Leveraging the Personalized Patient Experience Platform™ for the Oncology Care Model

WILLOWGLADE® TECHNOLOGIES

Table of Contents

Challenges in Oncology Care Management

Cancer is the second largest cause of death in the US[1]. In 2009, cancer costs reached $216.6 billion; $86.6 million went to direct medical costs, and $130 million to indirect mortality costs.[1] Cancer costs continue to rise depending on the stage of cancer and amount of in/out patient care that is needed.

Each year, 650,000 patients in the US receive chemotherapy in an outpatient oncology clinic, [3] with the 65 plus population having the highest incidence for a cancer diagnosis. Approximately 50% of patients in oncology practices are Medicare Beneficiaries.

The Center for Medicare and Medicaid Services Innovation (CMS Innovation Center) continues to explore mechanisms to reduce the cost of providing care, yet at the same time maintain or improve quality of care and quality of life indicators.

The goal of CMS is to appropriately align financial incentives that also improves:

1. Care Coordination
2. Appropriateness of care
3. Access to care for beneficiaries who are undergoing chemotherapy treatment.[5]

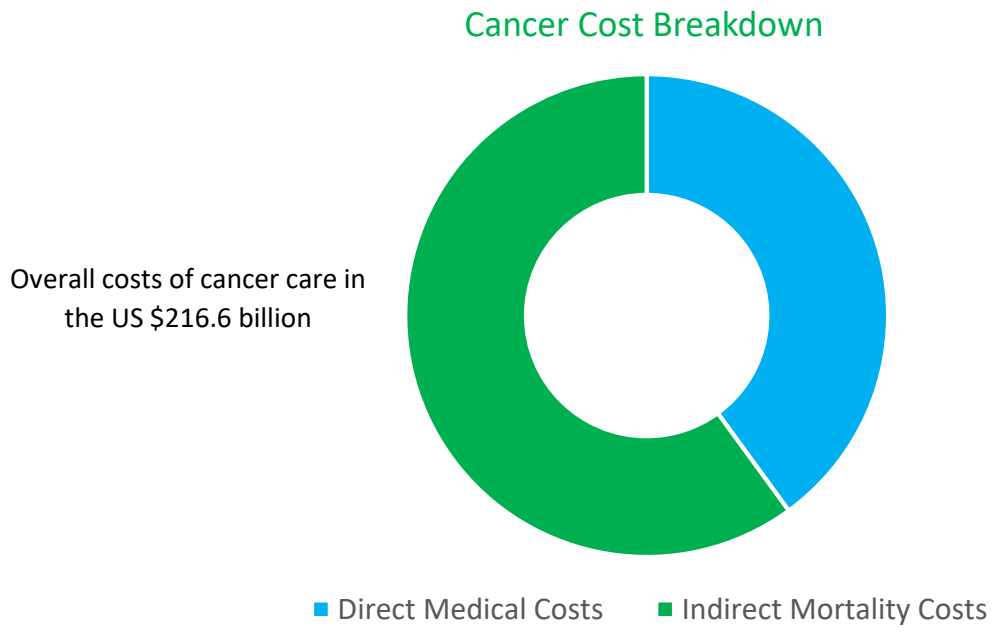

Figure 1 – Cancer is the second largest cause of death in the United States.[1]

Transforming Quality of Care[6]

In order to transform oncology care, CMS has defined several quality domains. These domains include:

- Clinical care
- Communication and care coordination
- Person and caregiver centered experience/outcomes
- Population health outcomes
- Efficiency and cost reduction
- Patient safety

It is anticipated that all data should be acquired by practice reported data, Medicare claims, and patient surveys to illustrate if there are improvements of care quality in each of the domains listed above. Site visits, as well as time and motion studies also qualify as measures that can be used to record quality care data per episode initiation.

When a patient qualifies for the program, all Medicare A and B services that FFS (Fee For Service) beneficiaries would receive during an episode are included in each OCM six month trial after chemotherapy initiation. CMS has also listed common chemotherapy treatments and selected endocrine therapies that qualify for OCM FFS episodes for inclusion. Multiple episodes may be initiated during the five year model performance period as well.

The tables below explains specific participation requirements from the OCM model for the eligibility of both the physician and patient.

Physician Requirements
▪ Provide core functions of patient navigation ▪ Document care plan with components from the Institute of Medicine Care Management ▪ Provide 24/7 access to a clinician for patients with real time access to medical records ▪ Treat patient with therapies within clinical guidelines ▪ Use data to measure quality of care and improvement (or lack of) ▪ Must use ONC Certified Electronic Health Record to meet stage 2 meaningful use by end of the model's 3rd performance year.

