Transform Your DSME/S Program: Leverage the Value of Mobile Health Malinda Peeples¹, Robert Melfi², Diana O'Keefe², Janice MacLeod¹ ¹WellDoc, Baltimore, MD, ²Atlantic Health System Diabetes Institute, Morristown, NJ

Introduction

Diabetes Self-Management Education and Support (DSME/S) is recognized as standard of care that has demonstrated improved clinical outcomes and cost savings. However, participation in DSME/S education programs is low at only 6.9% of newly diagnosed type 2 patients with private health insurance and only 4% of Medicare patients. Even when patients are referred to DSME/S programs, there is a significant attrition rate during the class series. Also, with national healthcare evolving from a fee-based to a value-based reimbursement system, all stakeholders are seeking cost-effective, scalable, quality solutions for chronic care management (1).

Technology enabled solutions provide new opportunities for both patients and providers to expand DSME/S methods of delivery, types of content, and communication strategies for education and self-management. Educators can leverage a new class of therapy – Mobile Prescription Therapy (MPT) to transform their DSME/S practice and programs. MPT incorporates digital technology, clinical and behavioral science, and validated clinical outcomes to provide guidance for patient daily self-management and data for healthcare provider decision—making that lead to improved outcomes (2).

BlueStar[®] is a FDA-cleared Class II medical device indicated for healthcare providers and their adult type 2 diabetes patients to improve self-management and medication adherence. BlueStar is secure, HIPAA compliant, and compatible with most Android[™] Smartphones, iPhones, iPad tablets, and all computers. BlueStar is prescribed by the physician, nurse practitioner or physician assistant, the product activation code is dispensed through a pharmacy, and is reimbursed by a health plan. Educators work with patients and providers to integrate MPT into their current diabetes care practices. BlueStar may be incorporated into any organizational or institutional diabetes care initiatives. BlueStar was intentionally designed to provide support to all the diabetes care stakeholders and has demonstrated a significant 2% reduction in clinical studies (3-6).

Blue Star for the HealthCare Team

Patient: Provides DSME/S Standards based educational, behavioral, and psychosocial support through multiple product features that include: MPT: Real-time Clinical and Behavioral Guidance

- Individually tailored real-time guidance:
 - daily task management
 - contextual learning
 - problem-solving support
 - psycho-social needs
- Evidence-based behavioral & psycho-social support :
 - essential behaviors (AADE7 & HCP communication)
 - dynamic, adaptive coaching informed by behavioral and psychosocial theories
 - implicit "micro" goal setting that integrates behavioral and clinical information to coach the patient on "small doable actions"

HealthCare Provider: Delivers analyzed between-visit patient self-management and metabolic data that can be sent to the provider whenever requested:

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- enables cross team communication and care management
- enhances patient-provider communication
- supports timely therapy changes

Population Health

MPT: Population Health Patient Population Report 155 te Jan 31, 2015 🔮 Dr. Samuel Sample, MD Status of Prescribed Population (32) 3 _____ DICCR-1013 Valdes, ins infalledual Property of Rights Researd

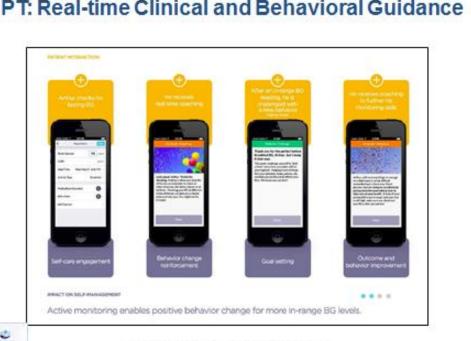
American Association of Diabetes Educators (AADE), August 4-8, 2015, New Orleans, Louisiana

initiatives

Supports

practice-based

system-wide





Methods

MPT, as a new category of therapy was introduced in the form of BlueStar[®] to 550 primary care and endocrinology providers in the Mid-Atlantic region using a traditional face-to-face physician detailing model. BlueStar was prescribed by a physician or nurse practitioner, activated with a pharmacy dispensed activation code, and adjudicated as a pharmacy benefit.

During implementation an endocrinology clinic based DSME/S Program identified the potential for MPT to enhance their current program and provide a strategic opportunity to expand their services in the health system's evolving ACO initiative.

