

# Improving Diabetes Prevention and Management Outcomes Through A Patient-Centered Medical Community Model

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# Background and Rationale

Diabetes is a complex chronic disease with serious complications that are detrimental to patients' quality of life. It is also a huge financial burden to individuals, families and health plans.

**Diabetes Prevalence:** In 2012, 29.1 million Americans, or 9.3% of the population, had diabetes. By 2050, the prevalence will be 2-3 folds if it continues with the current trend.

**Prediabetes:** In 2012, 86 million Americans age 20 and older had prediabetes; this is up from 79 million in 2010.

**Deaths:** Diabetes remains the 7th leading cause of death in the United States in 2010

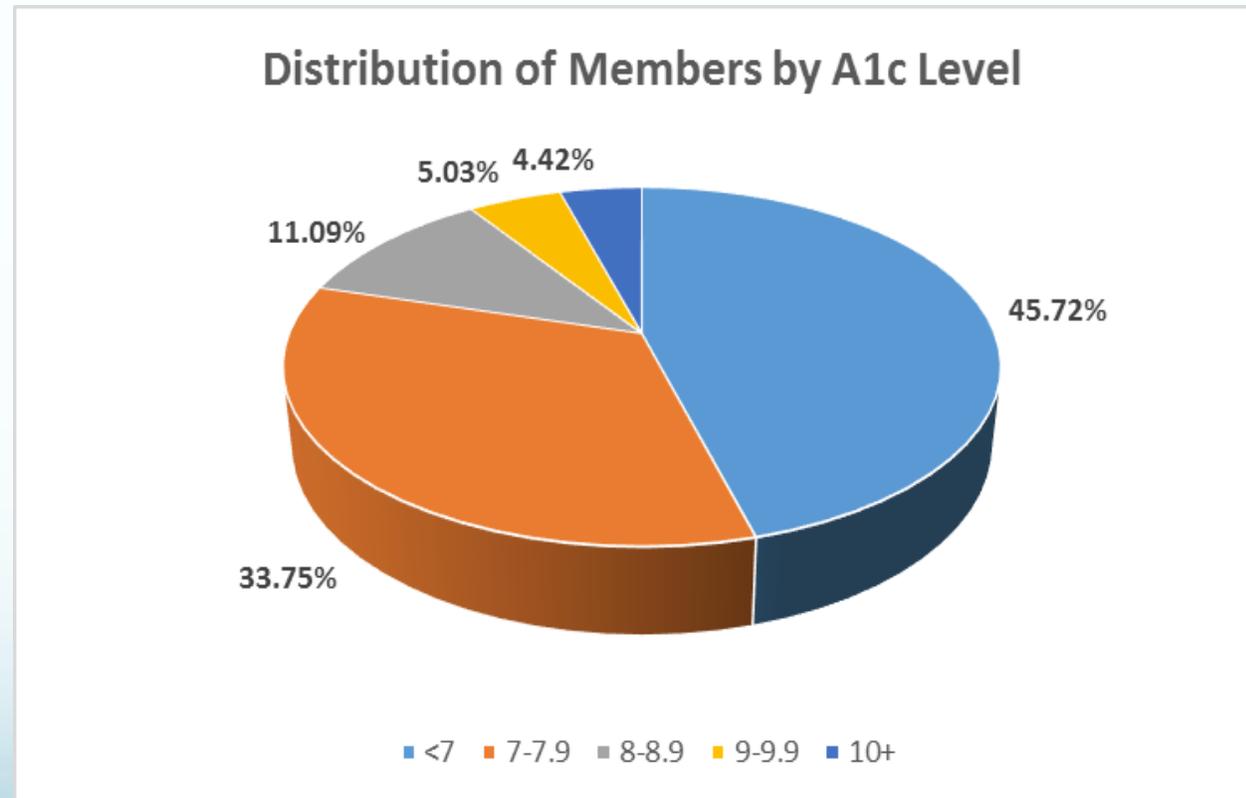
## **Cost of Diabetes** (*American Diabetes Association, 2013*)

- \$245 billion: Total costs of diagnosed diabetes in the United States in 2012
- \$176 billion for direct medical costs
- \$69 billion in reduced productivity
- After adjusting for population age and sex differences, average medical expenditures among people with diagnosed diabetes were 2.3 times higher than what expenditures would be in the absence of diabetes.

