loving the results!"

- Christie Jennings, DOR, The Glen

"We have had quite a few referrals for LTC residents for the specific purpose of addressing fall risk/fall prevention. We have had residents change in a matter of 2 weeks at 5x/week from a 78% fall risk to <62% fall risk. The percentages speak for themselves, this program shows quantitative progress for the administrative/insurance end while brightening resident's moods and improving overall therapy sessions while out on the floor."

- Sarah Kline, MS, OTR/L Westbrook Place Nursing & Rehabilitation

CCH Facilities*	Before VST (2019) Monthly Average	Monthly Average (After Implementation)	Performance Achieved (Total Average)	Performance Achieved (Individual Average)	Annual Performance Goal
J1800 (Overall)	43	32	26%	31%	10%
J1900B & C (w/injury)	14	15	-9%	-7%	10%

***NOTE* Includes Clovernook and Countryside Manor, who did not use our system within this quarter.**
***NOTE* 94% of J1800 MDS items (since deployment) took place before an initial VSTBalance assessment**

The Glen & Traditions*	Before VSTMonthly Average (2019)	Monthly Average (After Implementation)	Performance Achieved (Total Average)	Performance Achieved (Individual Average)	Annual Performance Goal
Falls (Overall)**	42	52	-24%	-32%	10%
Falls (w/ Major Injury)***	3	1	67%	42%	10%

***NOTE* These sites informed VirtuSense that they were unable to pull baseline MDS items. Therefore, we are reporting improvements via Total Falls as opposed to MDS specific items.**
****NOTE** As reported by The Glen MDS Coordinator, one resident fell a total of 30 times between February & March 2020.**
*****NOTE*** Falls with minor injury were not able to be pulled, as according to each site.**

All facilities except Traditions	Before VST (2019) Monthly Average	Monthly Average (After Implementation)	Performance Achieved (Total Average)	Performance Achieved in Current Quarter (Individual Average)	Annual Performance Goal
Hip Fractures	7	3	57%	27%	10%

***NOTE* Excludes Traditions as they were unable to pull this data**

Total Ohio Mobility & Satisfaction	Baseline (Sites with Reassessed Residents)	Reassessment (Sites with Reassessed Residents)	Improvement Average (Sites with Reassessed Residents)	Target Average
Gait Speed	0.33 m/s	0.38 m/s	15%	20%
Balance Scores	10.73 in	11.3 in	5%	15%
Functional Scores	32.21 sec.	26.68 sec.	17%	15%
Resident Satisfaction	N/A	79%	79%	75%

	Baseline	Annual	Expected Outcomes	Since	Annual	On Target

Project Outcomes Measures – 10% reduction in the score for MDS item I3900 (Hip Fractures).	FY 2019	Target	Based on Current Results	Deployment	Performance on track to achieve to the End of Reporting Period (%)	Y/N
Cedarview	4	3	0	0	100%	Yes
Clovernook	13	12	0	0	100%	Yes
Countryside Manor	4	3	6	1	-50%	No
The Glen	22	20	12	2	45%	Yes
Harrison Pavilion	3	2	0	0	100%	No
Lincoln Crawford	3	2	12	2	-300%	No
Northcrest	17	16	0	0	100%	Yes
Sunrise	4	3	0	0	100%	Yes
Traditions	n/a	n/a	60	10	N/A	N/A
Westbrook Place	12	11	6	1	50%	Yes

Project Outcome Measures – 10% reduction in falls and a 10% reduction in falls with injury. This improvement would correlate to a 10% reduction in score for MDS items J1800, J1900 (Any Falls Since Admission/Entry or Reentry or Prior Assessment, whichever is more recent).	Baseline FY 2019	Annual Target	Expected Outcomes Based on Current Results	Since Deployment	Annual Performance on track to achieve to the End of Reporting Period (%)	On Target Y/N
Cedarview	J1800: 65 J1900B: 11 J1900C: 2	J1800: 58 J1900B: 10 J1900C: 1	J1800: 18 J1900B: 6 J1900C: 0	J1800: 3 J1900B: 1 J1900C: 0	J1800: 72% J1900B: 45% J1900C: 100%	J1800: Yes J1900B: Yes J1900C: Yes
Clovernook	J1800: 81 J1900B: 14 J1900C: 1	J1800: 73 J1900B: 13 J1900C: 0	J1800: 60 J1900B: 24 J1900C: 0	J1800: 10 J1900B: 5 J1900C: 0	J1800: 26% J1900B: -114% J1900C: 100%	J1800: Yes J1900B: No J1900C: Yes
Countryside Manor	J1800: 49 J1900B: 12 J1900C: 5	J1800: 44 J1900B: 11 J1900C: 4	J1800: 60 J1900B: 30 J1900C: 4	J1800: 10 J1900B: 5 J1900C: 1	J1800: -22% J1900B: -150% J1900C: -20%	J1800: No J1900B: No J1900C: No
The Glen* Unable to report specific MDS items for 2019	Total Falls: 218 Minor Injuries: n/a Major Injuries: 10	Total Falls: 196 Minor Injuries: n/a Major Injuries:9	Total Falls: 420 Minor Falls: 54 Major Injuries: 6	Total Falls: 70 Minor Injuries: 9 Major Injuries: 1	Total Falls: -93% Minor Falls: n/a Major Falls: 40%	Total Falls: No Minor Falls: n/a Major Falls: Yes
Harrison Pavilion	J1800: 64 J1900B: 12 J1900C: 1	J1800: 58 J1900B: 11 J1900C: 0	J1800: 30 J1900B: 0 J1900C: 0	J1800: 5 J1900B: 0 J1900C: 0	J1800: 53% J1900B: 100% J1900C: 100%	J1800: Yes J1900B: Yes J1900C: Yes
Lincoln Crawford	J1800: 52 J1900B: 11	J1800: 47 J1900B: 10	J1800: 36 J1900B: 6	J1800: 6 J1900B: 1	J1800: 31% J1900B: 50%	J1800: Yes J1900B: Yes

