Confronting Diabetes: Prevention and Management Webinar Series

Episode 1: How to Avoid Lost Opportunity

KAREN RAE KELLY, MSN, APRN-C, COHN-S

MPHTC
Midwestern Public Health Training Center

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PUBLIC HEALTH LEARNING NETWORK
Educating Professionals, Elevating Practice.

Prediabetes: How to Avoid Lost Opportunities

Karen Kelly, MSN, APRN-C, COHN-S
Family Nurse Practitioner
Eli Lilly and Company

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Objectives

- Learn to identify the risk factors associated with prediabetes
- Understand the risk prediabetes poses in the public health arena
- Understand the impact of prediabetes on the economy and health care system
- Learn the benefits of lifestyle changes that can be used to mitigate prediabetes
- Learn small steps that can make big changes towards diabetes prevention

Definition of Prediabetes

- May be a precursor to T2DM
- Blood glucose higher than normal, but not yet diabetes
- Increased health risk heart disease and stroke
- You can unknowingly have prediabetes
- Intervene to prevent progression

Risk Factors for Prediabetes

- Age 45 or older
- Obesity – BMI >25 or waist circumference > 35” female or 40” male
- A parent, brother or sister has diabetes
- You are African American, Hispanic/Latino, Native American, Asian American or Pacific Islander
- Fasting blood glucose higher than 100mg/dL
- You had a baby weighing more than 9 pounds or had gestational diabetes
- Inactivity with exercise less than 3 times weekly
- Polycystic Ovary Syndrome
- Acanthosis nigricans
- Cardiovascular disease
- You have high blood pressure (over 140/90)
- You have low HDL (good) cholesterol (40 or lower)
- You have high triglycerides (150 or higher)

National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK.NIH.gov)

NDPP - Prediabetes Prevalence Rates

- 1 in 3 American adults
- 86 million American adults
- 90% are unaware
- Not treated, 15-30% will develop T2DM in 5 years
- Can be reversed with lifestyle changes
- Not inevitable
- Diagnosis is the key

Albright, A.L. (2013). Preventing Type 2 Diabetes in Communities Across the U.S. Am J Prev Med. April; 44 (404) 346-351.

http://www.cdc.gov/diabetes/pubs/statsreport14/national-diabetes-report-web.pdf

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4539613/

Life Style Modification

- **The Diabetes Prevention Program study showed 30 minutes** a day of moderate physical activity along with a **5 to 10%** weight loss produced a **58% reduction** in diabetes over a **3 year period of time** and 31% with metformin.
- 10 year data in the DPPOS found a reduction in diabetes incidence of 34% in the lifestyle group and 18% in the metformin group.

Lifestyle Interventions Used in RCT's

- Reduction in dietary intake
- Reductions in total and saturated fat intake
- Increases in leisure time physical activity
- Increases in fiber intake
- Use of food diaries
- Access to exercise facilities
- Meal replacements
- 1:1 session with research staff
- Community centers, recreation centers, faith-based organization and healthcare facilities

National Diabetes Prevention Program

- Evidence-based lifestyle change program
- Stresses education, dietary changes, coping skills, and group activities
- Lose a moderate amount of weight
- Get 150 minutes a week of physical activity
- Trained lifestyle coaches for guidance and support
- Collaboration between federal agencies, community organizations, employers, insurers, health care professionals, academia, and other stakeholders.

National Diabetes Prevention Program: Implement a Lifestyle Change Program

(http://www.cdc.gov/diabetes/prevention/lifestyle-program/index.html)

- **Thinking of offering** a CDC-recognized lifestyle change program? **Already offering** one? Find what you need to start or sustain a program.
  http://www.cdc.gov/diabetes/prevention/lifestyle-program/index.html
- **Screen & Refer Patients to a Lifestyle Change Program**
  http://www.cdc.gov/diabetes/prevention/lifestyle-program/deliverers/index.html
- **Screen your patients** for prediabetes and **refer them** to a CDC-recognized diabetes prevention program.
  http://www.cdc.gov/diabetes/prevention/lifestyle-program/deliverers/index.html
- **Cover a Lifestyle Change Program as a Health Benefit**
  http://www.cdc.gov/diabetes/prevention/employers-insurers/index.html
- Manage health care costs and improve the health of your employees or insured members by **adding** CDC-recognized diabetes prevention lifestyle change programs **as a covered health benefit**.
  http://www.cdc.gov/diabetes/prevention/employers-insurers/index.html
- **Find Facts, Figures & Registry of Recognized Organizations (Diabetes Prevention Recognition Program)**
  https://nccd.cdc.gov/DDT_DPRP/Registry.aspx

