2010 California Area IHS Medical Conference Childhood Obesity Let's Just Move it

June 9, 2010

Dan J. Calac, MD
Med/Peds

2010 California Area IHS Medical Conference

- Introduction
- Obesity as a problem for practitioners today
- Important Clinical Presentations
- Tools for Change
- CONACH (Committee on Native American Child Health)

The Pee Pee Dance

- Invoking a powerful image
- Breaking The Pee Pee Dance Down
- Relevance to life process
- Learning the Moves and Ins and Outs of the Dance
- Mastering the Dance

The Pee Pee Dance

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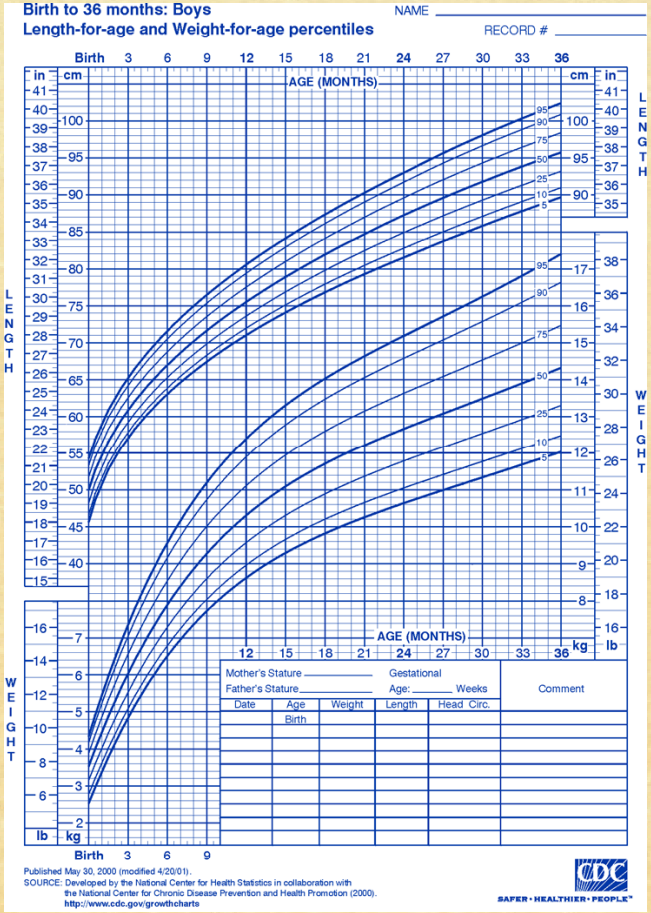
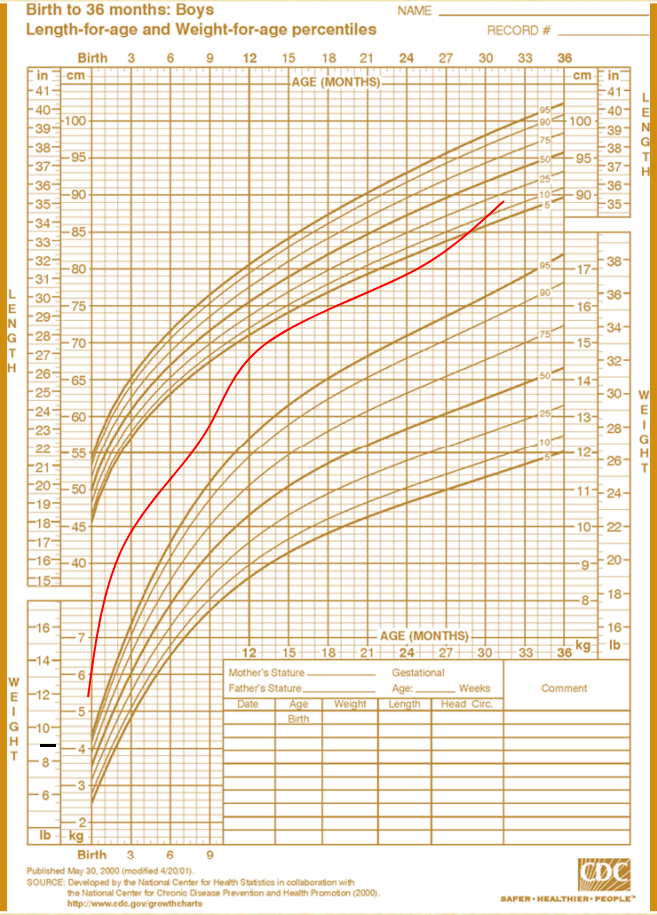
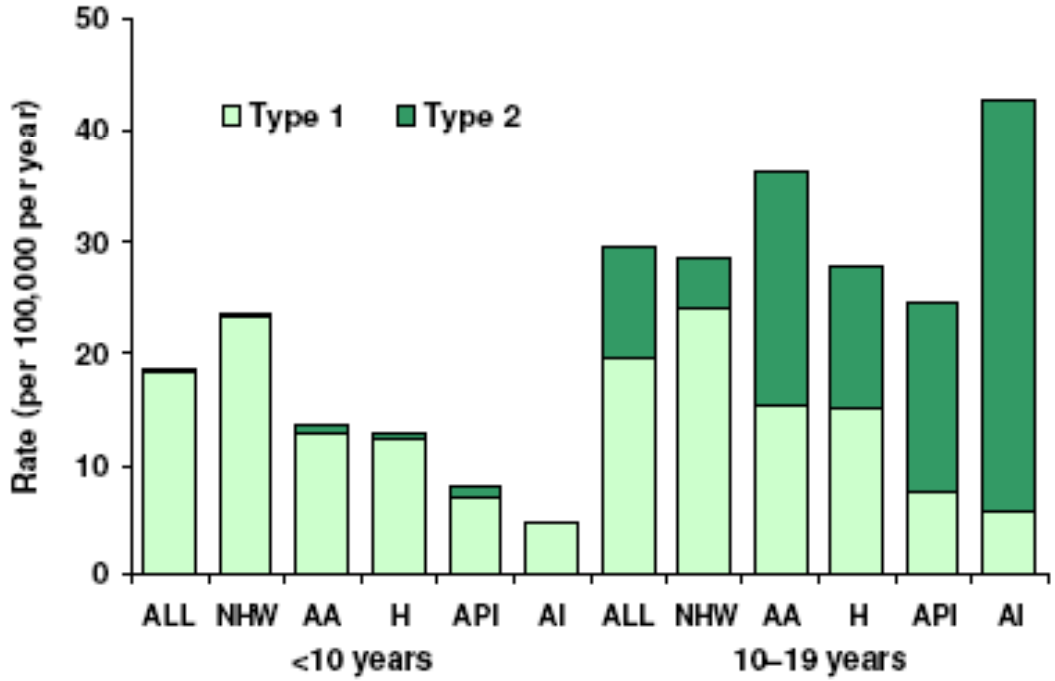
Preventing Obesity in the First Place