	J1900C: 2	J1900C: 1	J1900C: 0	J1900C: 0	J1900C: 100%	J1900C: Yes
Northcrest	J1800: 89 J1900B : 52 J1900C: 1	J1800: 81 J1900B: 47 J1900C: 0	J1800: 66 J1900B: 60 J1900C: 6	J1800: 11 J1900B: 10 J1900C: 1	J1800: 75% J1900B: -15% J1900C: -500%	J1800: Yes J1900B: No J1900C: No
Sunrise	J1800: 37 J1900B: 19 J1900C: 2	J1800: 34 J1900B: 17 J1900C: 1	J1800: 30 J1900B: 18 J1900C: 0	J1800: 5 J1900B: 3 J1900C: 0	J1800: 19% J1900B: 5% J1900C: 100%	J1800: Yes J1900B: Yes J1900C: Yes
Traditions* Unable to report specific MDS items for 2019	Total Falls: 288 Minor Injuries: n/a Major Injuries: 21	Total Falls: 260 Minor Injuries: n/a Major Injuries: 19	Total Falls: 204 Minor Injuries: 48 Major Injuries: 6	Total Falls: 34 Minor Injuries: 8 Major Injuries :1	Total Falls: 30% Minor Injuries: n/a Major Injuries: 71%	Total Falls:Yes Minor Injuries:n/a Major Injuries: Yes
Westbrook Place	J1800: 78 J1900B: 18 J1900C: 1	J1800: 71 J1900B: 16 J1900C: 0	J1800: 84 J1900B: 12 J1900C: 0	J1800: 14 J1900B: 2 J1900C: 0	J1800: -8% J1900B: 33% J1900C: 100%	J1800: No J1900B: Yes J1900C: Yes
Project Outcomes Measures - Residents that were identified to have balance and function deficiencies and were provided treatment will show on average an improvement of at least 15% in function assessment scores.	Baseline FY 2020	Annual Target		Q1 FY 20	Annual Performance Achieved to the End of Reporting Period (%)	On Target Y/N
Cedarview	25.33 sec	21.53 sec		23.1 sec	9%	Yes
Clovernook	31.87 sec	27.09 sec		N/A	N/A	N/A
Countryside Manor	28.3 sec	24.05 sec		N/A	N/A	N/A
The Glen	34.31 sec	29.16 sec		23.47 sec	32%	Yes
Harrison Pavilion	30.12 sec	25.6 sec		N/A	N/A	N/A
Lincoln Crawford	37.73 sec	32.07 sec		25.85 sec	31%	Yes
Northcrest	44.31 sec	37.66 sec		22.75 sec	49%	Yes
Sunrise	24.14 sec	20.52 sec		N/A	N/A	N/A
Traditions	32.59 sec	27.7 sec		N/A	N/A	N/A
Westbrook Place	33.37 sec	28.36 sec		38.21 sec	-15%	No

*Function is measured in 5x Sit to Stand scores (measured in Seconds) (A lower time is a better score)

Project Outcomes Measures - Residents that were identified to have balance and function deficiencies and were provided treatment will show on average an improvement of at least 15% in balance assessment scores.	Baseline	Annual Target	Q1 FY 20	Annual Performance Achieved to the End of Reporting Period (%)	On Target Y/N

Cedarview	12.43 in.	14.29 in.	12.97 in.	4%	Yes
Clovernook	12.96 in.	14.9 in.	N/A	N/A	N/A
Countryside Manor	5.79 in.	6.66 in.	N/A	N/A	N/A
The Glen	6.01 in.	6.91 in.	7.7 in.	28%	Yes
Harrison Pavilion	13.82 in.	15.9 in.	N/A	N/A	N/A
Lincoln Crawford	11.54 in.	13.27 in.	10.36 in.	-10%	No
Northcrest	7.72 in.	8.88 in.	10.77 in.	40%	Yes
Sunrise	12.44 in.	14.31 in.	N/A	N/A	N/A
Traditions	11.73 in.	13.49 in.	N/A	N/A	N/A
Westbrook Place	12.85 in.	14.78 in.	14.69	14%	Yes

*Balance is determined by Forward Reach scores (measured in Inches)

Project Outcomes Measures - 20% improvement in resident gait speed	Baseline	Annual Target	Q1 FY 20	Annual Performance Achieved to the End of Reporting Period (%)	On Target Y/N
Cedarview	0.51 m/s	0.63 m/s	0.49 m/s	-4%	No
Clovernook	0.27 m/s	0.32 m/s	N/A	N/A	N/A
Countryside Manor	0.28 m/s	0.34 m/s	N/A	N/A	N/A
The Glen	0.31 m/s	0.37 m/s	0.38 m/s	23%	Yes
Harrison Pavilion	0.37 m/s	0.44 m/s	N/A	N/A	N/A
Lincoln Crawford	0.26 m/s	0.35 m/s	0.26 m/s	0%	No
Northcrest	0.25 m/s	0.3 m/s	0.33 m/s	32%	Yes
Sunrise	0.48 m/s	0.58 m/s	N/A	N/A	N/A
Traditions	0.31 m/s	0.37 m/s	N/A	N/A	N/A
Westbrook Place	0.32 m/s	0.38 m/s	0.42 m/s	31%	Yes

Project Outcomes Measures - Resident satisfaction of at least 75%	Annual Target	Q1 FY 20	Annual Performance Achieved to the End of Reporting Period (%)	On Target Y/N
Aggregate Data	75%	79%	79%	Yes

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2. ACTIVITY IMPLEMENTATION PROGRESS

2.1 Progress Narrative

In regards to Reducing Falls with AI; Proactive Approach to Mobility Improvement and Fall Prevention, we have been greeted with key achievements! First and foremost comes the demonstrated effort and support from the sites onsite. Almost all sites who were able to implement our technology have expressed a deep admiration and appreciation of our technology. We have been able to have a very regular communication flow and have provided numerous calls offering our utmost support. Overall, these facilities are incredibly grateful throughout our willingness to help them on all fronts.

In regards to the reported falls data, overall, our VST System is doing well! Broken down by individual site:

1. Cedarview

For Cedarview, I3900 falls has improved, thus far, 100%. There are no active hip fractures. Overall falls have improved 72%. We are able to support this claim, as five J1800 items were captured in January, prior to our VSTBalance implementation. Falls with minor injury have improved 45%. Similarly, we were able to conclude that 2 falls with minor injury occurred prior to our implementation. Finally, J1900C items are on track to improve 100%. We are able to conclude that falls are happening at a substantially lower rate!

In regards to Gait velocity, they have declined at -4%. For Functional ability, Cedarview has improved 9%. For Balance ability, Cedarview has improved 4%. This data is collected from overall community baselines and compared to those who have been reassessed. What we are able to conclude is that while not moving at a faster pace, their functional ability to move has shown significant improvement and their balance while doing so has also improved!

2. Clovernook

For Clovernook, I3900 falls have improved, thus far, 100%. There are no active hip fractures. Overall falls have improved 26%. We are able to support this claim as 6 J1800 items were captured in January, prior to our VSTBalance implementation. Falls with minor injury have declined -114%. Only one fall with minor injury took place prior to our implementation. Finally, J1900C items are on track to improve 100%. When considering Clovernook and their substantial increase in falls with minor injury, it is important to note that Clovernook has not yet utilized the VSTBalance System. Later in this report, we identify Clovernook as not being very responsive to our communication, but we are to believe this increase in minor injuries could have been lessened with the proper usage of the VSTBalance system.

In regards to Gait, Function, and Balance, we are unable to compare increases between Admission and Discharge at this time. Similarly, Clovernook has not utilized our system after numerous attempts to get in communication with local, regional, and corporate personnel.