The Economic Impact of Prediabetes

- Diabetes care is 2.3 times more costly than what is expected in the absence of diabetes*
- 43% related to hospital inpatient care
- Indirect cost of $5 billion for absenteeism and $20.8 billion for reduced productivity

*ADA. 2013. Economic Costs of diabetes in the U.S. in 2012. Diabetes Care. Vol.36 No. 4 1033-1046.

http://www.cdc.gov/nationalhealthyworksite/index.html

Steps To Take

- Assess your population
- Are they ready to change?
- Increase diabetes awareness
- Screening blood glucose and risk factors
- Prevention
  - Wellness programs
  - Awareness of nutrition and exercise
- Management
  - Check for community services (YMCA)
  - Invest in disease management programs to gain financial benefits
  - Idleness will have a negative impact (health and economics)
  - Early intervention will improve QoL and productivity

Who should be screened

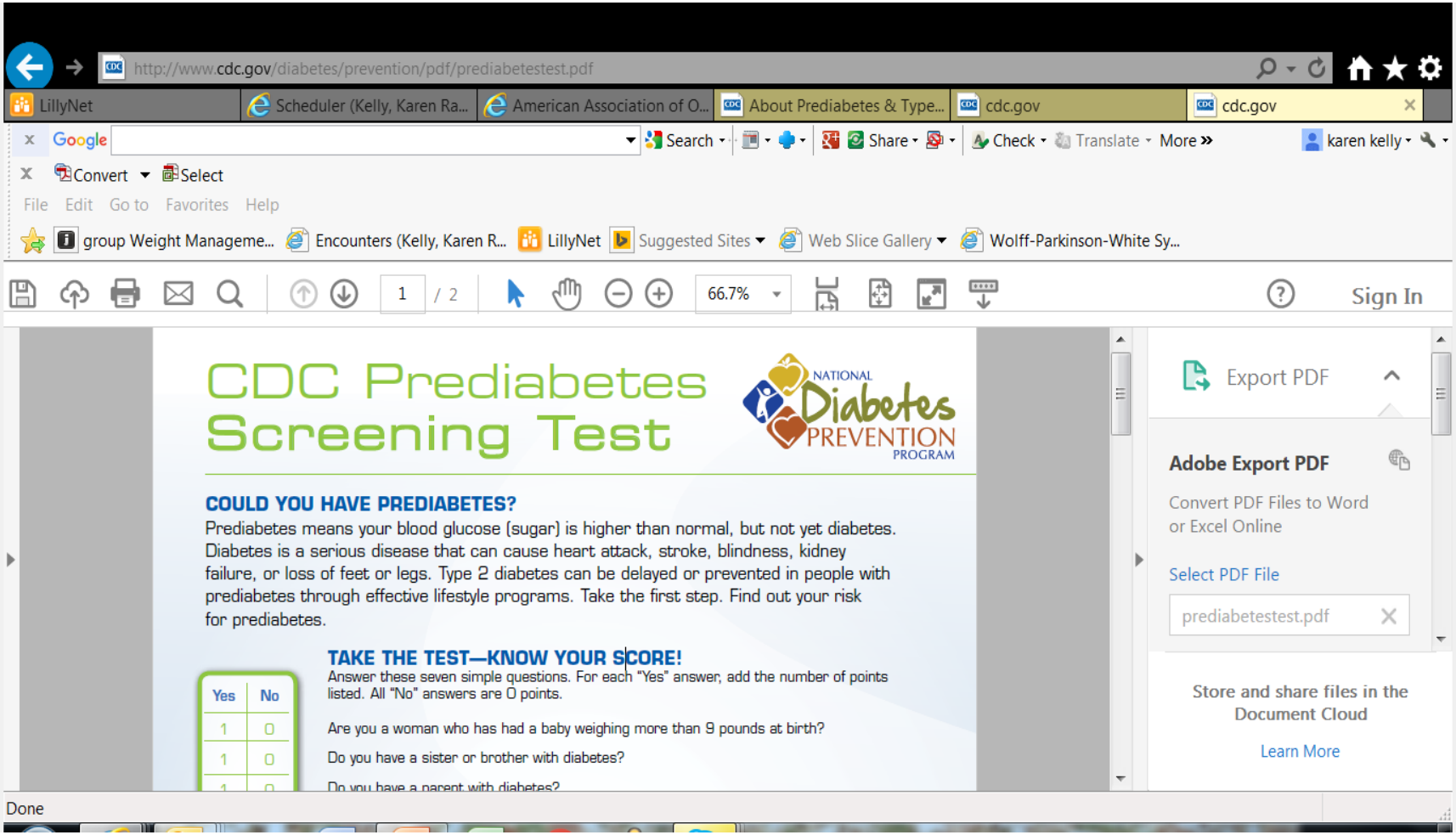
- Overweight adults age 45 and older
- Overweight adults under age 45 who have one or more risk factors
- Physically inactive
- History of elevated blood glucose levels
- Family history of diabetes
- History of gestational diabetes or birth weight 9 lbs. or more
- PCOS
- Acanthosis nigricans
- Elevated B/P or cholesterol
- Members of certain ethnic populations
  - Asian Americans
  - African-Americans
  - Latinos
  - American Indians