Preventing Obesity in Children



Rate of new cases of type 1 and type 2 diabetes among youth aged <20 years, by race/ethnicity, 2002–2003



Source: SEARCH for Diabetes in Youth Study
NHW=Non-Hispanic whites; AA=African Americans; H=Hispanics; API=Asians/Pacific Islanders; AI=American Indians

The Original Fast Food

(Brown, Dept. of Peds, UOCM)

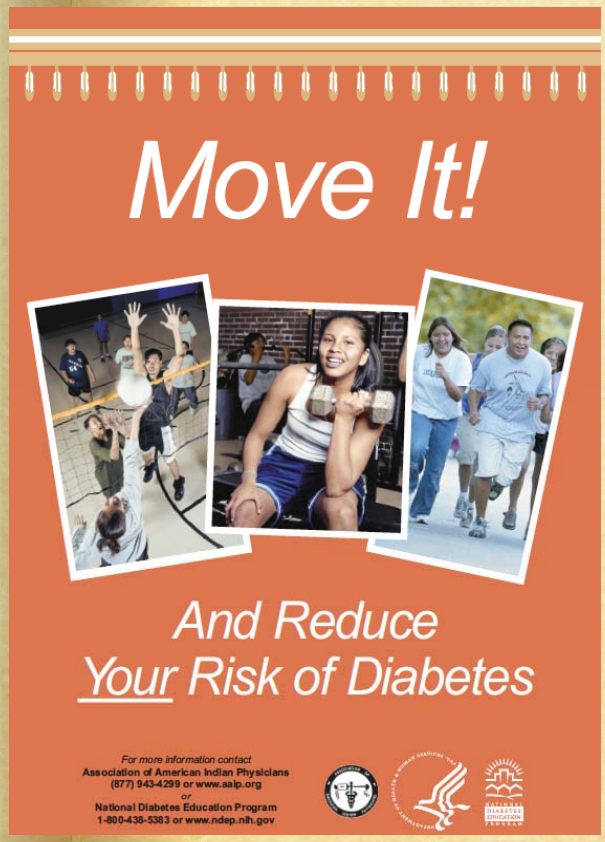
Fast Food Today

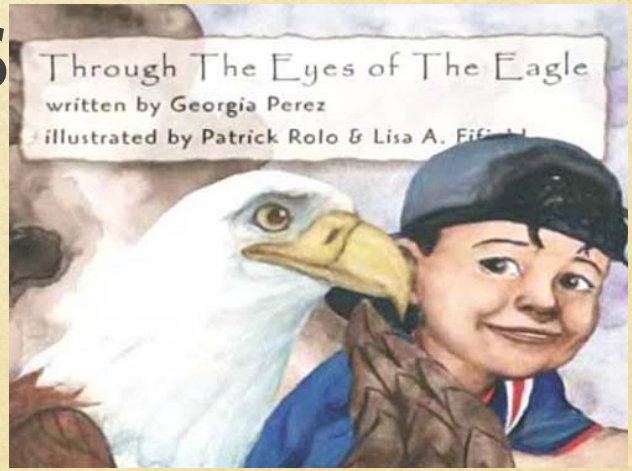
(Brown, Dept. of Peds, UOCM)

Childhood Obesity and Diabetes

Solutions

(Brown, Dept. of Peds, UOCM)





Let's Move

- First Lady Michelle Obama Obesity Prevention Program
- www.letsmove.gov
- Addressing
  - USDA nutritional standards for school lunch
  - Increasing changes for activity
  - Improving access to better foods

Childhood Obesity and Diabetes

Strategies for Addressing Obesity

Childhood Obesity and Diabetes

Sample R_X for Healthy Living

Rx for Healthy Active Living

Name _____ Date _____

Ideas for Living a Healthy Active Life

5 Eat at least 5 fruits and vegetables every day.
2 Limit screen time (for example, TV, video games, computer) to 2 hours or less per day.
1 Get 1 hour or more of physical activity every day.
0 Drink less sugar. Try water and low-fat milk instead of sugar-sweetened beverages.

My Goals *(choose one you would like to work on first)*

- ☐ Eat _____ fruits and vegetables each day.
- ☐ Reduce screen time to _____ minutes per day.
- ☐ Get _____ minutes of physical activity each day.
- ☐ Reduce number of sugared drinks to _____ per day.