3. Countryside Manor

For Countryside Manor, I3900 falls have declined, thus far, -50%. There is one active hip fracture that was not caused by a fall with injury within the facility. Overall falls have declined -22%. We are able to note this claim as 3 J1800 items were captured in January, prior to our VSTBalance implementation. Falls with minor injury have declined -150%. Two falls with minor injury took place prior to our implementation. Finally, J1900C items are on track to decline -20%. When considering Countryside Manor and their substantial increase in falls across the board, it is important to note that Countryside Manor has not yet utilized the VSTBalance System. Later in this

report, we identify Countryside Manor as not being very willing to use the system. Most staff members have opted to stick with their traditional measures to identify musculoskeletal deficits. We are to believe this increase in falls could have been lessened with the proper usage of the VSTBalance system.

In regards to Gait, Function, and Balance, we are unable to compare increases between Admission and Discharge at this time. Similarly, Countryside Manor has not utilized our system after numerous attempts to get in communication with local, regional, and corporate personnel.

4. The Glen

For The Glen, I3900 falls has improved, thus far, 48%. There are no active hip fractures. Overall falls have declined -93%. When considering this number, we were informed by the site MDS Coordinator that roughly 30 of these falls came from one single resident. We are unable to compare falls with minor injury as we were informed by the site MDS Coordinator that there was no way for them to delineate a minor injury with their 2019 coding system. We will only be able to compare this from a quarterly basis. Finally, falls with major injury items are on track to improve 40%. We can conclude that major injury falls are improving substantially! The resident who has fallen very frequently recently, we can report, has NOT been assessed on the VSTBalance system.

In regards to Gait velocity, they have improved 32%. For Functional ability, The Glen has improved 23%. For Balance ability, The Glen has improved 28%. This data is collected from overall community baselines and compared to those who have been reassessed. What we are able to conclude is that residents at The Glen are improving along all levels!

5. Harrison Pavilion

For Harrison Pavilion, I3900 falls has improved, thus far, 100%. There is one active hip fracture that was not caused by a fall within the facility and also occurred before our deployment of the VSTBalance technology. Overall falls have improved 53%. We are able to support this claim, as seven J1800 items were captured in January, prior to our VSTBalance implementation. Falls with minor injury have improved 100%. Similarly, we were able to conclude that 2 falls with minor injury occurred prior to our implementation. Finally, J1900C items are on track to improve 100%. We are able to conclude that falls are happening at a substantially lower rate!

In regards to Gait velocity, Function, Balance, Harrison Pavilion has not had at least two reassessments at this time. Therefore we are unable to say their overall improvement or decline.

6. Lincoln Crawford

For Lincoln Crawford, I3900 falls has declined, thus far, -300%. There are two active hip fractures that were not caused by a fall within the facility. Overall falls have improved 31%. We are able to support this claim, as five J1800 items were captured in January, prior to our VSTBalance implementation. Falls with minor injury have improved 50%. Similarly, we were able to conclude that one fall with minor injury occurred prior to our implementation. Finally, J1900C items are on track to improve 100%. We are able to conclude that falls are happening at a substantially lower rate!

In regards to Gait velocity, they have improved 0% (They have maintained the same baseline measurement). For Functional ability, Lincoln Crawford has improved 31%. For Balance ability, Lincoln Crawford has declined -10%. This data is collected from overall community baselines and compared to those who have been reassessed. What we are able to conclude is that while balance has slightly declined, residents at Lincoln Crawford are improving their Functional abilities substantially while keeping their same gait velocity.

7. Northcrest

For Northcrest, I3900 falls has improved, thus far, 100%. There is one active hip fracture that was not caused by a fall within the facility and also occurred before our deployment of the VSTBalance technology. Overall falls have improved 75%. We are able to support this claim, as seven J1800 items were captured in January, prior to our VSTBalance implementation. Falls with minor injury have declined -15%. Similarly, we were able to conclude that two falls with minor injury occurred prior to our implementation. Finally, J1900C items are on track to improve 100%. We are able to conclude that fewer residents are falling. We also are of the opinion that those residents

who are falling at a higher rate, have not yet been assessed on the VSTBalance system. Per recent conversation from the onsite MDS Coordinator, eight of the identified falls took place from residents with impaired cognition. Those individuals have not been assessed with the VSTBalance System as the facility believes that their cognition levels are too low to get truly accurate levels of measurement and have opted to not assess those individuals.

In regards to Gait velocity, they have improved 32%. For Functional ability, Northcrest has improved 49%. For Balance ability, Northcrest has improved 40%. This data is collected from overall community baselines and compared to those who have been reassessed. What we are able to conclude is that residents at Northcrest are improving at all levels!

8. Sunrise Manor

For Sunrise, I3900 falls has improved, thus far, 100%. There are no active hip fractures that were caused by a fall within the facility. Overall falls have improved 19%. We are able to support this claim, as three J1800 items were captured in January, prior to our VSTBalance implementation. Falls with minor injury have improved 5%. Similarly, we were able to conclude that two falls with minor injury occurred prior to our implementation. Finally, J1900C items are on track to improve 100%. We are able to conclude that overall falls are happening at a substantially lower rate!

In regards to Gait velocity, Function, Balance, Harrison Pavilion has not had at least two reassessments at this time. Therefore we are unable to say, at this time, their overall improvement or decline.

9. Traditions at Chillicothe

For Traditions, we are unable to determine the amount of improvement with I3900. Per the onsite MDS Coordinator, they are unable to pull that specific information. Overall falls have improved 40%. We are unable to determine the amount of improvement with falls with minor injury, as there, similarly, was no reported specific information, as noted by the onsite MDS Coordinator. Finally, J1900C items are on track to improve 71%. We are able to conclude that overall falls are happening at a substantially lower rate!

In regards to Gait velocity, Function, Balance, Harrison Pavilion has not had at least two reassessments at this time. Therefore we are unable to say, at this time, their overall improvement or decline.

10. Westbrook Place

For Westbrook Place, I3900 falls has improved, thus far, 50%. There are two active hip fractures that were not caused by a fall within the facility. Overall falls have declined -8%. We are able to support this claim, as six J1800 items were captured in January, prior to our VSTBalance implementation. Falls with minor injury have improved 33%. Finally, J1900C items are on track to improve 100%. We are able to conclude that overall falls are happening at a substantially lower rate!
In regards to Gait velocity, they have improved 31%. For Functional ability, Westbrook Place has declined -15%. For Balance ability, Westbrook has improved 14%. This data is collected from overall community baselines and compared to those who have been reassessed. What we are able to conclude is that residents at Westbrook Place, while not moving functionally, they are walking quicker and have better balance!