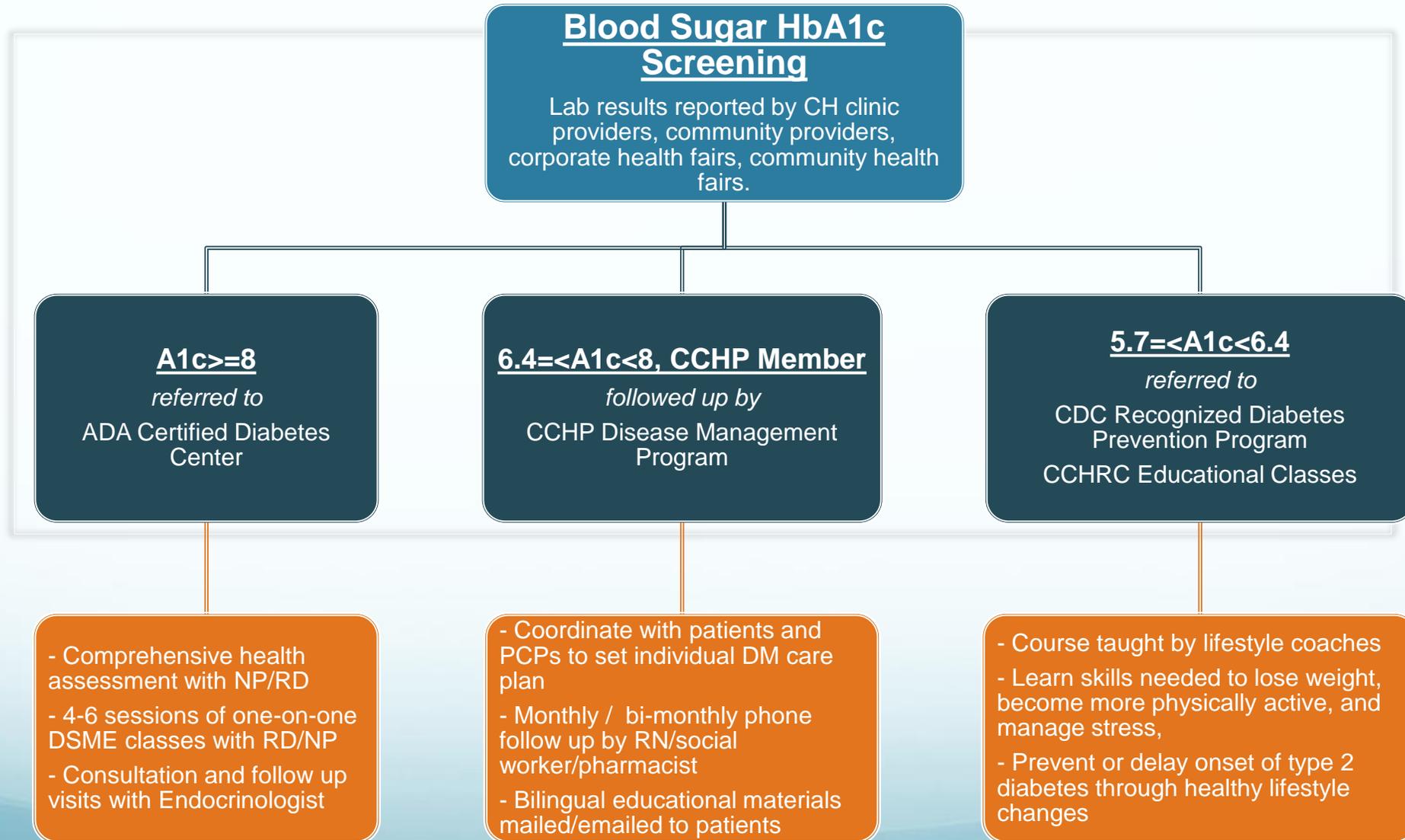
# Community Needs Call for Comprehensive Diabetes Care

- A study with 24 community primary care providers and 30 diabetic patients who are being treated by these primary care providers have been done in 2012. This study identifies the system barriers to diabetes management for primary care providers and patients in the Chinese community.
- **Recommendations** based on the study results: Build a **multidisciplinary care team** including PCP, NP/CDE, dietitian, social worker, podiatrist, ophthalmologist, endocrinologist, care coordinator to provide comprehensive diabetes care.