Screening for Prediabetes

- Type 2 Diabetes Risk Test
  - Paper version downloadable from ADA website
  - 10 point score total
  - Assesses age, gender, race, HTN, BMI and FH
  - Recommendations based on responses are given to help lower risk
- ALERT Day
  - ADA – share the test with everyone you know
  - March 22, 2016
- Screening blood tests

http://www.diabetes.org/are-you-at-risk/alert-day/

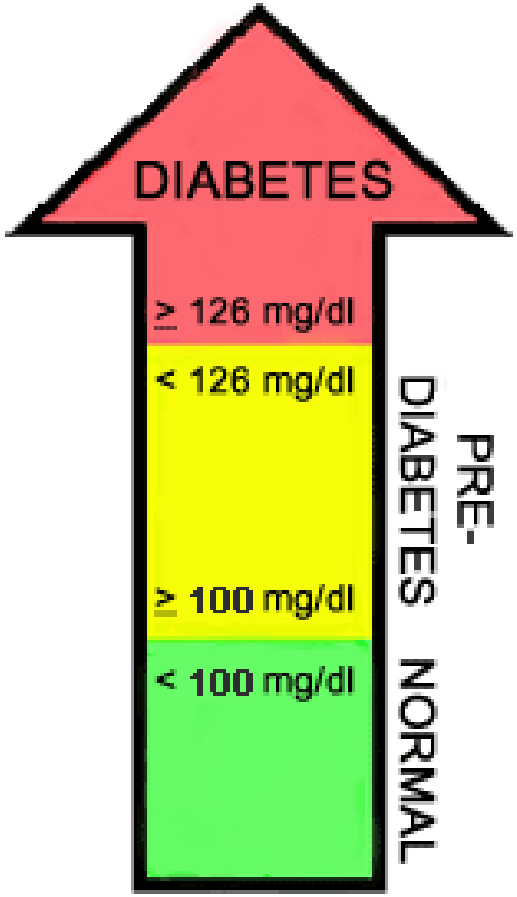
NDPP Prediabetes Quiz



http://www.cdc.gov/diabetes/prevention/pdf/prediabetestest.pdf

Diagnosis of Prediabetes

- **Diabetes**
  - Fasting blood glucose of 126 mg/dl or higher
  - A1C of 6.5% or higher
- **Prediabetes**
  - Fasting blood glucose of 100 - 125 mg/dl
  - A1C of 5.7% to 6.4%
  - 2 hour 75g OGTT of 140-199 mg/dL



Screening Result Indicators

- **Insulin Resistance** – more insulin is needed to lower BG levels
- **Impaired Glucose Tolerance (IGT)** – abnormal fasting glucose level between 100 mg/dL and 126 mg/dL

- **Metabolic Syndrome – 3/5**
  - **Waist size**
  - **B/P**
  - **Trigs over 150**
  - **HDL less 40**
  - **FBG over 100**

http://circ.ahajournals.org/content/109/3/433.full

Strategies for Losing Weight

- Lose weight and then maintain that weight
  - Goal is 5-10% weight loss
- Active at Any Weight (NDEP)
- Stop Diabetes @ Work (ADA)
- Small Steps, Big Rewards GAME Plan
  - Cut back on calories and fat
  - 30 minutes of moderate exercise 5 days/week
- National Diabetes Prevention Program (CDC)
- Track your diet and activity
  - My Game Plan Food & Activity Tracker
  - MyFitnessPal or LoseIt
  - FitBit

Keeping a Record

Tips for Heart-Healthy Eating

- Eat smaller portions.
- Choose non-fat or low-fat dairy products.
- Choose lean meats.
- Remove skin from chicken and other poultry.
- Eat at least 5 servings of vegetables and fruits every day.
- Split entrees and desserts with a friend when eating out.
- Ask for dressings, sour cream, and sauces on the side.