Hip Fractures

For our project goal of reducing hip fractures by 10% we currently look at the I3900 MDS item. Through our assessments, care staff are able to identify risk among patients and then use that data to adjust care plans. VirtuSense aims to be able to lower the total amount of hip fractures that the ten-partner facilities witness. We requested the past 12 months of MDS data, prior to implementation of the technology, from the sites to be able to capture the baselines for this goal. We track the progress of this outcome by collecting updated MDS data for the reporting period and comparing it to the baseline to see our progress. A majority of these facilities had reported a

low number of hip fractures for the prior year, so hitting a 10% reduction in hip fractures for these facilities would be keeping their number at most the same as it was the prior year. For the most part, we are on track to achieve our goal in this measure for the quarter and are looking forward to the progress for the year, aside from one or two facilities. Lincoln Crawford reported three I3900 items for the prior year and have already reported two I3900 numbers for this reporting period. In regards to this site, we have already hit our maximum goal for hip fractures and aim to keep it as close to two as possible for the year. Countryside Manor is another site where we are not on track to hit this goal. They reported only four I3900 items in the prior year and have already experienced a hip fracture in this reporting period. For the other facilities, we are on track for this outcome measure. As we learned more about how MDS data items were recorded and reported, specifically for I3900, we have come to the realization that if we are aiming to reduce the amount of hip fractures a facility experiences on-site, then I3900 is not the MDS item we should be looking at. We believe that we should be looking at J1900 C and asking facilities to highlight ones that resulted in a hip fracture; explained further in the fourth paragraph of section 5, lessons learned.

Falls

Our next project goal of reducing falls and falls with injuries by 10% is obtained by looking at the MDS item numbers J1800 and J1900. To capture our baselines for the goal we collected the prior twelve months of MDS data for the items previously listed. We then gathered monthly MDS data from the partner facilities to see the progress we have been able to achieve in reducing the number of falls, or the number of items listed in J1800 and J1900. Thus far in the project, most partner facilities have already seen a reduction in the number of falls. If we break down their prior year falls number into how many falls they experienced on a quarterly basis, then many partner facilities are well under those numbers with them seeing around a 50% reduction or more in quarterly J1800 falls. Clovernook and Countryside are experiencing a high number of falls, however it is important to note that these facilities have NOT used the system at this point in time. The Glen, has reported a high number of falls as well, however, according to the onsite MDS Coordinator, approximately 30 of the listed falls came from one resident, who we are to assume has NOT yet been evaluated on the VSTBalance System. Northcrest and Westbrook Place are interesting cases as well. For Northcrest, they had a higher amount of falls with injury, however when reviewing the data, the amount of residents who have experienced a fall has significantly decreased (75%). On the reciprocal with Westbrook Place, while the number of falls across total residents have declined (-8%), the number of people who have experienced injury has greatly improved (33%). The second to last column in the table above where the falls numbers are listed is the fall reduction percentage we are projected to hit if we can keep the falls numbers from this quarter consistent. Given these percentage projections, we expect those numbers to fluctuate as we progress through the year. In other words, it's reasonable to expect some months/quarters will have a higher number of falls than others. This will lead to the high fall reduction percentages in the expected annual performance to likely balance out and lower, hence our goal of only a 10% reduction in falls. We have come to the realization that if we are aiming to reduce the amount of total falls a facility experiences on-site, then J1800 is not the MDS item we should be looking at. We believe to more accurately capture the total amount of falls and falls with injury, then we should be looking at only J1900 A, B, and C; explained further in the fourth paragraph of section 5**,** lessons learned.

When reviewing the numerical data surrounding our assessments, it is important to note that some facilities either have not had residents discharged as of yet or have not used the system (first discussed in section 2.3 paragraph 1). However, from the information that has been gathered up to this point, we have been able to see overall trends of improvements!

1. ***Functional Assessments – Goal: 15% Improvement***

   For partnering facilities within this project, the 5x Sit-to-Stand assessment is how facility staff are able to assess a resident's functional abilities. When exporting data surrounding a resident's functional ability, only one facility with adequate data did not experience a direct positive improvement. This means there is only one facility that is currently not on target to reach the proposed 15% improvement. Overall, we were able to show an average facility improvement of over **21%** from overall baselines to reassessment averages across these facilities, meaning the VSTBalance, thus far, has shown proven benefit in identifying functional deficits in the

quarter and the year.

2. ***Balance Assessments – Goal: 15% Improvement***

   For partnering facilities within this project, the Sitting Reach assessment is how facility staff are able to assess a resident's balance abilities. When exporting data surrounding a resident's balance ability, only one facility with adequate data did not experience a direct positive improvement. This means there is only one facility that is currently not on target to reach the proposed 15% improvement. Overall, we were able to show an average improvement of over **15%** from baselines to reassessment averages across these facilities, meaning the VSTBalance, thus far, has shown proven benefit in identifying balance deficits in the quarter and the year.

3. ***Gait Assessments – Goal: 20% Improvement***

   For partnering facilities within this project, the Timed-Up-and-Go and the Gait assessments are how facility staff are able to assess a resident's gait abilities. Starting with the Timed-Up-and-Go assessment, when exporting data surrounding a resident's gait ability, every single community experienced a direct positive improvement. Overall, we were able to show an average improvement of **34%** from baselines to reassessment averages across these facilities, meaning the VSTBalance, thus far, has shown proven benefit in this form of identifying gait deficits in the quarter and the year. The other assessment within to assess a resident's gait ability is the actual gait assessment. When exporting data surrounding a resident's gait ability, two facilities with adequate data did not experience a direct positive improvement. Overall, we were able to show an average improvement of over **16%** from baselines to reassessment averages across these facilities, meaning the VSTBalance, again, has shown proven benefit in identifying gait deficits in the quarter and the year.

With these scores, it is important to note a few key features. The first being that baselines and annual targets will continue to shift over the course of our reporting periods. For example, as facilities continue to assess their patients, we will see the overall facility baseline change for each site as they assess new patients that have not been on the system, gathering additional baselines that may have not been captured in prior reporting periods. Similarly, as the overall facility baseline changes as more data is captured, this will cause the annual target to adjust to reflect the updated target with the newly gathered baseline data. Also, not all communities have performed discharge assessments with residents. Because of this, we were limited to the amount of data available from specific communities in terms of data for quarter one. While many patients were assessed at each site, a good majority of the patients assessed were just gathering baseline data, and therefore that data is added to the site's baseline. If a facility has not yet reassessed any patients, we will not have any data for quarter one, hence why some site's quarter one data for gait, balance, and function are listed as N/A. This is normal as we recommend patients be reassessed either as they are discharged, from short term rehab, therapy, or a restorative program, or reassessed every 90 days with the MDS quarterly assessments. Since these sites have only had the technology since mid-February, about 40 days in regards to this reporting period, we do not expect much reassessment data for this quarter and expect to start seeing more re-screening results moving into the next reporting period. While this is the case for about half of the partner facilities, we have already seen some reassessment data from certain sites, hence why there is quarter one gait, balance, or function data reported. This is because those sites with re-assessment data are performing extra assessments and more frequently than recommended to try and capture the progress of the patient as they go through the plan of care and adjust if necessary.