# HbA1c distribution of the 4278 members with diabetes by August 2016



# Chinese Hospital Health System Diabetes Care Algorithm



# Diabetes Self-Management Education (DSME) Program

## About DSME

- ❑ Diabetes self-management education (DSME) is the ongoing process of facilitating the knowledge, skill, and ability necessary for diabetes self-care.
- ❑ Diabetes self-management education (DSME) is a critical element of care for all people with diabetes and those at risk for developing the disease.
- ❑ Outpatient Diabetes Self-Management Education Program at Chinese Hospital is to offers a language and cultural competent approach for diabetic individuals to gain knowledge and skills needed for long-term management of the disease.
- ❑ Recognized by American Diabetes Association in the year of ???

# DSME Curriculum (6 sessions)

Program Outline: 6 Session	
Session 1 "Welcome"/Introduction Enrollment Understanding diabetes	<ul style="list-style-type: none"> <li>• Participate in a group session with the Diabetes educator</li> <li>• Enroll in the diabetes self-management education program</li> <li>• Complete the</li> <li>• Complete the</li> <li>• Receive and review the introduction folder</li> <li>• Schedule an appointment for individual session</li> <li>• Introduction to diabetes disease process and goal setting</li> </ul>
Session 2 Assessment Understanding Diabetes Nutrition management Monitoring your body	<ul style="list-style-type: none"> <li>• Participate in an individual visit with the Diabetes educator</li> <li>• Review Medication history, Diabetes Health assessment and other forms</li> <li>• Receive instruction on completing diabetes self-care goal and action plan</li> <li>• Learn how to test blood sugar</li> <li>• Complete lesson plan for Session 2</li> <li>• Schedule an appointment for Session 3</li> </ul>
Session 3 Nutrition management Physical activity Monitoring your body	<ul style="list-style-type: none"> <li>• Participate in an individual visit with the Diabetes educator</li> <li>• Review blood sugar log and food diary</li> <li>• Review labs: know HgbA1C, cholesterol, BP, renal labs</li> <li>• Review and update goal and action plan</li> <li>• Complete lesson plan for Session 3</li> <li>• Schedule an appointment for Session 4</li> </ul>

Session 4 Medication Risk reduction of chronic complications Acute complications	<ul style="list-style-type: none"> <li>• Participate in an individual visit with the Diabetes educator</li> <li>• Review blood sugar log and food diary</li> <li>• Review and update goal and action plan</li> <li>• Learn about complications, their prevention and management</li> <li>• Complete lesson plan for Session 4</li> <li>• Schedule an appointment for Session 5</li> </ul>
Session 5 Risk reduction of chronic complications Acute complications Psychosocial adjustments	<ul style="list-style-type: none"> <li>• Participate in an individual visit with the Diabetes educator</li> <li>• Review blood sugar log and food diary</li> <li>• Review and update goal and action plan</li> <li>• Complete lesson plan for Session 5</li> <li>• Schedule an appointment for Session 6</li> </ul>
Session 6 Review session Evaluation	<ul style="list-style-type: none"> <li>• Participate in an individual visit with the Diabetes educator</li> <li>• Review blood sugar log and food diary</li> <li>• Review previous modules</li> <li>• Review and update goal and action plan</li> <li>• Inform patient of 3, 6 12 months follow up session/phone calls</li> </ul>