Tips to Increase Your Activity

- Take the stairs instead of the elevator.
- Park your car at the far end of the parking lot.
- Take a 5- to 10-minute walk after each meal.
- Play with a child.
- Work in the yard or garden.
- Take an exercise class.
- Go dancing with friends.

For more information on diabetes, meal planning, or exercise, contact the American Diabetes Association at

FOLD HERE

My Game Plan:
Food and Activity Tracker

Toolkit No. 25

Name: _____

Date: From _____ to _____

MY GOALS THIS WEEK

For cutting calories: _____

_____

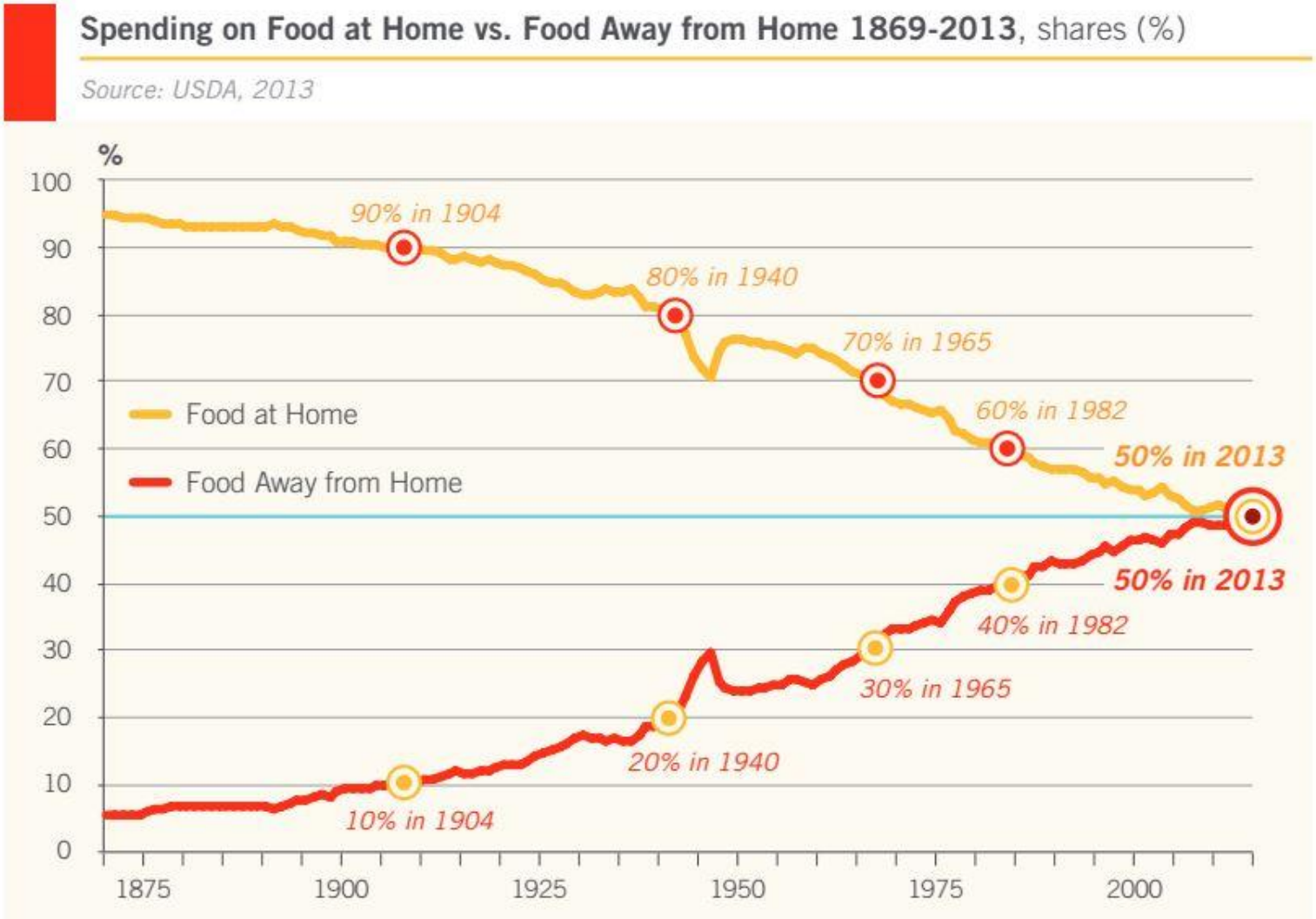
For getting more physical activity: _____