Patient satisfaction is a crucial and integral part to the world of Skilled Nursing Facilities. Our goal was to have a 75% satisfaction among patients who have taken part in being assessed with the VSTBalance system. So far with the collected results, we have been able to identify that patients who took the satisfaction survey have been 79% satisfied with the system, answering "Yes, I enjoy using the VSTBalance.", when asked if they enjoy VSTBalance and "Yes, I enjoy using it.", when asked if they would use the VSTBalance again. Granted we only have survey results from only a few of the partner facilities thus far, as most patients have not yet been re-assessed and have therefore not taken the patient satisfaction survey; further explained in the seventh paragraph of section 5.

From here, our goal is to continue to work with each individual site and provide as much support as we can. Each site that is willing to communicate back to us has been involved with multiple questions of how we can continue to provide support and assistance. Ideally once COVID-19 subsides and we can all regain a sense of “relative” normalcy, we will be able to revisit, onsite, with each and every facility. The purpose of this is to continue to drive excellent usage, understand the system’s importance, and brainstorm any potential barriers to the site’s usage.

2.2 Implementation Status

Prior to deploying any of the VirtuSense technology, were able to set up introductory calls to the partner facilities to explain the whole process of this project and convey to them what to expect moving forward (i.e. VirtuSense Goals, Standard-Operating-Procedures, and scheduling an implementation day.) Each site was scheduled a minimum of two calls. The first call was to demonstrate the technology, how the system functions, and what benefits partnering facilities have while using the technology. The second call was to discuss and schedule the day when a VirtuSense representative comes onsite, trains the facility, and has a management meeting with project champions. During both calls, VirtuSense relayed the necessity of collecting requested de-identified MDS data. 8 of the 10 partnering facilities were scheduled for deployment between 2/03 – 2/07. The other two facilities were scheduled for deployment on 2/11 & 2/12 (per the request of the individual sites). Time-sensitive protocols were enacted to ensure adequate delivery of the technology and other necessary components of the system’s set-up. All 10 facilities received all components in a timely manner.

Any Deployment/Implementation Day consisted of three main categories. The first category was on-site system training. This training was open to the entirety of all administrative staff, nursing teams, restorative nurses, PTs, OTs, COTAs, MDS Coordinator(s), etc. Training included coverage of the physical set-up and maintenance of necessary cords, outlets, charging cables, and other hardware identifications, software training (how to navigate through the system, login, assess patients, and access records), and proper operations of the remote control. The training would last approximately one hour. We would welcome and accommodate facilities if we needed to allocate more time for additional training throughout the day. After the training(s) was completed, each member who was involved with the training, signed a document to note that they were trained on the VSTBalance system during the Deployment/Implementation Day

The second category consisted of a “Go-Live” portion. We asked the participating facilities to identify residents that would benefit from being assessed with this technology. For these facilities, they would consider caseloads and who the therapy team was seeing that day. Also, the Restorative team would consider residents that would benefit from identifying current musculoskeletal deficits, if there was any noted decline in current performance for the resident. Those populations of who we would assess (recommended anywhere between 15-20 residents) were identified prior to our deployment. The identified population would be brought in, one-at-a-time, to partake in the VSTBalance Assessments. We would ask those who would be physically assessing residents on a regular-basis to take charge with the remote, logging in, and practicing turning on the system. In a specific order, the assessments were performed in the order of Gait, Sitting Reach, 5x Sit-to-Stand, and Timed-Up-and-Go. Once a resident was finished with their assessment (approximately 5-10 minutes to complete all 4 assessments) they were able to continue on with their routine for the day. Total “Go-Live” time allocation was approximately three hours.

The final category consisted of a Management Meeting with site facilitators (i.e. Administrators, DORs, MDS Coordinators, DONs, etc.) This management meeting took place at the end of the day, following the “Go-Live” portion, for approximately 30-minutes. The purpose of this meeting was three-fold. First, we would review resident data from the screening day, on our VSTCloud Portal. As resident information is automatically uploaded to the cloud via Wi-Fi connection, we were able to review any necessary action items for any assessed resident. Second, we would train each member of the meeting on how to use the VSTCloud Portal. We would discuss how to login, access information, export data, and review patient info. Finally, we would discuss follow-up actions. Namely, this portion of the management meeting was for participating facilities to be in complete understanding of what was happening with the project, how to use the system, and make sure all were on the same page!

Following the initial deployment day with each participating facility, we have been having routine touchbase calls with each facility. On these calls, we invite main drivers to discuss any issues we might be able to troubleshoot remotely, any success stories that they have encountered, and how VirtuSense might be able to offer continued support. Thus far, each site has been able to participate in 3-4 touch base calls per month!

Not only have we been able to touch base on individual phone calls, but participating facilities receive email invitations every week to participate in a remote VSTBalance Training and/or VSTCloud Portal Trainings. Remote VSTBalance Trainings commence twice per week and VSTCloud Trainings commence twice per month.

Finally, as COVID-19 has caused an incredibly difficult time in the world of Skilled Nursing Facilities, VirtuSense has been able to provide a battery-pack for each participating facility. The purpose of this portable battery is to allow facilities to use the VSTBalance system in resident rooms. We were able to understand, through conversations from the individual sites, that in-room services were not only requested, but were increasingly recommended. Our response was to allow users the ability to benefit from standardized, objective measurements, even though new protocols and guidelines have been initiated.

2.3 Implementation Challenges

One challenge we have faced with implementation has been top-down communication from participating organizations. For example, if an organization has multiple facilities participating in the project, some facilities seem to be more well-informed of the project and the purposes of it than others. Not only this, but facilities differ in their support for continued communication. If VirtuSense acts upon an issue with a participating facility for any reason, we have not been able to gain additional support to resolve the issue from the participating organization or third party contractor. This has happened on numerous occasions. Specifically, the communities of Countryside Manor & Clovernook have not been able to progress with continued usage for a multitude of reasons. When trying to get in contact with the respective organization that they belong to, I have been met with little to no response as to how we can resolve the issue at hand. Not only has top down communication from corporate been an issue, but even on-site support has been somewhat shaky at times. For example, at Clovernook, there was hardly any participation in the training, go-live, and management meeting. Outside of the Therapy team, VirtuSense was met with little to no effort in a successful launch.