Table 1. Physician Requirements for OCM Participation[8]

Patients Requirements
▪ Patient is Medicare eligible once the initiation of chemotherapy has started ▪ If more chemotherapy is needed after the 6 month period, patient can re-enroll into another 6 month period ▪ Have Medicare FFS as their primary payer ▪ OCM participation will be discontinued for patients admitted into Hospice care ▪ Do not have end-stage renal disease ▪ Are not covered under United Mine Workers

Table 2. Patient Requirements for OCM Participation[8]

Episode- Based Reimbursement[6]

Through the episode, providers will be paid their regular Medicare FFS payments, as well as a Per Beneficiary per Month (PBPM) payment of $160 per month for the enhanced services required for OCM. Additionally, there will be a performance based payment that will act as an incentive to lower the total cost of care while at the same time improving the quality of care delivered to beneficiaries. CMS is offering two risk arrangement options.

Risk Arrangement – Option 1 – One sided
▪ Participants are not responsible for Medicare expenditures that exceed the target price. ▪ 5 – year model duration ▪ Medicare discount of 4% ▪ Must qualify for performance based payments by the end of year 3

Table 3. Risk Arrangement Option One for Reimbursement[6]

Risk Arrangement – Option 2 – Two sided
▪ Participants are responsible for Medicare expenditures that exceed the target price. ▪ Option to take a downside risk, beginning in Year 3 (one sided risk for years 1 and 2) ▪ Medicare discount of 2.75% ▪ Must qualify for performance based payments by the end of year 3

Table 4. Risk Arrangement Option Two for Reimbursement[6]

CMS will undertake a risk adjustment for several factors that affect episodic care:

- Beneficiary characteristics
- Episodic characteristics
- Disease characteristics
- Types of services furnished

Participation of non – Medicare Payors[9]

Payors other than Medicare can participate in OCM, however in order to participate, CMS has placed some requirements on them. The requirements of payers that are eligible to participate are detailed on the following table.

Payor Requirements
▪ Commit to OCM participation for 5 years, and begin performance period within 90 days of OCM-FFS ▪ Sign Memorandum of Understanding with CMS ▪ Enter into agreements with OCM practices that include requirements to provide high quality care ▪ Share model methodologies with CMS ▪ Provide payments to practice for enhanced services and performance ▪ Alight quality measure with OCM ▪ Provide participating practices with aggregate patient-level data about payment and utilization for patients receiving care

Table 5. Eligibility requirements for non – Medicare Payors[6]

Quality Measures for OCM[6]

Payer Requirements	
Quality Domain	**Recommended practice requirement or quality measurement**
▪ Communication and Care Coordination	▪ # of ED visits per OCM-FFS beneficiary per episode
	▪ # of hospital admissions per OCM-FFS beneficiary per episode
	▪ % of all Medicare FFS beneficiaries managed by the practice admitted to hospice for < 3 days
	▪ % of all Medicare FFS beneficiaries managed by the practice who experience ≥1 ED visit in the last 30 days of life
▪ Person-and Caregiver Centered Experience and Outcome	▪ % of OCM-FFS beneficiary face-to-face encounters with the participating practice in which there is a documented plan of care for pain AND pain intensity is quantified
	▪ Score on patient experience survey (modified CAHPS)
	▪ % of OCM-FFS beneficiary face-to-face encounters in which the patient is assessed by an approved patient-reported outcomes tool
	▪ % of OCM-FFS beneficiaries that receive psychosocial screening and intervention at least once per episode

Table 6. Payer Requirements for Care Quality Domains[6]

In order to improve quality measures, and be able to act on the findings a high quality technology platform must be leveraged. The Willowglade's Personalized Patient Experience Platform™ goes beyond data collection, and into the world of oncology care benefitting both the patient and clinicians. Through integrating the Personalized Patient Experience Platform™ into the OCM Model, patients can receive quality oncology care while being able to capture data supporting the important quality measure data that align with the financial incentive and higher quality mandate of OCM.

The Personalized Patient Experience Platform™ in Oncology Care Management

The Personalized Patient Experience Platform enables dramatically enhanced involvement and engagement of patients that are candidates for the oncology care model. Not only does the platform facilitate programs to guide patients through the management of their chemotherapy treatment and care management, but it also facilitates direct capture of any type of electronic Patient Reported Outcomes, Electronic Data Capture, personalized educational content delivery on mobile devices to patients, and even engagement of the patients' friends and family in a support network.