_____

Sample Entry:

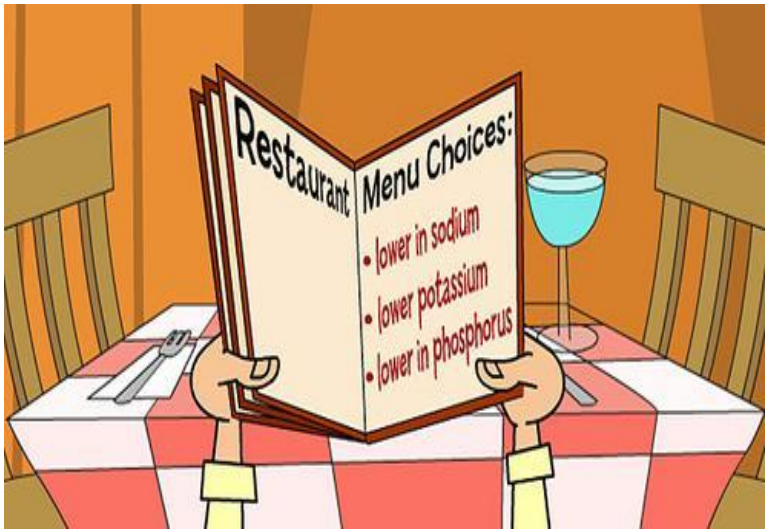
DAY:	Monday	DAILY FOOD AND DRINK TRACKER
TIME	AMOUNT/NAME/DESCRIPTION	
8:00 AM	1/2 cup oatmeal	
	1 cup 2% milk	

Food Away From Home



Surprising Facts

- 50% of Americans eat out 3 or more meals a week
- 12% of Americans eat out 7 or more meals a week
- 1 meal away from home each week translates to 2 pounds of weight gain each year



ERS Food Away From Home Study, USDA, Mancino, 2010

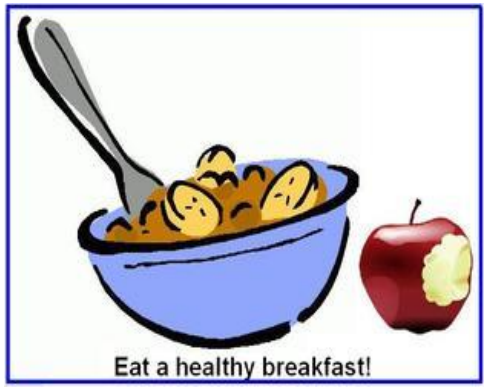
Increased Portion sizes

20 Years Ago	Today	Difference	20 Years Ago	Today	Difference
333 Calories	590 Calories	257 More Calories	85 Calories	250 Calories	165 More Calories
500 Calories	850 Calories	350 More Calories	210 Calories	500 Calories	290 More Calories
500 Calories	1,025 Calories	525 More Calories	270 Calories	630 Calories	360 More Calories

Prediabetes Dietary Considerations

- Healthy Choices
- Portions
- Plate Method
- Healthy Pantry
- Pre-Planning
- Grocery Shopping
- Dining Out
- Emotional Eating
- Carbohydrates
- Baby Steps Behavior Change – BJ Fogg

- Compile a list of safe foods you can trust when eating out
- Eat a small sliver of birthday cake
- Keep “stress” food on hand that is healthy
- Never skip breakfast