Traditionally when we implement systems to clients, we occasionally experience some push back from staff members on site who are used to doing assessments/exercises in the traditional way where a therapist/clinician observes a patient perform an assessment and then writes down the results. For ninety percent of the deployments we did not run into this problem while deploying our technology to the partner facilities in Ohio, however, we did experience this problem at Countryside Manor. One of the therapists there pushed back a little on the technology saying that they would prefer to do it the traditional way that they were taught. To try and fix this challenge, we had a discussion with the therapist about their concerns with the technology and talked through most of their issues. We also had a separate discussion with the Therapy Director to clarify the value and importance of the technology to have top-down communication to the on-site staff as well. While usage has not yet picked up, we have been able to fix the original mindset of the therapist.

MDS Collection has also been somewhat hard to collect from organizations. We realize that MDS Coordinators operate under a very specific guideline to ensure that plans-of-care or enacted efficiently and effectively. Nevertheless, at times, collecting this data has proven itself to be pretty difficult. Considering COVID-19, collecting this data could potentially be even more taxing on these Coordinators.

When implementing the system, we train the main users of the system on what to do and what not to do (i.e. If a mistake occurs when assessing a resident, we train users how to discard the data and either skip or restart the assessment). However, human error is always a factor that can never be eliminated. Thus, some reported data on the cloud can appear to be somewhat skewed. Even as we cannot assume that information is biased or falsified, we have to consider human error if a system user does not assess the resident properly onsite.

Finally, COVID-19 has brought upon the world of Senior Living a strange, yet increasingly terrifying reality. Because of this, VirtuSense has been able to communicate with each and every facility about the transition in focus that they will undergo, a necessity among essential employees. With this, we fully expect a drop in system usage. This is not because of the fact of declined proven benefit, but because of staffing, occupancy, and protocol challenges which have been communicated to the VST team. The amount of staff onsite has caused declines in usage. Staffing issues can create a multitude of issues as it reduces the amount of resources available for adequate care, treatments, and residential healthcare. There have also been reports from participating facilities that main drivers, lead Physical Therapists, and others, are either isolated to another facility or are traveling between facilities. Not only this, but we have heard of occupancy and admission rates falling in response to this pandemic, thus, the number of assessments performed are

dwindling as well. COVID-19 has even caused more and more focus on specific documentation. In order to avoid potential lawsuits stemming from a provider's response to a positive coronavirus case, we have learned that onsite staff need to record all actions taken once a new piece of guidance has been released. Organizations will document what they previously knew before the issuance of a new guideline, when they officially knew of said guideline, and their response to officially enact the new protocol. Taking PPE protocols, for example, many facilities are using homemade or reused equipment, which causes an additional stress factor as noted by True, Cubanski, Garfield, Rae, Claxton, Chidambaram, and Orgera, "... although coronavirus outbreaks in LTC facilities have been widespread since the crisis began, less attention has been paid to LTC workers' access to PPE, despite reports of shortages in facilities."[1] Plus, facilities are continually facing stress from hospitals to admit patients who had been treated for COVID-19. Not only this, but resident families are pressed with fears of as well. Thus, families potentially are removing family members from their respective communities due to infection fears.

> "The caseload is as low as I've ever seen it here in nearly 13 years. No one is getting enough hours with the therapy caseload alone." - Matt Geise, DOR Traditions at Chillicothe

As noted by Kathryn Boyd, LeadingAge Ohio President and CEO, "At this moment, many post-acute care providers in Ohio still do not have the adequate supplies of PPE needed to react to COVID-19." Backing this claim is a recent report published by the Kaiser Family Foundation. This report found that within the state of Ohio, facilities who have reported a positive COVID-19 case average approximately 9 cases across their community. The study then states, "Given that not all states are reporting data yet and the continual lag in testing, the counts of cases and deaths are an undercount of the true number of cases and deaths in long-term care facilities."[2] At this point in time, the amount of deaths related to this devastating virus is unknown, but will hopefully be shown as facilities will be reporting positive cases to the CDC as well as local and state health officials.

Long-term care facilities with known cases	Cases in long-term care facilities	Deaths in long-term care facilities	Long-term care facility cases as a share of total state cases	Long-term care facility deaths as a share of total state deaths
91	781	Unknown at this time	6%	Unknown at this time

These infection fears are not only stemming from the risk of residents potentially catching the virus, but from staff members testing positive with the illness, then spreading to the community. Finally, protocols, such as requesting in room treatments have created a great disruption for facility teams. VirtuSense has been able to offer a physical solution to this issue, however, other onsite protocols and guidelines have (such as constant sanitation and wiping down the system) created an additional barrier to perfect usage.

Not only does COVID-19 affect the ability to appropriately assess residents, but it can also lead to health related factors. As noted by Cornwall and Waite, "Social disconnectedness is associated with worse physical health, regardless of whether it prompts feelings of loneliness or a perceived lack of social support. On the other hand, at all levels of social

[1] True, S., Garfield, R., Rae, M., Claxton, G., Chidambaram, P., & Orgera, K. (2020, April 23). COVID-19 and Workers at Risk: Examining the Long-Term Care Workforce. Retrieved from https://www.kff.org/medicaid/issue-brief/covid-19-and-workers-at-risk-examining-the-long-term-care-workforce/

[2] Chidambaram, P. (2020, April 23). State Reporting of Cases and Deaths Due to COVID-19 in Long-Term Care Facilities. Retrieved from https://www.kff.org/medicaid/issue-brief/state-reporting-of-cases-and-deaths-due-to-covid-19-in-long-term-care-facilities/?utm_campaign=KFF-2020-Medicaid&utm_medium=email&_hsenc=p2ANqtz-89rM54W1GvZO56kpPUq-SBBM7VE5C8FhrV5PI2zEw7Wdr804Twfytj_qSdDHsYPcqiwpXONFDYOovXPWMJDt5zIC9_JQ&_hsmi=86890099&utm_source=hs_email&utm_content=86890099&hsCtaTracking=e30ec8c6-4141-403d-98d6-5856bac98f12|b62d16b8-dc2e-45bb-9983-a1f42e332c5a'

disconnectedness (or connectedness), the perception that one lacks social resources may take a toll on physical health"[3]. In other words, residents within these facilities are reportedly facing immense amounts of loneliness because they are confined to their rooms, cannot partake in activities or social groups, or even see family members. This disconnectedness caused by COVID-19, in turn, has proven to accompany a deteriorating physical and mental health. Within the study, they were able to find that both true disconnectedness (what we are seeing as a result of COVID-19) and ***perceived*** social disconnectedness both lend a hand to this physical regression. Whenever a resident perceives that they are isolated and are not in touch with society, we then find a newfound causation to musculoskeletal deficits.[4] Some of the most common symptoms within this social disconnectedness and isolation is anxiety and depression. As outlined by Iaboni and Flint, "Depression and falls have a significant bidirectional relationship. Excessive fear of falling, which is frequently associated with depression, also increases the risk of falls. Both depression and fear of falling are associated with impairment of gait and balance, an association that is mediated through cognitive, sensory, and motor pathways.."[5] This fact also supports the notion that COVID-19 creates a multitude of issues within both the mind and body of SNF residents. The current state of participating facility residents raises the stakes of perceived isolation and depression, thus creating a novel mental health issue. This mental health only adds to a deteriorating wellbeing (mentally and physically) adding to a risk of fall and declining ambulation, balance, and function.

