Obesity: The global health crisis

Maureen Storey, PhD

President and CEO

Alliance for Potato Research and Education
Outline

- Obesity – A Global Health Issue
- The Current Landscape for Potatoes in the U.S.
- Particulars about APRE
Mission Statement

The Alliance for Potato Research and Education (APRE) is 100% dedicated to expanding and translating scientific research into evidence-based policy and education initiatives that recognize the role of all forms of the potato—a nutritious vegetable—in promoting health for all age groups.
APRE’s Research Framework

**Tell the Story ASAP**
- Publish the Known
  - “Focus on children”

**Obesity & Health**
- Address the Myths
  - “Potatoes make you fat”

**Nutritional Quality**
- Improve & Deliver
  - “Potatoes are vegetables”

**Satiety**
- Measure Physical-Psychological
  - “I feel good”
WHO’s projections indicate that globally in 2005:

- Approximately 1.6 billion adults (age 15+) were overweight, with at least 400 million obese adults.
- At least 20 million children under the age of 5 years were overweight globally.
- By 2015, approximately 2.3 billion adults will be overweight and more than 700 million will be obese.
Worldwide age-standardized prevalence of overweight in adults 20+ years by country in 2005.

FROM: Global burden of obesity in 2005 and projections to 2030. T Kelly, W Yang, C-S Chen, K Reynolds and J He Figure 1. Int’l J Obesity 2008 (32).
Worldwide age-standardized prevalence of obesity in adults 20+ years by country in 2005.

FROM: Global burden of obesity in 2005 and projections to 2030. T Kelly, W Yang, C-S Chen, K Reynolds and J He Figure 1. Int’l J Obesity 2008 (32).
Global Prevalence of Overweight in Boys
1990-1999

% Overweight
< 5 %
5-9.9%
10-14.9%
15-19.9%
20-24.9%
25-29.9%
≥30%
Self Reported data
Consequences of Obesity

- Increased risk of cardiovascular disease, including coronary heart disease;
- Increased risk of high blood pressure;
- Increased risk of type 2 diabetes;
- Many other health problems.
  - Sleep apnea
  - Joint pain and arthritis
Focus is on children!

FEED YOUR CHILDREN WELL
MY FIGHT AGAINST CHILDHOOD OBESITY
BY MICHELLE OBAMA
Trends in *Per Capita* Availability of Fruit and Vegetables

(Data source: USDA Economic Research Service)

*Per capita availability is NOT consumption. It is a proxy of consumption only!*
These data suggest that *per capita* availability of all fruits and vegetables has declined in the last decade.
Declining starchy vegetables has not led to dramatic increases in *per capita* availability of other vegetables.
Per capita availability of all potatoes decreased 15% over the last decade. These data suggest that proposals to restrict potatoes will not lead to greater consumption of dark green leafy or deep yellow vegetables.
Changes in Diet and Lifestyle and Long-Term Weight Gain in Women and Men

Dariush Mozaffarian, M.D., Dr.P.H., Tao Hao, M.P.H., Eric B. Rimm, Sc.D., Walter C. Willett, M.D., Dr.P.H., and Frank B. Hu, M.D., Ph.D.
Top 25 Sources of Calories Among American Adults, 19+ Years
(Ref: Dietary Guidelines for Americans, 2010; Chapter 2, p. 12)
Top 25 Sources of Calories Among American Children and Adolescents, 2-18 Years
(Ref: Dietary Guidelines for Americans, 2010; Chapter 2, p. 12)

Total daily calories = 2,027

- Grain-based desserts, 6.8%
- Pizza, 6.7%
- Soda/energy/sports, 5.8%
- Yeast breads, 5.6%
- Chicken/chicken dishes, 5.6%
- Pasta/pasta dishes, 4.5%
- Reduced fat milk, 4.2%
- Dairy desserts, 3.7%
- Snack chips, 3.5%
- Breakfast cereals, 3.2%
- Whole milk, 3.0%
- Mexican dishes, 3.1%
- Candy, 2.8%
- Fruit drinks, 2.7%
- Burgers, 2.7%
- Fried white potatoes, 2.6%
- Sausage, franks, bacon, ribs, 2.3%
- Regular cheese, 2.1%
- Beef/beef dishes, 2.1%
- 100% juice, not orange/grapefruit, 1.7%
- Eggs/egg dishes, 1.5%
- Pancakes, waffles, French toast, 1.4%
- Crackers, 1.4%
- Nuts/seeds, nut/seed dishes, 1.3%
- Cold cuts, 1.2%
- All other foods, 18.4%
Can Potatoes Be Part of the Solution to Obesity?

What evidence do we have?

What more is needed?
ORIGINAL ARTICLE

Potato protease inhibitors inhibit food intake and increase circulating cholecystokinin levels by a trypsin-dependent mechanism

S Komarnytsky, A Cook and I Raskin
Johannes Erdmann
Yvonne Hebeisen
Florian Lipp
Stefan Wagenpfeil
Volker Schusdziarra

Food intake and plasma ghrelin response during potato-, rice- and pasta-rich test meals
Goals and Strategies

APRE will expand and translate research into science-based policy and education initiatives on the role of all forms of the potato – a nutritious vegetable – in a well-balanced diet.