Payer Requirements		Willowglade Technologies Support
Quality Domain	Recommended practice requirement or quality measurement	
▪ Communication and Care Coordination	▪ # of ED visits per OCM-FFS beneficiary per episode	✓
	▪ # of hospital admissions per OCM-FFS beneficiary per episode	✓
	▪ % of all Medicare FFS beneficiaries managed by the practice admitted to hospice for < 3 days	✓
	▪ % of all Medicare FFS beneficiaries managed by the practice who experience ≥1 ED visit in the last 30 days of life	✓
▪ Person-and Caregiver Centered Experience and Outcome	▪ % of OCM-FFS beneficiary face-to-face encounters with the participating practice in which there is a documented plan of care for pain AND pain intensity is quantified	✓
	▪ Score on patient experience survey (modified CAHPS)	✓
	▪ % of OCM-FFS beneficiary face-to-face encounters in which the patient is assessed by an approved patient-reported outcomes tool	✓
	▪ % of OCM-FFS beneficiaries that receive psychosocial screening and intervention at least once per episode	✓

Table 7. Quality Domains Supported by Willowglade Technologies

The Personalized Patient Experience Platform consists of three components:

- Personalized Patient Experience Platform™
- Health Orchestrator™
- Personal Health Navigator™

Each of these components work in harmony to enable the core activities described above of ePRO, EDC, Patient Engagement and Care Coordination.