While we were collecting the data for this report and completing it, we were informed that Cedarview had a confirmed COVID-19 case in April. We expect this to have a very negative effect on usage for the month of April moving into the next reporting period. While the situation came to light past this reporting period, we wanted to voice this challenge in this reporting period as we expect it to present complications moving forward into the next reporting period.

3. STAKEHOLDER PARTICIPATION AND INVOLVEMENT

Overall, we have had marginal participation and involvement from the stakeholders. From our observation, CCH seems to be the most inactive as we have not been able to make contact since the start of COVID-19 stay-at-home orders were enacted. This is not just seen from the corporate side, but from the regional team as well. For example, as discussed in the implementation challenges, we have some issues with the CCH team supporting VirtuSense to push usage from Clovernook and Countryside Manor. We have tried phone calls and emails discussing a plan-of-action and timetable of when we would be able to push and get some amazing results. We have not had any response from either corporate or regional offices. This resulted in no usage from those two isolated locations. VirtuSense cannot seem to crack the code to schedule a call, or enact a new game plan to help those facilities.

In this quarter of the project there has been good participation and involvement from the 10 partner facilities and their staff. Even given the health issues surrounding COVID-19, most partner facilities are still using the system with the battery pack, or are just screening one patient at a time. The DORs, MDS nurses, and restorative teams have been very involved and using the system consistently, despite coronavirus challenges. We have gotten some feedback from MDS nurses that, due to COVID-19, they have not been as involved as they would like to be. They expect that to change once things start to return to normal after the pandemic has passed. The only site where we have had minimal participation from the staff is Clovernook and Countryside Manor. Due to the issues described in the implementation challenges, there was no usage past the initial screening day for this quarter. Clovernook had told VirtuSense they would begin usage the week of 04/06, however we have not yet seen any usage. Countryside has also been able to state they will use the

[3] Cornwell, E. Y., & Waite, L. J. (2009). Social disconnectedness, perceived isolation, and health among older adults. *Journal of health and social behavior*, *50*(1), 31-48.

[4] Khosravi, P., Rezvani, A., & Wiewiora, A. (2016). The impact of technology on older adults' social isolation. *Computers in Human Behavior*, *63*, 594-603.

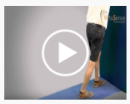
[5] Iaboni, A., & Flint, A. J. (2013). The complex interplay of depression and falls in older adults: a clinical review. *The American Journal of Geriatric Psychiatry*, *21*(5), 484-492.

system soon (with no set timeline due to COVID-19), but similarly, there is no specific usage as of yet. Our goal is to virtually re-train staff and to have usage pickup as soon as possible.

The therapy and restorative teams have been very involved with using the system. The therapy teams at the partner facilities have been using the system to obtain more in-depth data on the musculoskeletal deficits within patients and using that data to adjust the plan of care to better address the mobility issues that the patient is experiencing and were identified by the system. The therapy team has also been adding the biofeedback training games into their plan of care and has the patients perform the games to replace other exercises/activities. One quote we received from a Director of Rehab gives some insight into how they are seeing results:

> [The] VST Balance System has been an amazing addition to our therapy department and daily treatments. It has proven to be a nice quantitative measure for assessment and a fun and enjoyable treatment approach for our residents. We now have more quantitative measures to show progression with our residents. Recently a managed insurance was questioning the skilled level of services for a higher level psych-related patient. We were able to show the progression from our VST Balance Eval to discharge and show a reduction in fall risk which assisted in us securing coverage for his skilled stay. – Sarah Kline, MS, OTR/L

The restorative staff has been using the system similarly to the therapy staff. They use the system to screen and capture data on the patients who are not on therapy caseload. They have been using the system to identify deficits, which adjust what restorative program they put the patient on, and then using the system again to check the progress of improvement in the patients. The restorative team has also been utilizing the recommended exercises to supplement their restorative program and give the patient additional exercises to perform to help with improving mobility deficits. Some examples of the recommended exercises that have been assigned are listed below.

Exercise	#Reps or Duration	#Sets	Days	Frequency	#Days/week	Length(#Weeks)
Gastrocnemius Stretch 	30 **sec**	4	2	Day	7	4
Long Arc Quad (Seated Leg Lift) 	10 **reps**	3	2	Day	3	1
Heel Raises 	10 **reps**	3	3	Week	3	11

***Patient name and DOB have been omitted to ensure privacy**

4. MANAGEMENT AND ADMINISTRATIVE ISSUES

As previously noted in Section 2.4 paragraph 1 as well as Section 3 paragraph 1, we have had limited support from CCH regional and CCH Corporate throughout COVID-19. Throughout numerous attempts, we are only able to work onsite personnel throughout this pandemic.

Another issue that we've been faced with is turnover. For example, Greg Carson, the Harrison Pavilion Administrator during the project implementation is no longer with Harrison Pavilion. A new Administrator, Christina Frey has assumed the position. However, I have not had any contact back from her either via phone call or email. This could lead to potential issues. One known issue is that the battery-pack that was sent to Harrison Pavilion cannot seem to be found. The original package was sent to Greg Carson. When trying to help and locate the battery pack, assuming it might have been placed in Christina's possession, I have been met with no response. Within Harrison Pavilion, it seems other members of the facility have also changed, including the MDS Coordinator and DON. However, we were not informed of this change until we were able to receive updated MDS data. Also, LaRonda Lisembee was recently added as the newest Lincoln Crawford Administrator. Previously it was Yoseph Ottensoser. Also, it is to our knowledge that Jacob Davis, DoR

of Harrison Pavilion, and Larry Hill, DoR of Countryside Manor, have both been traveling to numerous facilities to help throughout this COVID-19 situation. This instance can potentially cause further issues of usage as they are now split between facilities and time onsite is limited. Overall, staffing changes and scheduling fluxuations

As for project staff changes on our end here at VirtuSense, we have not experienced any changes in our staff in regards to the Ohio CMP project. All of us from VirtuSense have been working from home since the start of March. We are still able to perform all of our necessary duties in regards to this project, though with the weekly virtual training for staff members there have been slight challenges in finding the appropriate space to provide this training as it requires a twelve-foot by six-foot space to provide adequate training. We have been able to work around these issues and have made do with the space we have available to us in our homes

There also seems to be the issue of relating the purpose and benefit of the VSTBalance system to current residents. Specifically, a main reason why our resident satisfaction was only at 79% was because Cedarview is our only participating facility to have any resident satisfaction results less than 75%, as they are currently at 50% satisfaction. For the resident surveys, however, we are able to identify the same user assessing the residents. Therefore, we can make the assumption that the individual who is assessing the resident may not be doing a good job of explaining the purposes of the VSTBalance System, why utilizing this system is beneficial to their health, and how to interpret the results. In addition, the specific user was NOT at the intial onsite training. When asking if the individual would like to be a part of our scheduled online training or an individual training outside of those hours, I was told that the Therapy DOR would like to provide the individual's training herself, without the guidance of a VirtuSense representative. From there, we are able to only speculate that this might be an initial cause for the subpar results. We have since tried to connect with the facility and user of the system, with no current contact back from the site.

