

Supplementary Figure S1

VALUE PATHWAY OF Diabetes Care & Education Specialists (DCES)

Framework for population health management, reducing therapeutic inertia, quality improvement and cost-effective care

Opportunity	Prediabetes	Diabetes Education >90 % do not receive evidence-based diabetes self-management education and support	Diabetes and Cardiometabolic Care	Expanded Diabetes Management Teams	Healthcare Utilization: Reducing excess emergency department visits and hospitalizations	Lowering the Cost of Diabetes. \$327 billion US healthcare dollars spent annually
Process Indicated	Prevention or Delay of T2DM	Diabetes Self-Management Education and Support (DSMES) and DCES interventions	Person-Centered Diabetes Care Planning	Team-Based Care with DCES Integration	Acute and Post-Acute Diabetes Care and Education	Cost Savings and cost-effective interventions
Intervention Types	National Diabetes Prevention Program <ul style="list-style-type: none"><li>Intensive lifestyle coaching</li><li>Medical Nutrition Therapy RDN/DCES</li><li>Processes for sustained 7% weight loss</li></ul>	DSMES at the 4 critical times* <ul style="list-style-type: none"><li>Patient education, counseling and/or training</li><li>DCES and DSMES Consults</li><li>Interdisciplinary care team</li></ul> *at diagnosis, annually or when not meeting targets, when complications develop, when transitions in life or care occur	Integrated care w/DCES led interventions <ul style="list-style-type: none"><li>Care management/ coordination and patient education</li><li>Pharmacist/DCES-based health management</li><li>RN/DCES assessments and interventions</li><li>RDN/DCES Medical nutrition therapy</li><li>Social determinants of health assessment &amp; intervention</li><li>Care team training &amp; skill building</li><li>Interdisciplinary quality improvement interventions</li></ul> * Root cause analysis and strategies to overcome therapeutic inertia * Technology-enabled care delivery * Patient owned technology support	Empower nonphysician providers including DCES to initiate, intensify and de-intensify treatment independently, supported by appropriate guidelines <ul style="list-style-type: none"><li>Provide team-based care to increase frequency and quality of patient engagement</li><li>Evidence-based protocols and decision support tools to inform care delivery including treatment initiation and intensification</li></ul> Referrals to DSMES and DCES <ul style="list-style-type: none"><li>Referrals and auto-referrals for integrated care team</li><li>Technology-enabled care</li></ul>	Care transitions and care management with DCES <ul style="list-style-type: none"><li>Inpatient diabetes care and education specialist services</li><li>Discharge support at care transitions</li><li>Medication access and adherence support</li><li>Care navigation post inpatient and ED discharge</li><li>Clinical decision support tools</li></ul>	Assess value of diabetes interventions from cost benefit perspective Prioritize cost savings and cost-effective interventions: <ul style="list-style-type: none"><li>DSMES vs usual care: \$5047/QALY (T2DM)</li><li>Behavior change and medication taking \$2315/QALY (T1DM, T2DM)</li><li>Integrated person-centered care \$11,339/QALY</li></ul>
Target Outcomes	<ul style="list-style-type: none"><li>Decreased incidence of T2DM</li></ul>	<ul style="list-style-type: none"><li>Increased DSMES referrals and completed services</li></ul> * Improved health behavior changes and clinical outcomes <ul style="list-style-type: none"><li>Reduced/delayed complications</li><li>Value-based payment models</li></ul>	<ul style="list-style-type: none"><li>Achieve standards of diabetes care</li><li>Improve clinical outcomes : A1C, BP, Cholesterol</li><li>Patient engagement and patient reported outcomes (PROs) improved</li><li>Reduced/delayed complications</li><li>Value-based payment models</li></ul>	<ul style="list-style-type: none"><li>Improved provider and care team engagement and satisfaction</li><li>Improved patient satisfaction and engagement</li><li>Improved therapeutic efficiency and outcomes</li></ul>	<ul style="list-style-type: none"><li>Reduction in ER visits and hospitalizations, all-cause mortality, readmissions, LOS and cost of care</li><li>Expanded outcomes and value -based payment options</li><li>Foster horizontal and vertical care integration</li></ul>	<ul style="list-style-type: none"><li>Prioritize cost savings and cost-effective interventions to manage diabetes: DSMES, behavior change and integrated care teams</li><li>Reduce total cost of care</li></ul>
Rationale	T2DM may be prevented or delayed by evidence-based interventions	<ul style="list-style-type: none"><li>Increased quality of life, increased healthy coping, eating, activity, monitoring, medication taking, problem solving, risk reduction</li></ul>	<ul style="list-style-type: none"><li>Achieving and maintaining BP, A1C and cholesterol targets reduces risk of macro and micro vascular complications</li><li>Timely and cost-effective care</li></ul>	<ul style="list-style-type: none"><li>Diabetes care delivery can lead to significant care team burden and negative impact on patient care</li></ul> *Overcoming inertia and improving glycemia helps achieve long term benefits for patients	<ul style="list-style-type: none"><li>Acute care utilization is expensive Improving timely and cost-effective care improves quality care</li><li>Sustained target glucose levels reduces health care costs</li><li>Reduced emergency and inpatient services lowers Medicare and insurance claims</li><li>Best practice treatment recommendations help Improve clinical outcomes, quality of life, and healthcare utilization</li></ul>	Effective and efficient diabetes care delivery improves health outcomes and reduces cost of care <ul style="list-style-type: none"><li>Reduced emergency and inpatient services lower Medicare and insurance claims</li><li>Improve clinical outcomes, quality of life, and healthcare utilization through cost effective, cost savings DSMES and DCES integrated care teams</li></ul>
References	4, 74, 75	6, 16, 49, 51	13, 23,26-31,35,36,40, 49, 57,58, 73	6, 25-28, 40, 49, 50	30-36, 40, 61, 62	16, 18, 30-37, 46

KEY: (T1DM = Type 1 Diabetes; T2DM = Type 2 Diabetes \*Diabetes Care & Education Specialists; DCES  
\*\*Diabetes self-management education and support: DSMES)