Creating Partnerships

Engaging Constituents

Educating Influencers

Building the Science Foundation through Investment in Research
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First Things First!

- Understand the nutrient profiles of potatoes and French fried potatoes; and
- Understand consumption patterns of potatoes and French fried potatoes by age group, gender, race/ethnicity, and socioeconomic status.
Potatoes in any form are an important source of potassium – a nutrient of public health concern.
Then Develop a Research Plan!

Build the Science Foundation through Investment in Research

- Convene Scientific Advisory Council and Economics Advisory Council of subject matter experts from academia to identify research areas; and

- Collaborate with USDA Nutrient Data Laboratory with ultimate goal of updating and expanding information on the nutrient profile of potatoes and potato foods, including French fried potatoes.
APRE Advisory Councils

Scientific Advisory Council

Nick Bellissimo, Ph.D., B.Ed.
Assistant Professor
School of Nutrition
Faculty of Community Services
Ryerson University
Toronto, Ontario, Canada

Jeanne F. Goldberg, Ph.D., R.D.
Professor of Nutrition
Hancock Research Center
on Physical Activity, Nutrition and
Obesity Prevention
Tufts University

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Physician in Chief, Mass General Hospital for Children
Chair, Department of Pediatrics
Chief, Pediatric Gastrointestinal and Nutrition Unit
Massachusetts General Hospital
Charles Widmer Professor of Pediatrics
Harvard Medical School

Mario Fornetti, Ph.D.
Associate Professor
Department of Food Sciences
Purdue University

Judith Wylie-Rosett, Ed.D., R.D.
Professor, Head, Health Promotion and
Nutrition Research
Department of Epidemiology and Population Health
Albert Einstein College of Medicine
Yeshiva University

Gary D. Foster, Ph.D.
Director, Center for Obesity Research
and Education
Professor, Medicine and Public Health
Department of Medicine
Temple University

Jeanne Slavin, Ph.D., R.D.
Professor
Department of Food Science and Nutrition
University of Minnesota

Economic Advisory Council

Oral Caposs, Jr., Ph.D.
Executive Professor
Co-Director, Agriculture, Food
and Consumer Economics
Research Center
Texas A&M University

Eric Finkelstein, Ph.D., M.H.A.
Associate Research Professor
Duke Global Health Institute
Duke University

Tomas Padrone, Ph.D.
Daniel Levin Professor of Public
Policy Studies
Irving B Harris Graduate School of
Public Policy Studies
The University of Chicago

Richard Williams, Ph.D.
Director of Policy Research
Mercatus Center
George Mason University

Moderator and Facilitator - Sylvia Rowe, President - SR Strategy LLC - Washington, D.C.
Building the Science Base

Tell the Story ASAP
- Publish the Known
  - "Focus on children"

Obesity & Health
- Address the Myths
  - "Potatoes make you fat"

Nutritional Quality
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  - "Potatoes are vegetables"

Satiety
- Measure Physical-Psychological
  - "I feel good"
Intramural (APRE) Research 2012

1. White potato consumption among adults in the United States.
   • Storey ML, Anderson PA. Poster at Experimental Biology, April 2012

2. White potato consumption among children and adolescents in the United States.
   • Storey ML, Anderson PA. Poster at Experimental Biology, April 2012

3. Vegetable consumption among women in the WIC program
   • Storey ML, Anderson PA. Poster at Society for Nutrition Education and Behavior, July 2012
Mean Percent of Calories per Day from White Potatoes and All Other Foods and Beverages for Males Aged 2-18 Years

- Mean Percent of Kcal/Day from White Potatoes: 97.1%, 97.5%, 97.4%, 96.7%
- Mean Percent of Kcal/Day from All Other Foods and Beverages: 2.9%, 2.5%, 2.6%, 3.3%

Age groups: 2-4y, 5-8y, 9-13y, 14-18y
Mean Percent of Calories per Day from White Potatoes and All Other Foods and Beverages for Females Aged 2-18 Years

<table>
<thead>
<tr>
<th>Females</th>
<th>Mean Percent of Kcal/Day from White Potatoes</th>
<th>Mean Percent of Kcal/Day from All Other Foods and Beverages</th>
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<td>14-18y</td>
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Mean Calories per Day from French Fried Potatoes and All Other Foods and Beverages for Males and Females 2-18 Years

- **Males**
  - 2-4y: 29.1 Kcal/day
  - 5-8y: 35.4 Kcal/day
  - 9-13y: 39.5 Kcal/day
  - 14-18y: 59.8 Kcal/day

- **Females**
  - 2-4y: 25.0 Kcal/day
  - 5-8y: 44.2 Kcal/day
  - 9-13y: 40.5 Kcal/day
  - 14-18y: 38.8 Kcal/day
1. Plate Waste Study: Consequences of limiting starchy vegetables in school lunches

2. Purdue University Roundtable: *White Vegetables: A Forgotten Source of Nutrients*
Research Study

Objective:

- To assess the economic and nutritional consequences of limiting potatoes and substituting other vegetables in school lunches.