At this point in time, we have not had any software or procurement issues, nor do we have any planned upcoming procurement actions.

5. LESSON LEARNED

We have been able to experience highlights of learning that we have witnessed thus far throughout the project. To start, COVID-19 has brought upon a new wave of unprecedented challenges. These challenges span across a wide array of SNF departments to keep residents living happily and safely. Janitorial/Housekeeping, Admissions, Nursing, Therapy, Dining, Administration, Marketing, and other areas are incredibly and deeply affected by the effects of this terrible pandemic. Luckily, we have been able to learn to be adaptive in our response to what is most feasible during times of crisis. For example, we were able to deploy a portable battery pack that very easily installs onto the back of the system set-up. Once charged, facilities are able to take the system to any patient room or setting without the need of any additional electrical outlet (which was previously necessary). The purpose of the battery-pack is to allow the users of the system the ability to continue to assess residents and provide biofeedback training from a patient's room, as they are continued to be isolated and confined to their bedrooms. Our goal was to allow an alternative to help facilities continue on with their daily operations, while offering a tangible solution to assist one observed challenge.

Another lesson learned to continue to maintain contact with the participating facilities. We have maintained a very consistent communication base with the participating facilities thus far in the project. Although some facilities are more responsive than others, our attempts to get in contact has not ceased. Realizing the importance of the project, demonstrating and showing an improvement among SNF residents is our primary goal. We want to ensure that everything VirtuSense is capable of doing at the ground level is met.

Also, one instance where we were able to use adaptive learning to overcome a challenge came with the collection of MDS data from the partner facilities. As we were collecting de-identified data, we came to learn that the reporting of MDS data either varied slightly between sites or we were sent different reports when requesting falls data for the 2019-2020 year. Some partner facilities would send us a facility report, an assessment mix, and some just sent us the numbers for the requested MDS data items. We believe the variation in the reports we received came from some of the MDS coordinators either not understanding exactly what we were needing or were unsure how to exactly pull the requested data. To help address this issue, clear up confusion, and attempt to make the gathering of data consistent, we created a document that the MDS coordinators can use which gives a space to report the number of each item requested and has a section outlining the timeframe of the reporting period we were looking to get data from. This cleared up some confusion

we had on our end trying to accurately comprehend the reports they sent us, made sure we were receiving data in a consistent format, and has made the job of collecting the MDS data easier for the MDS coordinators.

In regards to challenges with MDS data, we learned that item I3900 is not totally telling of the benefit of VSTBalance. Specifically, a score of I3900 references if a patient has an active hip fracture which has a relationship to current status, treatments, or monitoring. In other words, this specific item will be hard to reduce as any active hip fractures that do not happen within the facility are out of our control. As more individuals are admitted with an active hip fracture, the I3900 item will continue to increase. In further research and conversations with MDS coordinators participating in the project, we believe the MDS item we should be looking at is J1900 C, falls with major injury, and ask the facilities of these falls with major injury, how many hip fractures resulted in these falls. This will accurately capture the number of hip fractures a facility is experiencing on-site rather than how many patients' care plan is being adjusted by a hip fracture as a pre-existing condition.

Similar to the challenge listed above, when looking at the total amount of falls a facility is experiencing, we have come to the realization that the MDS item J1800 does not accurately capture this total number. Again, in further research and conversation with MDS coordinators participating in the project, we have come to find out that J1800 is capturing the number of residents that have experienced a fall since admission or prior assessment. However, this MDS item does not capture if a patient experienced a fall more than once since admission or prior assessment. If we are looking at reducing the total amount of falls these partner facilities are experiencing, then we should be only looking at J1900 A, B, and C, falls with no injury, minor injury, and major injury, to capture the total amount of falls. When looking at the baselines and our progress in regards to falls with injuries, then we should only be looking at J1900 B and C, falls with minor and major injury, to accurately capture the number of falls with injuries these facilities are experiencing. Looking at J1800 for falls and J1900 for falls with injury, will give inaccurate falls numbers for these facilities. For example, if a resident experienced two falls since admission or prior assessment and both were with no injury, then that would be recorded as one entry for J1800 but two entries for J1900. So, if we want the total number of falls a partner facility is experiencing in a given time frame, then we would want to look at the numbers for J1900 A, B, and C.

We also realized that as we collected information from participating facilities, the MDS items are based off of total populations of the communities. When reporting this information, it's important to note that not all residents within a facility are actively participating within the VSTBalance project. 100% of participation for a facility population is not realistic as many residents are either non-ambulatory, bed bound, or are not cognitively able to follow direction for the assessments. Also, as we are only a quarter into the first year of the project, not all residents will have been able to take part in a screening with the system as we are operating off of Therapy Admission and Discharge. If a resident has not had a therapy script, they would not have a baseline or discharge on the VSTBalance system. So as we collect MDS items, we realized that those total numbers are not reflective of individuals who have been able to be screened with the VSTBalance system. We are inclined to believe a majority of individuals who are suffering from falls within a community have not yet been able to benefit from the VSTBalance objective, standardized measurements.

Patient satisfaction survey usage and gathering the surveys themselves was another challenge that we had to adapt to. The patient satisfaction survey was a new feature we added to the VSTBalance solely for the purpose of this project and measuring satisfaction for one of the outcomes outlined in the project. We still had some issues to work through to be able to gather the results of the surveys once they had been taken by the patient after their second screening. We quickly worked with our development team to solve this issue and ensure that we had a way to gather the results of the surveys. Another lesson we learned in regards to the survey was we saw more patients reassessed than we had patients who had taken the survey. With it being a voluntary survey, we know that not all patients will choose to take the survey and submit their general opinions about the VSTBalance, though we believe that some users of the system may also be disregarding the survey, since it is voluntary, and not asking the patient if they would like to answer the five

quick questions. This is something that we will have to adapt to moving forward into future quarters and think of a new way to approach teaching users about the survey so that we can hopefully see an increase in the number of the survey results we obtain.

Finally, we realized that even though the project outlines, parameters, and goals are the same, facilities can be very different! Some facilities were extremely excited to have this technology, and the results seen thus far show that with great determination and powerful internal structure, amazing improvements are more than achievable. Nevertheless, every facility participating in the project offers a different aura, attitude, and character. It provides a specific insight into how VirtuSense is able to help on an individual level across all facilities.