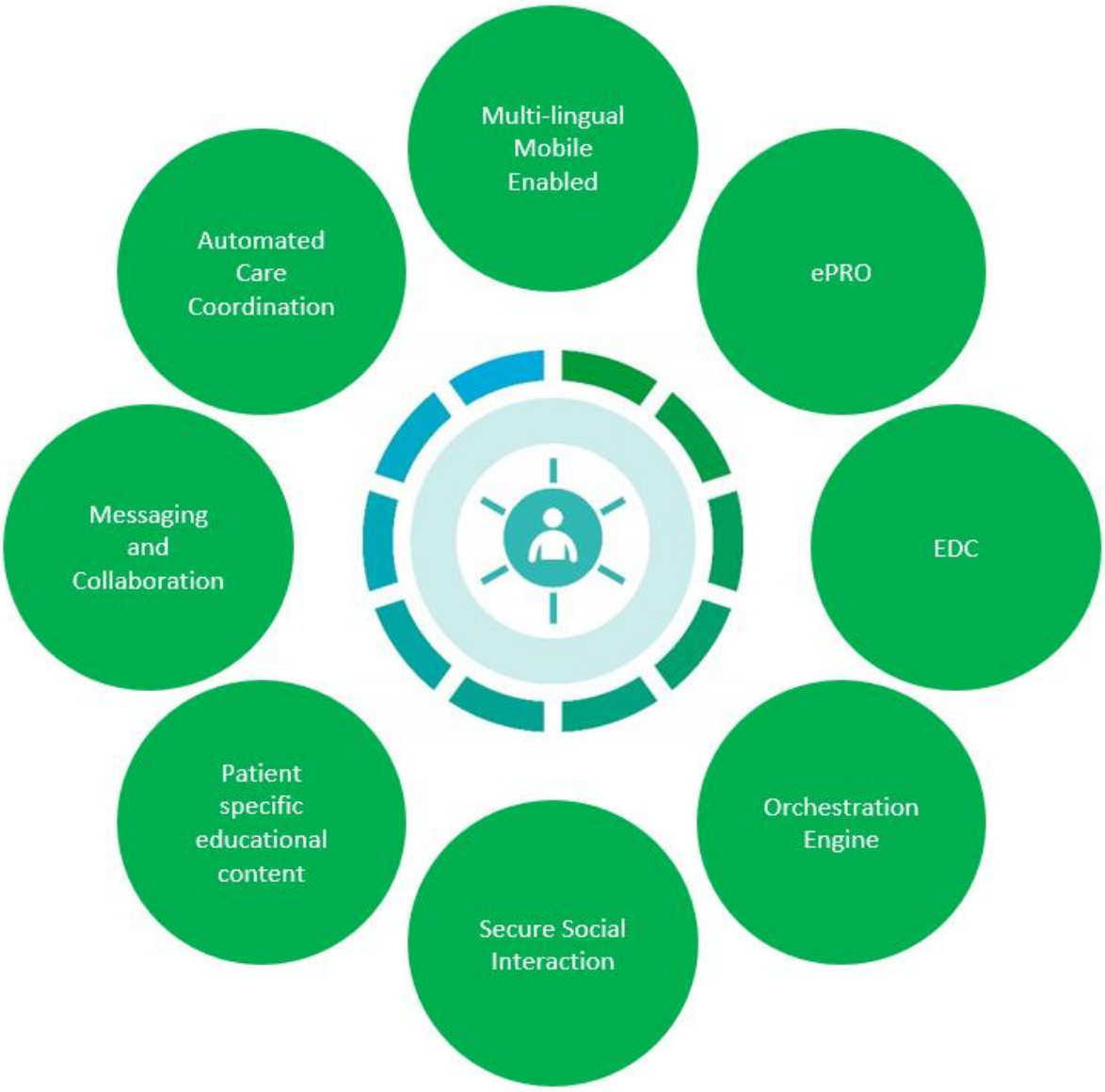

Figure 2 – Overview of the Personalized Patient Experience Platform™

Health Orchestrator™

Health Orchestrator™ is used by the healthcare team to interact with and coordinate care for the selected population of patients. Beneficiaries undergoing chemotherapy treatment can be managed on the same Health Orchestrator™ platform simultaneously.

With Health Orchestrator™, data captured by patients directly in their Navigation app or via in home medical devices (steps per day, heart rate, blood pressure or whatever is required to be monitored for the patient during chemotherapy) is available to be viewed and analyzed.

Health Orchestrator™ also allows for ePRO (Patient Reported Outcomes) monitoring and analysis so that case managers have a better understanding of the actual outcomes that are being achieved (or not) by each patient in the population they are managing. Of course, there are a variety of alerting mechanisms that allows the Case Managers to better understand patient self-reported outcomes.

High Level Overview of Health Orchestrator Functionality
▪ Patient list management, patient/care team member assignment, creation of care teams ▪ Analysis and review of patient electronically captured data ▪ Engage other care team members in care provision for a specific patient situation or circumstance ▪ Document care activities, and track time spend on each care activity and patient ▪ System automatically calculates calendar month time spent on each patient, alerting coordinator should the time spent on the patient is less than required for the specific program or service ▪ Analysis and review of Patient Reported Outcomes for action and improvement in patient protocols
Benefits Include
▪ Ability to communicate more efficiently to multiple outlets through one platform: o (Social Worker, Clinician, Physical Therapists and more) ▪ OCM financial incentives program (Episodic or Multi Payer Model) ▪ Accessibility to large population management under one platform: Health Orchestrator™ ▪ Data review and analysis drives improved patient outcomes ▪ Time efficient for both the clinician and patient

Table 8 – High level overview of Health Orchestrator

Personalized Health Navigator ™

Personal Health Navigator™ is used by patients to interact, communicate, and engage with the health system that is using the platform to manage a given population of patients.

The Personalized Health Navigator™ provides tailored content specific to the patients' requirements – on a mobile device, including educational content, communication, and clinical content. The Personalized Health Navigator™ not only facilitates data capture through wearable and other in home devices, but also provides a social platform to facilitate communication with invited supporter friends and family – allowing the patient to interact with individuals supporting the patient in achieving their oncology care improvement goals.

High Level Overview of Personalized Navigator Functionality
▪ HIPAA compliant secure cloud platform with data encrypted in flight and at rest ▪ Cloud hosted by Microsoft in a HIPAA compliant environment ▪ Duel authentication user accounts using PINs ▪ Orchestration Engine that facilitates communication, collaboration, automated alerts, and automated inference on a large variety of patient and care team inputs ▪ Tailored to the Institute Medicine Care Management guidelines as well as general patient educational content ▪ Machine Learning components for real time alerts, data analysis and outcomes prediction (future) ▪ Provides a platform for both the patient and the healthcare team to engage, communicate and collaborate
Benefits Include
▪ Improved communication with care givers, friends and family ▪ Addresses each patients' specific social, emotional or clinical issues and concerns ▪ Allows documentation and review of medication ▪ Alerts and reminders specific to the patients' care model and situation ▪ Patients can record medical data and information directly into the mobile app ▪ Data collection from remote monitoring devices/wearables provides time efficiency for both the patient and clinician ▪ Accessible information on progress to the patient and the clinician for monitoring the patient's diagnosis ▪ Data entered by the patient, or via remote devices can be reviewed, analyzed and acted on by care team members in Health Orchestrator™

Table 9 – High level overview of Personalized Health Navigator

The Personalized Patient Experience Platform

This platform is the “engine” that facilitates the interactions, alerts and communication between patients using the Health Navigator™ and healthcare professionals using the Health Orchestrator™.