# DSME Curriculum (4 sessions)

Program Outline: 4 Session	
Session 1 “Welcome”/Introduction Enrollment Understanding diabetes	<ul style="list-style-type: none"> <li>• Participate in a group session with the Diabetes educator</li> <li>• Enroll in the diabetes self-management education program</li> <li>• Complete the</li> <li>• Complete the</li> <li>• Receive and review the introduction folder</li> <li>• Schedule an appointment for individual session</li> <li>• Introduction to diabetes disease process and goal setting</li> </ul>
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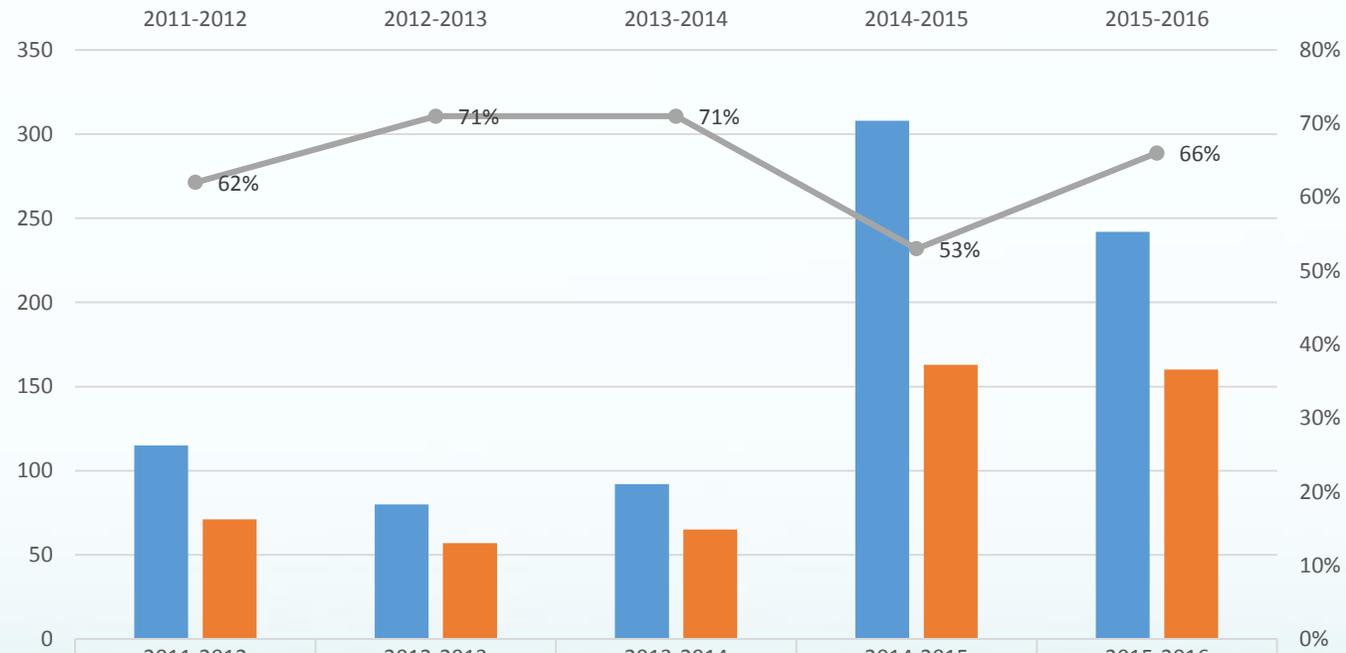
Session 3 Nutrition management Physical activity Medication Risk reduction of chronic complications Acute complications	<ul style="list-style-type: none"> <li>• Participate in an individual visit with the Diabetes educator</li> <li>• Review blood sugar log and food diary</li> <li>• Review and update goal and action plan</li> <li>• Learn about complications, their prevention and management</li> <li>• Complete lesson plan for Session 3</li> <li>• Schedule an appointment for Session 4</li> </ul>
Session 4 Psychosocial adjustments Review session Evaluation	<ul style="list-style-type: none"> <li>• Participate in an individual visit with the Diabetes educator</li> <li>• Review blood sugar log and food diary</li> <li>• Review and update goal and action plan</li> <li>• Complete lesson plan for Session 4</li> <li>• Review previous modules</li> <li>• Review and update goal and action plan</li> <li>• Inform patient of 3, 6 12 months follow up session/phone calls</li> </ul>