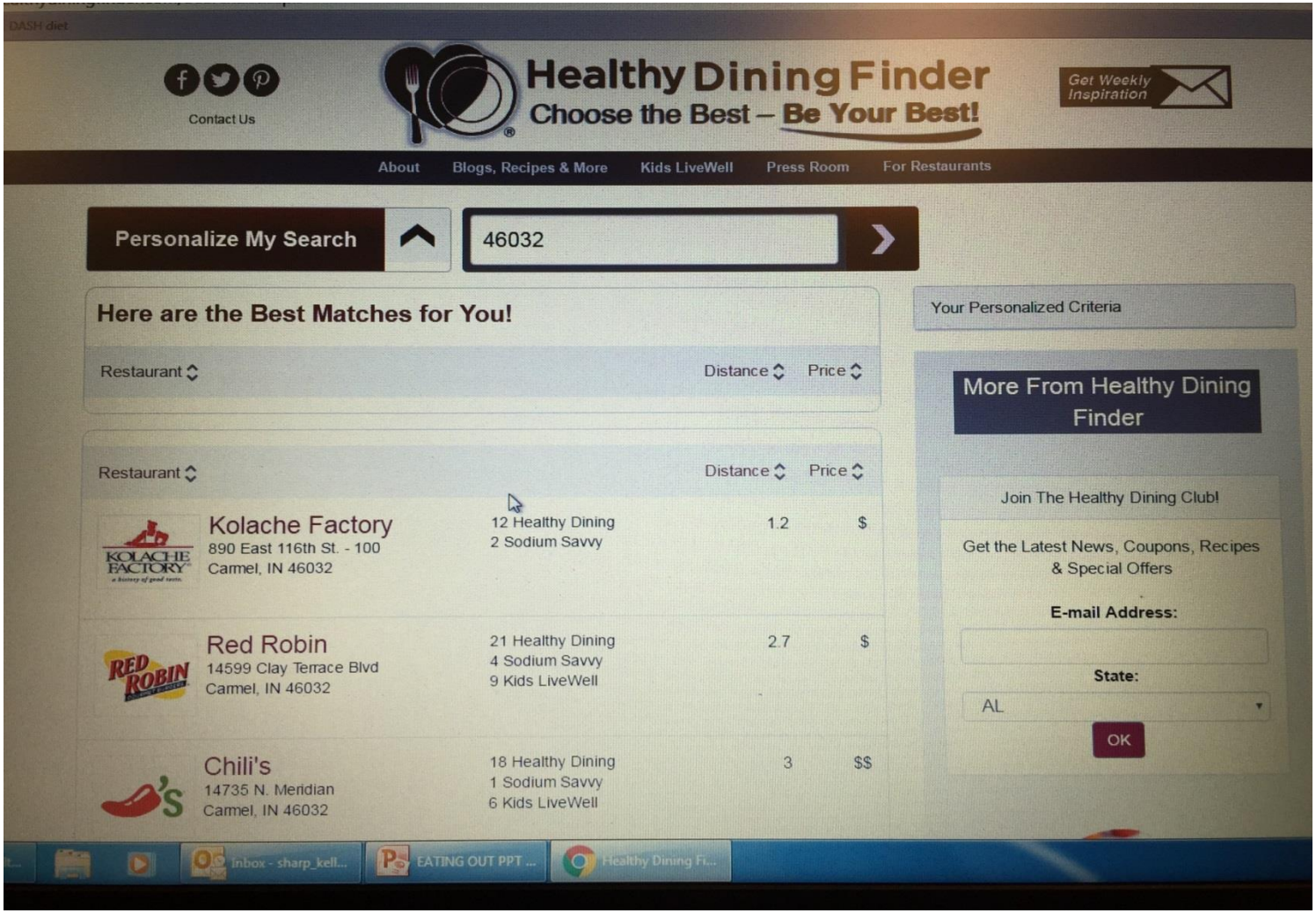
Nutrition on the Go

- Vending machines
- Healthy social outings
- Healthy food pitch-in
- Load up on veggies in your lunchbox
- National Healthy Lunch Day
- Fooducate app
- Food labels
- Healthy Dining Finder.com

- DASH Diet
- Mediterranean Diet
- Choosemyplate.gov

http://health.usnews.com/best-diet/best-overall-diets

Healthydiningfinder.com



Reading menus

- Look for healthy sections on Menus
  - Cheesecake Factory – “Skinnylicious”
    - 50 dishes under 590 calories
  - Applebee's – “Lighter Fare”
    - 9 Bar and Grill Favorites that are under 600 calories
  - PF Changs – “Delightful Dishes”
    - Entrees under 600 calories
- Choose restaurants that are more health-conscious

Ordering

- Look at the menu, preferably BEFORE going out
- Ask questions
  - How is the food prepared?
    - Request no oil, butter, etc.
  - What comes with it?
  - What are the side options
    - Ask for substitutions (side salad, veggies)
- Look at the a la carte selections to make a meal
- Order one or 2 appetizers instead of an entrée
- Forego the bread and chips before your meal
- Split entrée with a friend or family member, or box up ½ the meal right away to eat another day

Prediabetes Exercise Considerations

- Create a personal plan with small goals and strategies
- Stay hydrated
- Go with a friend
- Listen to music or read while on treadmill
- Use the printable material available online at NDEP, CDC, or ADA
  - Walking…A Step in the Right Direction (NDEP)
  - ADA's Starter Walking Plan
  - ADA's I Hate to Exercise by Charlotte Hayes

Activity at Work or Play

- Walking Challenge – track miles and reward
- Stair Climb Contest
- Couch to 5K walking program
- Apps that track activity – Charity Miles
- Walk 15 minutes during your lunch break
- Get up and move for 5 minutes at least hourly