High Level Overview of the Personalized Patient Experience Platform™
▪ Available on a Mobile Platform ▪ Assists patients, friends and family to learn and understand the clinical, social, and emotional situation and status. ▪ Connects patients to supporters over a private secure network ▪ Connects patients to the care team over a private secure network ▪ Educational documents and video content tailored specifically to the specific patient situation ▪ Data collection from remote monitoring devices/wearables   ○ Example: Blood pressure cuff or weight loss/gain data collection ▪ Assessments, surveys, and other data collecting agents can be incorporated for patient and clinician use (can be defined for virtually any diagnosis or use case ▪ Medication Documentation ▪ Alerts provided for appointments and specific patient care conditions ▪ Educational content sharing with supporters
Benefits Include
▪ High speed to value for implementation ▪ Secure with data encryption in flight and at rest ▪ Provides social, emotional, and clinical components of care coordination ▪ In home data collection relieves and reduces patient's time spent in clinician's office ▪ Collaboration of both the patient and clinician to improve communications during non-face-to-face care coordination ▪ Surveys, tests, and other data collecting agents incorporated for patient and clinician use to orchestrate patient care using subjective, objective and numeric patient inputs.

Table 10 – High level overview of the Personalized Patient Experience Platform

Summary

Oncology care expenses are a large contribution to healthcare spend in the United States. With most cancer diagnosis occurring in the elderly population, the need for better oncology care will continually grow. The Oncology Care Model aims to improve quality of this care for patients undergoing chemotherapy through financial incentives for participating medical groups.

Improving oncology care for patients undergoing chemotherapy, the Personalized Patient Experience Platform™ from Willowglade Technologies is going beyond engaging a patient, and beyond care coordination. Through leveraging this platform, healthcare providers can manage, optimize, track and engage with patients every 6 month period, creating an opportunity to capture improvements made in

quality oncology care while reducing oncology care costs at the same time. The Personalized Patient Experience Platform ™ aims to assist in achieving better care, smarter spending, and healthier people in oncology care management.

Powered by

WILLOWGLADE® TECHNOLOGIES

References:

1. "10 Leading Causes of Death." *Medical News Today*. MediLexicon International, n.d. Web. 15 Jan. 2016. <http://www.medicalnewstoday.com/articles/282929.php#top_10_leading_causes_of_death>.
2. Berger, Nathan A., Panos Savvides, Siran M. Koroukian, Eva F. Kahana, Gary T. Deimling, Julia H. Rose, Karen F. Bowman, and Robert H. Miller. "Cancer in the Elderly." *Transactions of the American Clinical and Climatological Association*. American Clinical and Climatological Association, 2014. Web. 1 Jan. 2016. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1500929/>.
3. Boutayeb, Saber, Abdesslam Boutayeb, Naoual Ahbeddou, Wiam Boutayeb, Essaadi Ismail, Mehdi Tazi, and Hassan Errihani. "Estimation of the Cost of Treatment by Chemotherapy for Early Breast Cancer in Morocco." *Cost Effectiveness and Resource Allocation : C/E*. BioMed Central, 2015. Web. 4 Jan. 2016. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2942794/>.
4. "Cancer Facts & Figures 2014-2015." *American Cancer Society*. N.p., 2015. Web. <http://www.cancer.org/acs/groups/content/@research/documents/document/acspc-047079.pdf>.
5. "Census.gov." *Census.gov*. N.p., 2016. Web. 1 Jan. 2016. <http://www.census.gov/>.
6. Cms. *RFA OCM* (n.d.): n. pag. *Centers for Medicare/Medicaid Services*. 3 June 2015. Web. 1 Jan. 2016. <https://innovation.cms.gov/Files/x/ocmrfa.pdf>.

7. "Information for Health Care Providers." *Centers for Disease Control and Prevention*. Centers for Disease Control and Prevention, 17 Nov. 2015. Web. 20 Jan. 2016. <http://www.cdc.gov/cancer/preventinfections/providers.htm>.
8. "Oncology Care Model." *2015-02-12*. N.p., n.d. Web. 13 Jan. 2016. <https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2015-Fact-sheets-items/2015-02-12.html>.
9. "Webinar: Oncology Care Model - Introduction." *Webinar: Oncology Care Model*. N.p., n.d. Web. 5 Jan. 2016. <https://innovation.cms.gov/resources/OCMintro.html>.