# CHHS Diabetes Prevention and Management Program Development Timeline



# DSME Program Outcomes 1

Participants Achieved Decreased A1c Post-Participation

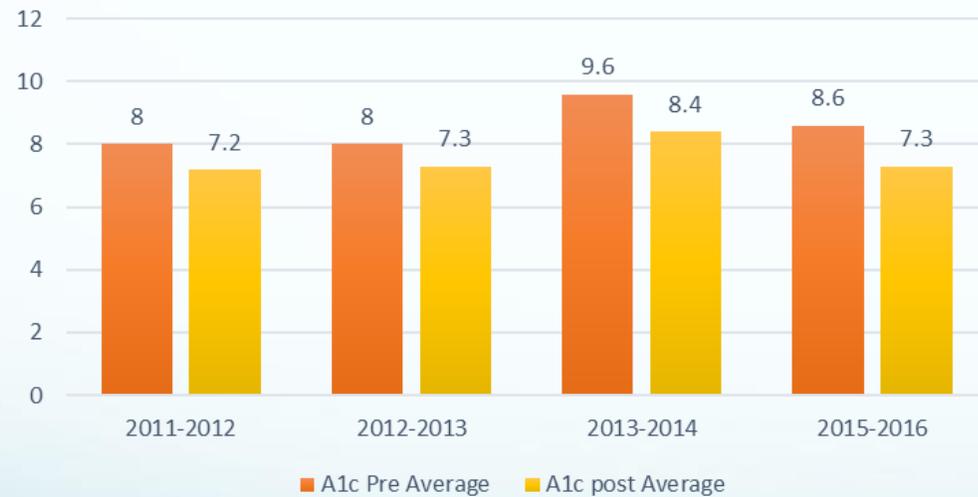


	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
No. of Participants	115	80	92	308	242
No. of Decreased A1c Participants	71	57	65	163	160
% of Decreased A1c Participants	62%	71%	71%	53%	66%

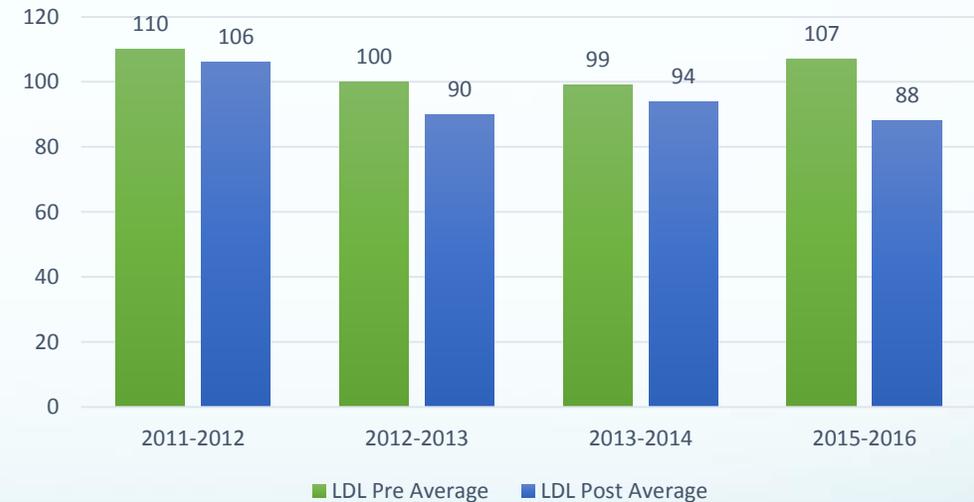
■ No. of Participants    
 ■ No. of Decreased A1c Participants    
 ● % of Decreased A1c Participants