Exercise

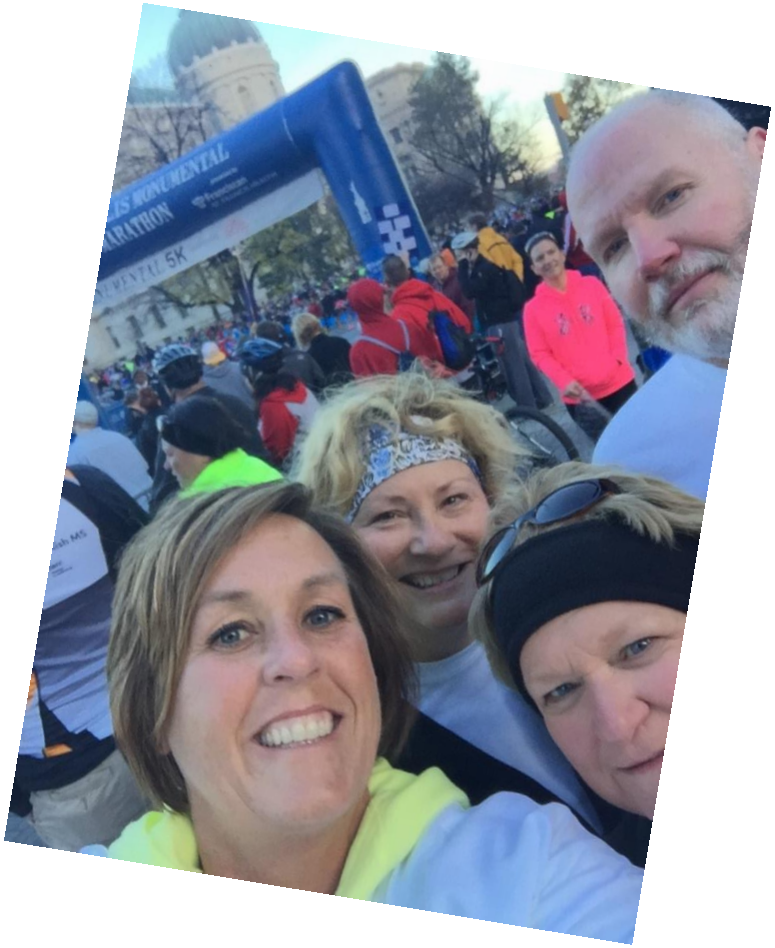
- Get 30 minutes of physical activity 5 days/week
- Have a scale available in a private area to monitor weight loss
- Exercise with a buddy so everyone gets involved
- Take a movement break during the day
- Take a walk during lunch – it's free and easy
- Deliver a message instead of an email or phone call
- Walk around while talking on the phone
- Take the stairs instead of the elevator
- Wear a pedometer each day – one mile equals 2,000 steps
- Avoid Sedentary behavior
  - Sitting Disease
  - Mayo Clinic 50-70% of people six 6 hours daily
  - 20-35% watch over 4 hours of television daily

The Diabetes Hub Program

- Six Sigma Project – survey of employees, cost effectiveness, implementation
- Business Case
  - Average age of employees
  - Ethnic origin
  - Stable or transient workforce
  - Health benefits self-insured?
  - Coverage for DM education?
  - Health risk factors of employees
  - Cost savings

Program Details

- Screening at time of annual wellness exam
- Packet of information
- Sent email with offer of 1:1 counseling with a nurse practitioner
- 12 week Diabetes exercise class
- Metrics
- Phase II
- Launched weight management program



Readiness to Change Model

- Precontemplation
- Contemplation
- Preparation
- Action
- Maintenance

http://www.adultmeducation.com/assessmenttools_3.html

12 Week Program

- Nutrition
- Good Carbs:Bad Carbs
- Emotional Eating
- Pharmacology
- Green BEAN Delivery
- Positive Psychology
- Exercise at Your Desk
- Modification of Exercises