_____
Patient or Parent/Guardian signature

_____
Doctor signature

From Your Doctor

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

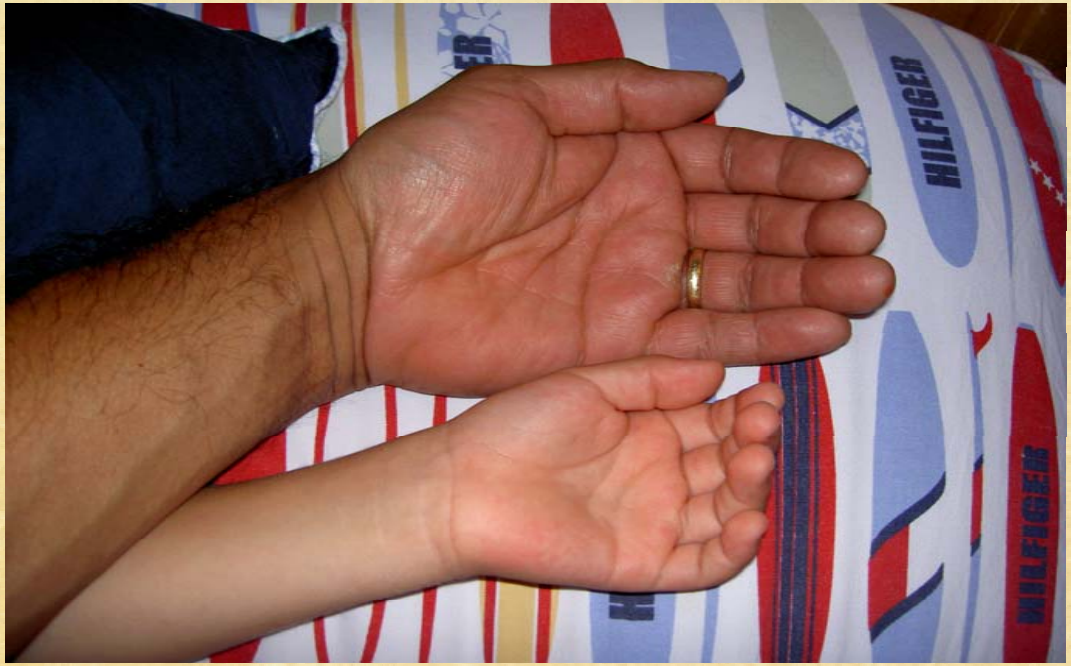
Healthy Active Living
An initiative of the American Academy of Pediatrics

Strategies for Addressing Obesity

Portion Control

- Portion Size
- Patient Awareness
- Practical tools for use

Strategies for Addressing Obesity
Portion Control



Strategies for Addressing Obesity
Portion Control

- Tools for Self Management
  - Protein serving size equal to ½ an adult palm or full palm for child
  - Carb serving size approximated as a 1/2 palm or a cupped hand
  - Fat serving size approximated as ½ cupped hand
  - No Carb vegetables unlimited