Co-investigators
Dr. Oral Capps, Jr. & Dr. Peter Murano
2012 Roundtable
“White Vegetables: A Forgotten Source of Nutrients”

DELIVERABLES & TIMELINES

• June 2012 – Roundtable

• 2013
  Abstracts published
  Nutrition Today

• 2013
  Proceedings published in journal for review by 2015 Dietary Guidelines Committee

• 2013-14
  APRE-sponsored health professional education sessions

EXPERT PANEL
– in process –

Introduction and Conceptual Framework
Connie Weaver, PhD - Chair
Purdue University

White is a color, too - Keynote
Stephen Barnes, PhD
Univ of Alabama – Pharmacology, Biochemistry, Health Science, Vision Science

The Potato-Nutrition Landscape
Maureen Storey, PhD, APRE President & CEO
Others Topics

Innovations in Food Chemistry and Processing to Enhance the Nutrient Profile of Potatoes and Potato Foods

Satiety and Glycemic Index

CHO, Fiber and Resistant Starch

Potassium and Overall Health

Magnesium and Overall Health

Health-Promoting Components F&V
Including White Potatoes in the Diet

Discussants - APRE Scientific Advisory Panel
2012 Roundtable
“White Vegetables: A Forgotten Source of Nutrients”

Abstracts
Target Journal

Proceedings
Target Journal

10 Abstracts
Publish 2013

10 Papers
Publish 2013
Collaborating with Third Parties

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Building the Science Foundation through Investment in Research

Creating Partnerships

Engaging Constituents

Educating Influencers
USDA *MyPlate* Partnership

- 1st Communication Message
  
  “*Make Half Your Plate Fruits and Vegetables.*”

- Message promoted:
  
  Health Professional Meetings
  
  Tweet Party
  
  APRE Technical Briefs
Make Half Your Plate Fruits and Vegetables

“All Fruits and Vegetables Fit on MyPlate”
Joanne Slavin, PhD, RD
Professor
Department of Food Science and Nutrition
University of Minnesota

“The Economics of Filling Half Your Plate with Fruits and Vegetables”
Adam Drewnowski, PhD
Professor, Epidemiology
Adjunct Professor, Dept. of Medicine and Metabolism
Director, Nutritional Sciences Program
University of Washington, Seattle
Enjoy Your Food, Just Eat Less

- 2nd Communication Message
- Message promoted:
  Health Professional Meetings

ChooseMyPlate.gov
USDA National Partner

Enjoy the satisfaction of eating your favorite foods in moderation. For more information, visit ChooseMyPlate.gov.
WASHINGTON, March 1, 2012 – Agriculture Secretary Tom Vilsack today announced that nearly 6,000 USDA partners are teaming to deem March 8, 2012 as "What's on My Plate?" day to heighten public awareness of the importance of choosing nutritious foods for a healthy meal.
Partnership with Academy of Nutrition and Dietetics Foundation

Mealtime: It Happens Anytime and Anyplace

Tool Kit

Launched March 2012
Outreach to Growers and Members

APRE will expand and translate research into science-based policy and education initiatives on the role of all forms of the potato – a nutritious vegetable – in a well-balanced diet.
This Week’s APRE Highlights
March 5, 2012 – March 9, 2012

Member Communications
APRE Participates in USDA’s National “What’s on Your Plate” Day
To build awareness of its MyPlate initiative, USDA has asked its National Strategic Partners to participate in its social media campaign during March 2012, which is National Nutrition Month. The USDA’s Buzz Activity Task Force is conducting a National “What’s on Your Plate” Day designed to provide consistent messaging on MyPlate by utilizing the vast social networking resources of its Partners. The day to tweet, blog, Facebook, and generally create a buzz started on March 8, 2012.
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Creating Partnerships

Engaging Constituents

Educating Influencers

Building the Science Foundation through Investment in Research
## 2012 National Meeting Calendar

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## 2012 State Meeting Calendar

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Example: State Meeting Sponsorship

AM Coffee: Meet Dr. Storey
Recognition of APRE during business meeting
Signage
Program book with Full-page, 4-color Ad
Expo Booth
Educational Session
Know the facts about potato consumption among school children.

According to the latest data from the Centers for Disease Control and Prevention, school-aged children, on average, consume less than 1% of their daily calories from white potatoes at school, including oven-baked potato fries.
Suzanne Farrell, MS, RD

Suzanne Farrell, registered dietitian and owner of Cherry Creek Nutrition

..."adds that people have such a negative attitude toward the ‘white foods,’ such as potatoes, but in small amounts, they have value. ‘Potatoes are so nutrient-rich, high in potassium, vitamin C and magnesium, and it's great to include them’ she says. ‘A small baked potato is about 128 calories.’"
Oven-Baked Potato Fries
Pack a Nutritious Punch
Remember Starchy Vegetables When Building Your Plate
Lauren Swann, MS, RD, LDN
Starchy Vegetables Provide Important Nutrients
APRE Website – June 15 Launch

www.apre.org
Conclusions

APRE has hit the ground running hard and fast in 11 months
Thank You