A workshop was conducted with MPT clinical liaisons, the DSME/S endocrinologist and educators, and a health system IT representative with the following objectives:

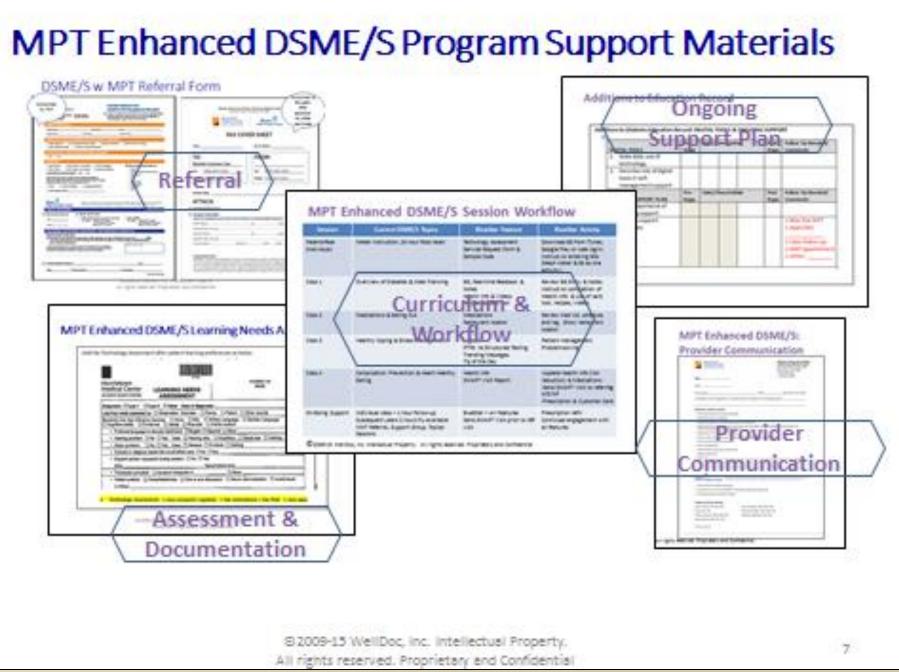
- Identify the current DSME/S workflow and data management
- Design a MPT Enhanced DSME/S Program that integrates into the current program model
- Develop marketing and support materials for the practice, the educators, and the referring providers

The program was developed and an implementation plan and associated QI Project have begun with an evaluation planned for Q4 2015.

Results

We identified a structured process to integrate MPT/digital tools into the traditional DSME/S Program Framework. The following steps evolved through an iterative process between the MPT developer mobile clinical liaisons and the DSME/S Program leadership and educators:

- program to address evolving ACO initiatives).
- Diabetes: Algorithm of Care (1).
- (7).
- indicate that MPT/digital tools are part of the curriculum and class progress.
- management.
- SMART Visit Report[™]).
- projects.



1. Review the health system's DSME/S Program objectives and identify strategic **benefits** for MPT and other digital health tools (e.g. expand reach of diabetes education

2. Integrate DSME/S Referral Form and MPT Prescription Form to align with the newly published Diabetes Self-Management Education and Support for Adults with Type 2

3. Merge MPT/digital tools into the DSME/S curriculum and program workflow to enhance the between-class, "contextual" learning and potentially address class attrition.

4. Modify existing DSME/S assessment, documentation, and program workflow to

5. Incorporate MPT/digital tools into the Ongoing Support Plan for daily self-

6. Expand DMSE/S provider communication to include MPT/digital tools (e.g. MPT)

7. Use MPT generated data to support population health initiatives and quality improvement

Mobile technology supports the delivery of education and ongoing support that meets the patient where they are at the time they need it – providing either explicit directions or a "nudge" for their self-management through the delivery of personalized, customized, content and coaching that supports contextual learning and implicit goal setting.

MPT readily integrates into the current DSME/S program delivery to deliver benefits for the program, the patients, and the providers.

Program

- improvement projects

Patient

Educator

- develop new programs

Future Implications

The "anytime, anywhere" capabilities of mobile/digital technology introduce the potential for the transformation of the "bricks and mortar", time-bound DSME/S delivery to a virtual, anytime, anywhere patient-facilitated DSME/S model

- the Mobile Frontier, 2014: 131-147.
- 55978.htm. Accessed July31, 2015.
- Technol Ther 2008;10:160–168.