# DSME Program Outcomes 2

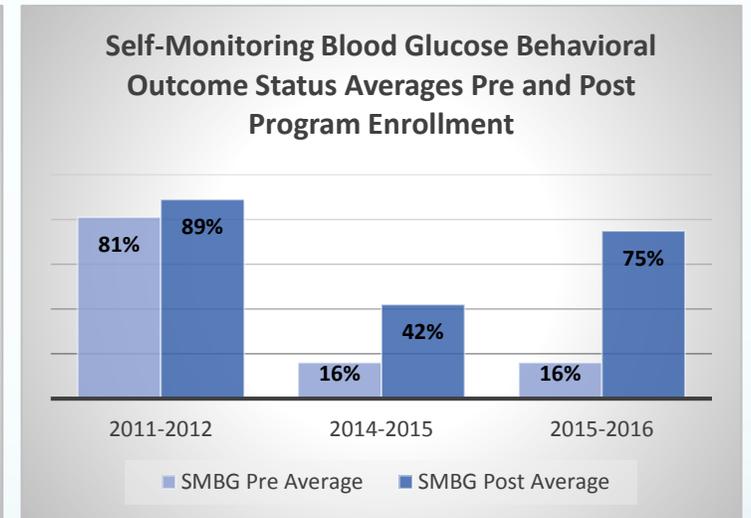
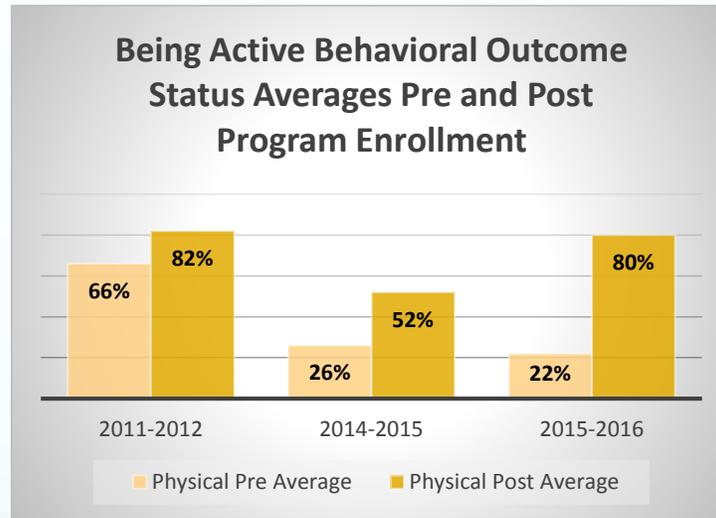
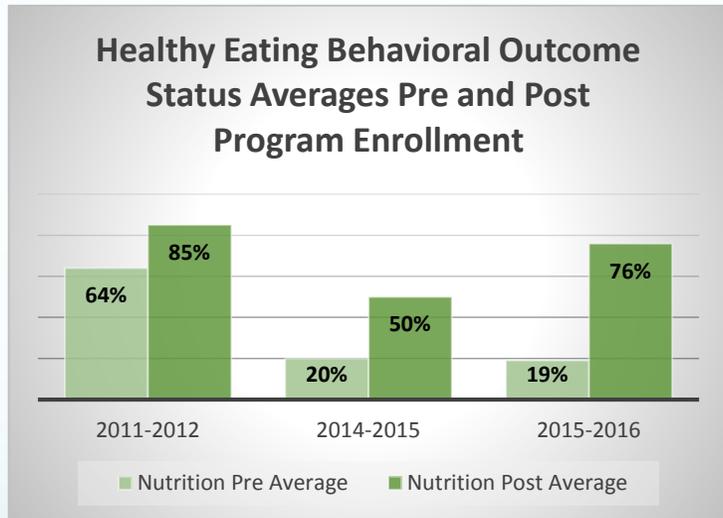
## Pre and Post-Participation Average A1c Levels



## Pre and Post-participation LDL Levels



# DSME Program Behavioral Outcomes



# Award from California Department of Health Care

- BP control CA and nationwide top 3
- DM control HbA1C < 8% CA top 1 & nationwide top 2
- 2013 and 2014



# Diabetes Prevention Program (DPP)

## About The Program

- The Diabetes Prevention Program is a structured lifestyle intervention that includes dietary coaching, lifestyle intervention, and moderate physical activity, all with the goal of preventing the onset of diabetes in individuals who are pre-diabetic.
- Chinese Hospital Diabetes Prevention Program is part of the National Diabetes Prevention Program, recognized by the Centers for Disease Control and Prevention (CDC)
- It's proven to prevent or delay onset of type 2 diabetes through **healthy lifestyle changes**
- Participants can **cut risk of developing type 2 diabetes in half** by losing 5 to 7 percent of original body weight

# Diabetes Prevention Program Goal

## **Primary Goal**

The primary goal of the program is at least 5 percent average weight loss among participants through healthy eating and increased physical activity, thus to reduce the risk of developing type 2 diabetes.