  - The Palm Plan

Question 1

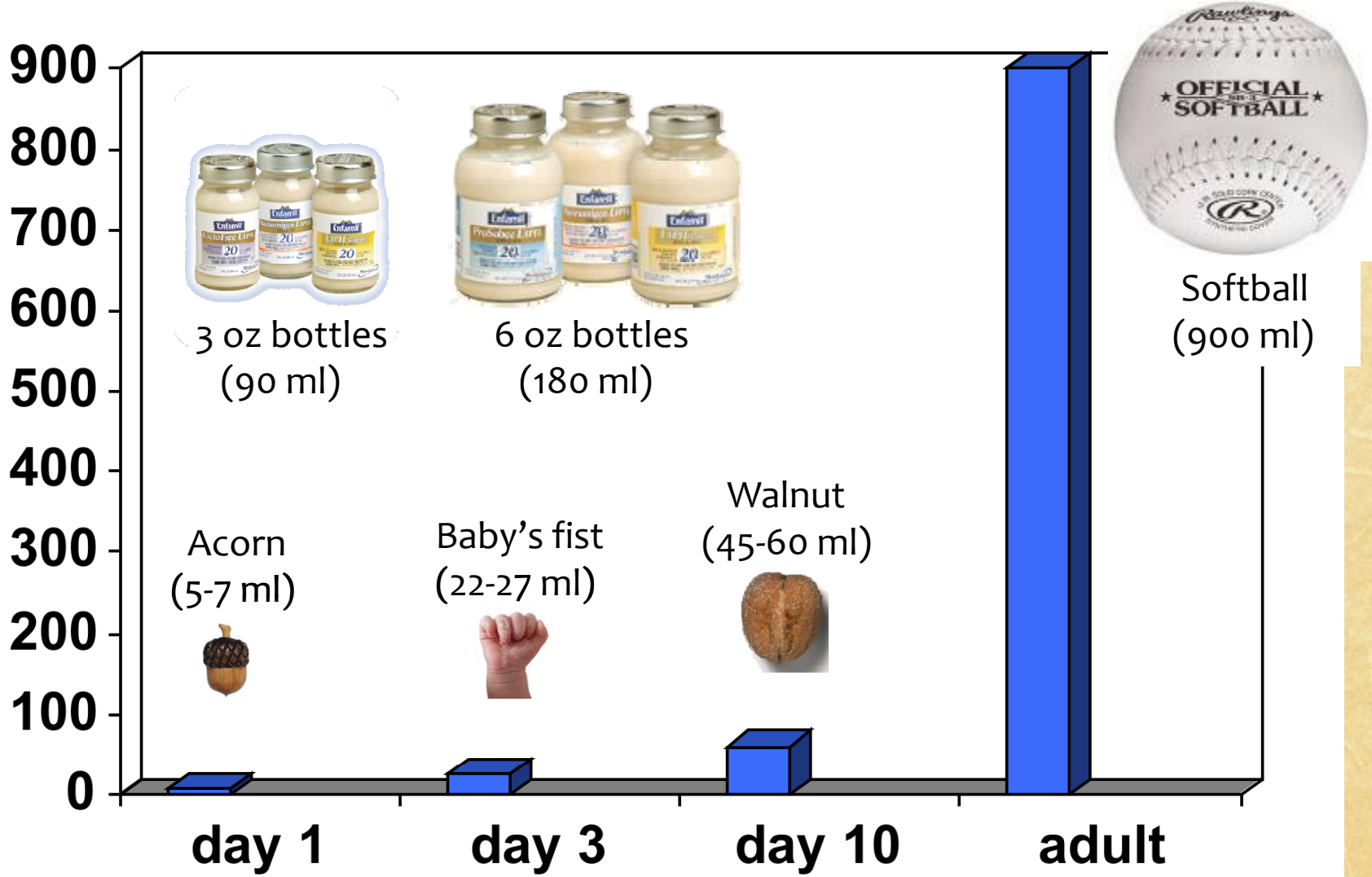
The size of a newborn baby's stomach is EQUAL TO WHAT?

A. Acorn
B. Walnut
C. Tennis ball
D. Softball

Stephen W. Ponder MD, Driscoll Childrens; Hospital

Stomach size (in cc's) by age

Stephen W. Ponder MD, Driscoll Childrens; Hospital



Child Obesity

- The Situation:
  - US General Population faces 1 in 3 risk for Type II DM
  - 1 in 6 adolescents are now obese
  - Prevalence among 10-19 years of age is 1 in 2400
  - Interventions are not directly effective
  - Numbers to treat for prevention are high

Gregg, E.W.,NEJM, 362;6;Feb. 11, 2010

Child Obesity

- Increased BMI associated with twice the risk for death compared to those with not DM
- Obesity (BMI>95th%tile) predicts early death
- Comorbidities of hypertension and cholesterol were not predictive of death
- Mortality rates were increased for other comorbids like liver disease

Franks, et.al.,NEJM, 362;6, Feb. 11,2010

Child Obesity

- HEALTHY Study (Clinical Trials NCT00458029)
  - 3 yr cluster randomized intervention trial
  - 6000 sixth graders from 42 schools
  - May provide generalizable interventions
  - Interventions may target
    - Nutritional
    - Physical Activity
    - Behavioral

Franks, et.al.,NEJM, 362;6, Feb. 11,2010

Childhood Obesity and Premature Death

- Male 2397
- Female 2460
- Ages
  - 5-9yrs 2075
  - 10-14 yrs 1913
  - 15-19 yrs 869

Franks, et.al.,NEJM, 362;6, Feb. 11,2010

Childhood Obesity and Premature Death

- Obesity (percent) 28.7%
- BMI Range 12.4-55.3

Franks, et.al.,NEJM, 362;6, Feb. 11,2010

Study Pop Demographics Females

Age in Years	No. of Patients	Average BMI	BMI Range
6-12 years	93	19.7	10.2-34.7
13-18 years	132	27.8	17.7-54.6