Conclusions

• Gives the educator the opportunity to expand program offerings, deliver state-of-the art services, and address class attrition

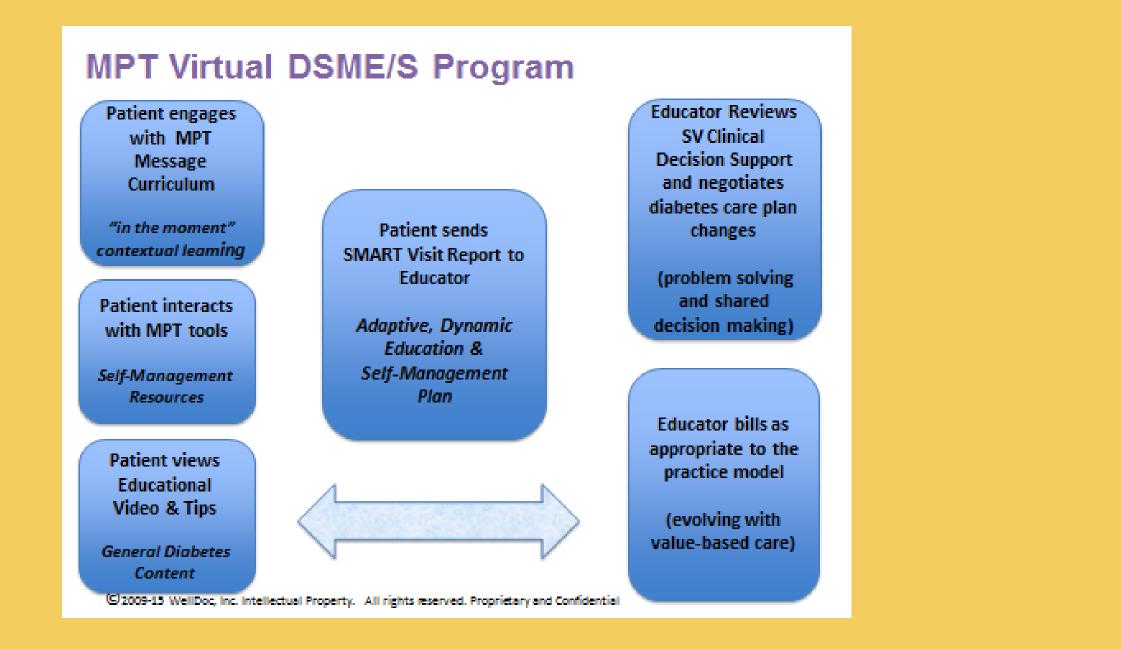
 Supports existing DSME/S curriculum, meets the requirement for DSME/S Standard #8 "Ongoing Support", enhances the value of the program, and facilitates quality

• Engages patients through a dynamic, contextual learning experience.

 Provides daily support for problem-solving based on patient-generated and evidence-based clinical and behavioral guidelines

• Connects patients with guidance and resources between sessions to reinforce their learning and extend the impact of the program

• Provides the educator with new ways to market their services and programs Empowers the educator to participate in system-wide technology initiatives and /or



References

1) Powers MA, Bardsley J, Cypress M, Duker P, Funnell MM, Fischl AH, Maryniuk MD, Siminerio L, Vivian E. Diabetes Self-management Education and Support in Type 2 Diabetes: A Joint Position Statement of the American Diabetes Association, the American Association of Diabetes Educators, and the Academy of Nutrition and Dietetics. Diabetes Educ. 2015 Aug;41(4):417-30.

2) Peeples, M, Iyer, A. Chapter 15: Mobile prescription therapy (MPT): extracting healthcare and economic outcomes at the nexus of clinical and technology innovation. In: Krohn, MA, Metcalf D. eds. *mHealth Innovation: Best Practices from*

3) http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/ConnectedHealth/MobileMedicalApplications/ucm2

4) http://www.diabetes.org/living-with-diabetes/treatment-and-care/medication/other-treatments/5)

5) Quinn, C.C., Shardell, M, Terrin, M., Barr, E., Ballew, S., Gruber-Baldini, A.L., A Cluster Randomized Trial of a Mobile Phone Personalized Behavioral Intervention for Blood Glucose Control, Diabetes Care, 34 (9), 2011,1934-42. Erratum in Diabetes Care. 2013 Nov;36(11):3850

6) Quinn CC, Clough SS, Minor JM, Lender D, Okafor MC, Gruber-Baldini A. WellDoc mobile diabetes management randomized controlled trial: change in clinical and behavioral outcomes and patient and physician satisfaction. Diabetes

7) https://en.wikipedia.org/wiki/Contextual_learning

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