# Participants Eligibility

- **Must meet Body Mass Index (BMI) Criteria:**

- $\geq 25$  ( $\geq 23$  for Asian beneficiaries)



- **Must have Blood Test Results:**

Have within the 12 months prior to the first core session:

- Hemoglobin A1c of 5.7-6.4%; or
- Fasting plasma glucose of 110-125 mg/dL; or
- Two-hour plasma glucose of 140–199 mg/dL

- **No previous diagnosis of diabetes (gestational diabetes is allowable) or End-Stage Renal Disease (ESRD).**

# Diabetes Prevention Program Curriculum

## Curriculum

- The clinical intervention consists of 16 intensive “core” sessions of a curriculum in a group-based, classroom-style setting that provides practical training in **long-term dietary change, increased physical activity, and behavior change strategies for weight control.**
- After the 16 core sessions, less intensive monthly follow-up meetings help ensure that the participants **maintain healthy behaviors.**
- Classes offered in both English and Chinese
- Course is FREE to all CCHP members and CHA patients.



CDC-approved  
DPP curriculum



12 month  
Core Benefit



Maintenance  
Sessions

- Minimum of 16 core sessions
- First 6 months

- Monthly maintenance sessions
- Second 6 months

**AFTER 1<sup>st</sup> YEAR:** monthly maintenance sessions **IF** patient achieves & maintains minimum weight loss

During the first 6 months of the DPP intervention, the 16 core sessions must address the following curriculum topics:

<b>Core Sessions</b>	
Welcome to the NDPP	Problem Solving
Self-Monitoring Weight and Food Intake	Strategies for Healthy Eating Out
Eating Less	Reversing Negative Thoughts
Healthy Eating	Dealing with Slips in Lifestyle Change
Introduction to Physical Activity (Move those Muscles)	Mixing Up Your Physical Activity: Aerobic Fitness
Overcoming Barriers to Physical Activity (Being Active – A Way of Life)	Social Cues
Balancing Calorie Intake and Output	Managing Stress
Environmental Cues to Eating and Physical Activity	Staying Motivated, Program Wrap Up

During the second 6 months of the 12-month Core Benefit the curriculum must address a different topic each month:

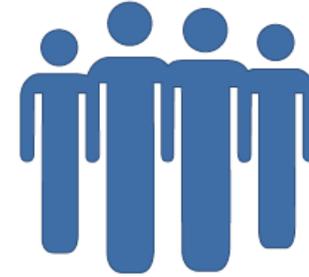
<b>Maintenance Session Topics:</b>	
Welcome to the Second Phase of the Program	Stress and Time Management
Healthy Eating: Taking It One Meal at a Time	Healthy Cooking: Tips for Food Preparation and Recipe Modification
Making Active Choices	Physical Activity Barriers
Balance Your Thoughts for Long-Term Maintenance	Preventing Relapse
Healthy Eating With Variety and Balance	Heart Health
Handling Holidays, Vacations, and Special Events	Life with Type 2 Diabetes
More Volume, Fewer Calories (Adding Water, Vegetables, and Fibers)	Looking Back and Looking Forward
Dietary Fats	

# Health Care Innovation Award

Health Care Innovation Award (HCIA) to The Young Men's Christian Association (YMCA) of the USA (Y-USA).



Feb. 2013 – Jan. 2015



~7,800 beneficiaries



Session Attendance

- 83%  $\geq 4$
- 63%  $\geq 9$  or more

# Medicare Diabetes Prevention Program (MDPP) Expansion

- In March 2016, Department of Health and Human Services (HHS) announced that the Centers for Medicare & Medicaid Services (CMS) Office of the Actuary (OACT) certified the pilot Diabetes Prevention Program (DPP) model as a cost savings program that reduced net Medicare spending.
- The Secretary then determined that the program demonstrated the ability to improve the quality of patient care without limiting coverage or benefits. Together, these determinations fulfilled the expansion requirements of Section 1115A of the Social Security Act **making DPP the first ever preventive service model certified for expansion from the CMS Innovation Center.**
- In July 2016, CMS outlined proposals for expanding DPP to benefit more Medicare beneficiaries beginning January 1, 2018.

# Medicare DPP Reimbursement

- Medicare Diabetes Prevention Program suppliers, recognized by the Centers for Disease Control and Prevention, would be allowed to submit claims to Medicare for providing diabetes prevention services.
- To enroll in the program (can be done as early as Jan 2017) so they can furnish services and bill Medicare as soon as possible after the program becomes effective.
- DPP into Medicare can serve as a model for employers and insurers to initiate DPP in their populations as well.
- The annual Physician Fee Schedule updates payment policies, payment rates, and quality provisions for services will be provided in calendar year 2017. CMS accepted comments on the proposed rule until September 6, 2016 and will respond to comments in a final rule.