Indian Health Council, 2010

Study Pop Demographics Males

Age in Years	No. of Patients	Average BMI	BMI Range
6-12 years	118	21.2	10.4-45.5
13-18 years	130	27.3	14.9-46.1

Indian Health Copuncil, 2010

Child Obesity

- Social Interventions
  - Targeting HFCS (high fructose corn syrup)
  - Calorically Dense Foods (Super Size Me!!)
  - Excessive television/gaming (more than 2 hrs)
  - Limited access to healthy natural foods
  - Communities limiting physical activity
    - No walking paths
    - No parks
    - No extramural activities

Franks, et.al.,NEJM, 362;6, Feb. 11,2010

Childhood Obesity

Important Clinical Presentations

NAFLD: Non-Alcoholic Fatty Liver Disease

- Accumulation of fat (triglycerides) in the liver in the absence of causal alcohol intake
- Most common cause of chronic liver disease in adults and adolescents
- Rapidly increasing prevalence
- Often asymptomatic
- May progress to liver failure or liver cancer if untreated

Calac/Montag, 2010 Pilot Study NALFD

NAFLD

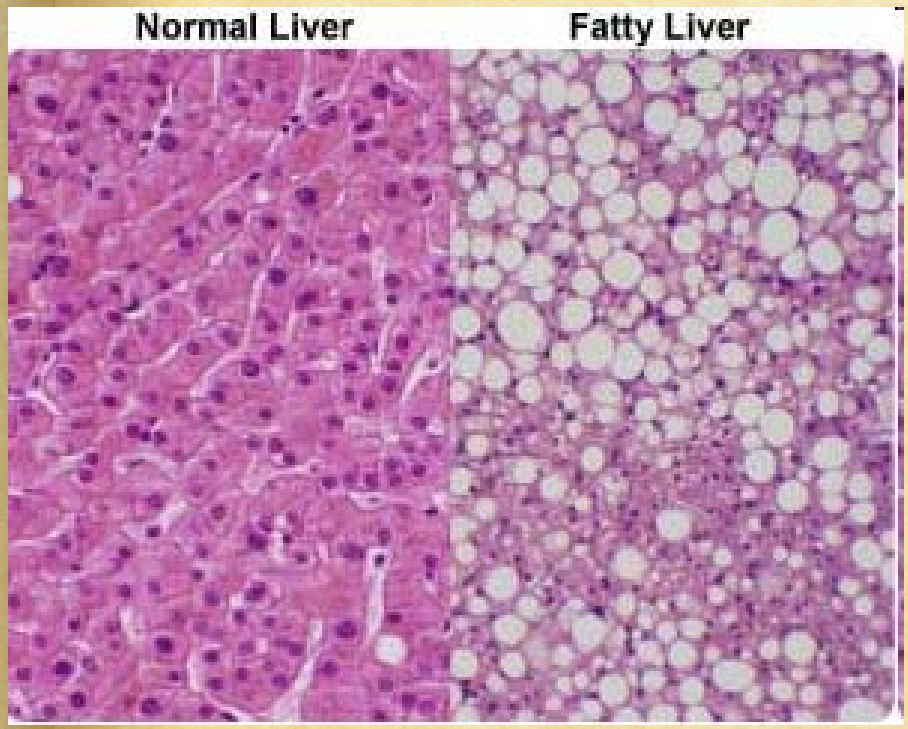


Image source: http://www.genetic4health.com/images/...

Calac/Montag, 2010 Pilot Study NALFD

Steatosis

↓

Steatohepatitis

↓

Fibrosis

↓

Cirrhosis

↓

Liver failure or Liver cancer

Fatty Liver Disease is associated with:

- Obesity (particularly central obesity)
- Glucose disturbances (insulin resistance, diabetes,..)
- Sedentary lifestyle
- Dyslipidemia
- Metabolic disease
- Diet high in saturated fats, high fructose corn syrup, carbohydrates, alcohol, etc.
- Metabolic (glycogen storage disease, hemochromatosis, etc.) and viral etiologies (HBV, HCV, etc.). Toxin exposures.
- Family history of fatty liver disease