Weekly Schedule

Making my Own Approach to Weight Loss Work for Me! 	**Song of the Week:** *Roar (by Katy Perry)* **Quote of the Week:** *Be the change you want to see in the world. (Mahatma Gandhi)* **App of the Week:** *CharityMiles by Charity Miles – Every Mile Matters* 	**Brags and Bummers:** **Maximizing Energy: 30 Minutes** • Healthy Eating **Working Toward Goal: 15 Minutes** • Fit for Life and Healthways • Prime Fitness • How to sync a Fit Bit to My Fitness Pal and your Fit for Life account • Healthy Meetings (handout) **Exercise: 45 Minutes** • Dumb Bell workout	Fit for Life Health Coaches Rob and Lisa	•Continue to move by doing strength exercises for 15 minutes 2-3 times this week (e.g. squats, lunges, push-ups, band work outs). •Consider taking an exercise class There is a spin class on Tuesday right after our exercise class. Please stay if you feel up to it! Rob would love to see you there!	**Strong core muscles are vital for long term health and independence later in life.** **During the next week:** • Plan a healthy meeting strategy and practice it once this week. • Identify things in your life that zap your energy (journal your thoughts) • Take time to think about how you view yourself and journal your thoughts on this topic. ❖ Are you being honest with yourself about your lifestyle? ❖ Become aware of anything that sabotages your efforts.

Nutritional Classes

Round Table Discussion

- Strong FH motivated him to change
- Weight Loss 110 lbs. over 1 ½ years
- Multiple attempts to lose weight since age six
- Motivated to live healthy lifestyle to be able to play with grandchildren

Moved close to work to have more time for exercise

“This was fun today and makes me realize just how far I have come. Good luck to all in their own personal journey!!”

Variety of Tools

FIGURE
Strategy to Plan Meals Using Low–Glycemic Index Foods and "Create Your Plate"[7,9]

Low-glycemic index vegetables
Beets
Bok choy
Broccoli
Cabbage
Carrots
Cauliflower
Cucumber
Green beans
Lettuce, greens
Mushrooms
Okra
Onions
Peppers
Salsa
Spinach
Tomatoes
Turnips
Vegetable juice

Meat or other protein
Cheese (low-fat)
Eggs
Fish (catfish, cod, salmon, tuna)
Lean beef, pork
Poultry (chicken, turkey), no skin
Shellfish (clams, crab, mussels, oysters, shrimp)
Tofu

Carbohydrates (ideally, glycemic index ≤ 55)
Beans/peas (eg, black-eyed peas, navy or pinto beans)
Breads (whole-grain, high-fiber)
Corn, green peas, lima beans
Crackers, snack chips (low-fat)
Popcorn (fat-free), pretzels
Potatoes, sweet potatoes
Winter squash

To this, the patient should add an 8-oz glass of nonfat or low-fat milk (or substitute 6 oz of carb) and a piece of fresh fruit or 1/3 cup of fruit salad.
Source: American Diabetes Association. 2013.[7,9]

Healthy Choices

Groves, B. Why Eating too Many Carbs makes You Fat. https://www.diabeteshealth.com/why-eating-too-many-carbs-makes-you-fat/

Helpful Resources

Other Tips

- https://nccd.cdc.gov/DDT_DPRP/Programs.aspx
- Heart health, B/P and cholesterol management
- Stress management
- Stop smoking
- Metformin
  - Not currently FDA approved for prediabetes

FINAL Words….

- Eat 3 meals/day and 2 snacks
  - Do NOT skip meals!
  - Snack (eat every 4-6 hours)
    - Apples, bananas, oranges
    - Nuts and/or trail mixes
    - Cheese sticks
    - Greek yogurt
    - Cottage cheese
    - Veggies & hummus
    - Protein bars
    - Mini bags of popcorn
    - Smoothies
- Pack your lunch instead of going out to lunch
- Plan ahead and look at menus before going out
- Avoid all-you-can-eat buffets
- Use apps, like My Fitness Pal, to track calories or Fooducate to learn more about food facts
- Exercise! Find a Buddy!
  - 150 minutes/week, incorporating both cardiovascular AND strength training exercises

The Good News is….

- You can delay or prevent T2DM with regular physical activity, such as walking almost every day, and weight loss
- Lifestyle modifications are crucial
- Learn all you can to help your patients to:
  - lose weight
  - be more active
  - eat healthy

Resources

- **Small Steps, Big Rewards, Your GAME PLAN to prevent Type 2 Diabetes**
  - **National Institutes of Health (NIDDK)**
- **Center for Disease Control and Prevention: Workplace Health Promotion**
  - **www.cdc.gov**
- **National Diabetes Education Program**
  - **http://www.yourdiabetesinfo.org**
- **Diabetes at Work Resource**
  - **http://www.diabetesatwork.org**
- **National Diabetes Prevention Program**
  - **http://www.cdc.gov/diabetes/prevention/index.html**

Questions??

PLEASE USE Q&A FUNCTION AT THE BOTTOM OF YOUR SCREEN

Thank you!

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