# *CMS Proposed Payment Structure*

- CMS envisions a payment structure tying payment for Medicare Diabetes Prevention Program services on:
  - ① the number of Medicare Diabetes Prevention Program sessions attended
  - ② the achievement and
  - ③ maintenance of minimum weight loss.
- Claims for payment under the Medicare Diabetes Prevention Program would be submitted following the achievement of core session attendance and minimum weight loss, and following maintenance session attendance and maintenance of minimum weight loss

# Proposed Reimbursement Structure

## Core Benefit

	<i>Payment per beneficiary (Non-cumulative)</i>
<b><i>Core Sessions:</i></b>	
1 session attended	\$25
4 sessions attended	\$50
9 sessions attended	\$100
Achievement of minimum weight loss of 5% from baseline weight	\$160
Achievement of advanced weight loss of 9% from baseline weight	\$25 (in addition to \$160 above)
Maximum Total for Core sessions	\$360
<b>Maintenance Sessions (Maximum of 6 monthly sessions over 6 months in Year 1)</b>	
3 Maintenance sessions attended (with maintenance of minimum required weight loss from baseline)	\$45
6 Maintenance sessions attended (with maintenance of minimum required weight loss from baseline)	\$45
Maximum Total for Maintenance sessions	\$90
Maximum Total for first year	\$450

# Proposed Reimbursement Structure

## Maintenance Sessions

Maintenance Sessions After Year 1 (minimum of 3 sessions attended per quarter/no maximum)	
3 Maintenance sessions attended plus maintenance of minimum required weight loss from baseline	\$45
6 Maintenance sessions attended plus maintenance of minimum required weight loss from baseline	\$45
9 Maintenance sessions attended plus maintenance of minimum required weight loss from baseline	\$45
12 Maintenance sessions attended plus maintenance of minimum required weight loss from baseline	\$45
<b>Maximum Total After First Year</b>	<b>\$180</b>

# Proposed Supplier Enrollment

- Organizations new to Medicare will enroll as a supplier
- Before enrolling in Medicare:
  - DPP organizations must have either preliminary or full CDC recognition status.
  - If CDC recognition lapses or is lost, Medicare billing privileges will also be revoked for MDPP services.
  - <http://www.cdc.gov/diabetes/prevention/pdf/dprp-standards.pdf>
- Existing Medicare providers and suppliers would not need to enroll a second time for MDPP services.
- Expected enrollment of CDC-recognized suppliers will begin in 2017
- Full implementation of the MDPP benefit and payment on January 1, 2018

# Proposed IT Considerations

- Suppliers would be required to submit claims
- Claims would be submitted in batches that contain PHI and PII, including the HICN.
- Suppliers can utilize free software package called PC-ACE Pro 32 to submit claims electronically, or purchase claims submission software
- CMS is contemplating technical assistance for MDPP suppliers.
- MDPP suppliers would be required to maintain a crosswalk between beneficiary identifiers submitted to CMS (billing) and the CDC (performance data).
- MDPP suppliers would be required to maintain records for MDPP services provided to beneficiaries for at least 7 years.

# DPP At Chinese Hospital

## Updates

- ✓ Open to public. FREE to CCHP members and Chinese Community Health Services patients
- ✓ Classes delivered in English and Chinese, including Mandarin and Cantonese
- ✓ The first cohort of 10 prediabetic participants started Diabetes Prevention Lifestyle Change class in Chinatown in March 2016.
- ✓ By Session 12, participants have lost 4% of their starting weight averagely, as highest as 13%.
- ✓ Two new cohorts of prediabetic participants will start the program at Gellert clinic in Daly City in October 2016.

# References

1. American Diabetes Association, Statistics About Diabetes,  
<http://www.diabetes.org/diabetes-basics/statistics/>
2. Center for Disease Control and Prevention, National Diabetes Prevention Program  
<http://www.cdc.gov/diabetes/prevention/lifestyle-program/index.html>
3. Centers for Medicare and Medicaid Services, Medicare Diabetes Prevention Program  
<https://innovation.cms.gov/initiatives/medicare-diabetes-prevention-program/>