Pediatric Fatty Liver Disease: Prevalence

- Prevalence from surrogate measures (ALT)
  - NHANES III 1988-1994, 12-18 years, 3%
  - NHANES 1999-2004, 12-18 years, 8%
  - Korean National Health 1998, 10-19 years, 3.2%
- Autopsy study in San Diego County 1993-2003
  - 2-19 years, 9.6% after adjusting for age, gender, race, and ethnicity (13% crude)
  - Increased with age (2-4 years 0.7%; 15-19 years 17.3%)
  - Increased with obesity (BMI ≥ 95th percentile 38%)
  - Risk: Hispanics > whites > African Americans

No prevalence data in American Indians

But…

- 1.6 x more likely to be obese
- 2.2 x more likely to have type 2 diabetes
  - Genetic component suspected
- Diet high in saturated fats, rapidly digested starches, & high fructose corn syrup
- "Chronic liver disease and cirrhosis" as cause of death ranks 5th (12th for whites, 15th for blacks and API)
- HCC incidence among AI/AN increasing!

The Bad News…

Available risk factor data hints that:

- NAFLD may constitute a serious health issue for AI/AN communities and
- May predict a potential health disparity with devastating consequences

The Good News…

The liver regenerates

NAFLD is reversible if caught early

Treatment of NAFLD

- Weight loss / management
- Improved nutrition
- Exercise
- Insulin sensitizers
  - Metformin, maybe thiozolidinediones
- Treatment of underlying viral disease
- Treatment of underlying metabolic disease
- Removal of toxic exposure
  - Environmental, prescription medication, etc.

Childhood Obesity

Tools for Practitioners to address the issue

Indian Health Council, Inc.

Valley Center, CA

Committee on Native American Child Health (CONACH)

Effective Change
CONACH Goals for Change

Effective Change
CONACH Goals for Change

- #1: Well Child Care
  - Defined Evidence Based/AAP supported care guidelines
  - Bright Futures
  - Coordination with Head Start
  - Development of Interdisciplinary Well Child Clinics to improve screening and care delivery

Indian Health Council Pediatrics

- Innovative Ideas
  - Institute of Healthcare Improvement Collaborative
- Program Strengths
  - University Collaboration
  - Interdisciplinary Team approach

IHC Top Ten POV

- Obesity
- Metabolic Syndrome
- Hypertension
- Diabetes
- Hepatitis C
- ATV/MVA Trauma
- Methicillin Resistant Staph Aureus (MRSA)
- Depression/Anxiety
- GERD
- Health Care Maintenance

Indian Health Council Pediatrics

- Personnel
  - 3.5 full time providers
    - Pediatrician
    - Family Practice
    - Nurse Practitioner
    - Physician Assistant

COMMUNITY OUTREACH EFFORTS

- HEALTH FAIRS
- 41 EVENTS
  - LOCAL
  - REGIONAL
    - OVER ONE THOUSAND INDIVIDUALS SCREENED IN THE PAST TWO YEARS
- COMPREHENSIVE SCREENING

Indian Health Council Pediatrics

- Community Health
  - Director
  - 2 Public Health Nurses
  - 4 Community Health Representatives
  - 1 Exercise Specialist
  - 1 Dietician/Nutritionist

Indian Health Council Pediatrics

- Community Outreach
  - Administrative/Educational
  - Cultural
  - Preventive
  - Medical

Indian Health Council Community Collaboration

- Traditional Health Gathering
  - 3 day event
  - highlights cultural activities
  - promotes unity
  - promotes case finding

Indian Health Council Pediatrics and Well Child

- Preventive Strategies
  - Car Seat Classes
  - Educational Handouts
    - Fire Safety
    - West Nile Virus
    - Pandemic flu
    - Season Specific Reminders

Indian Health Council Pediatrics and Well Child

- Cultural Community Collaborations
  - Home Visits
  - Community Health Programs
  - School Networks

Indian Health Council Community Collaboration

- Youth get a taste they usually don't have on the reservation
- My son tries his skill on the climbing rock

Effective Change
CONACH Goals for Change
#2 Data Utilization

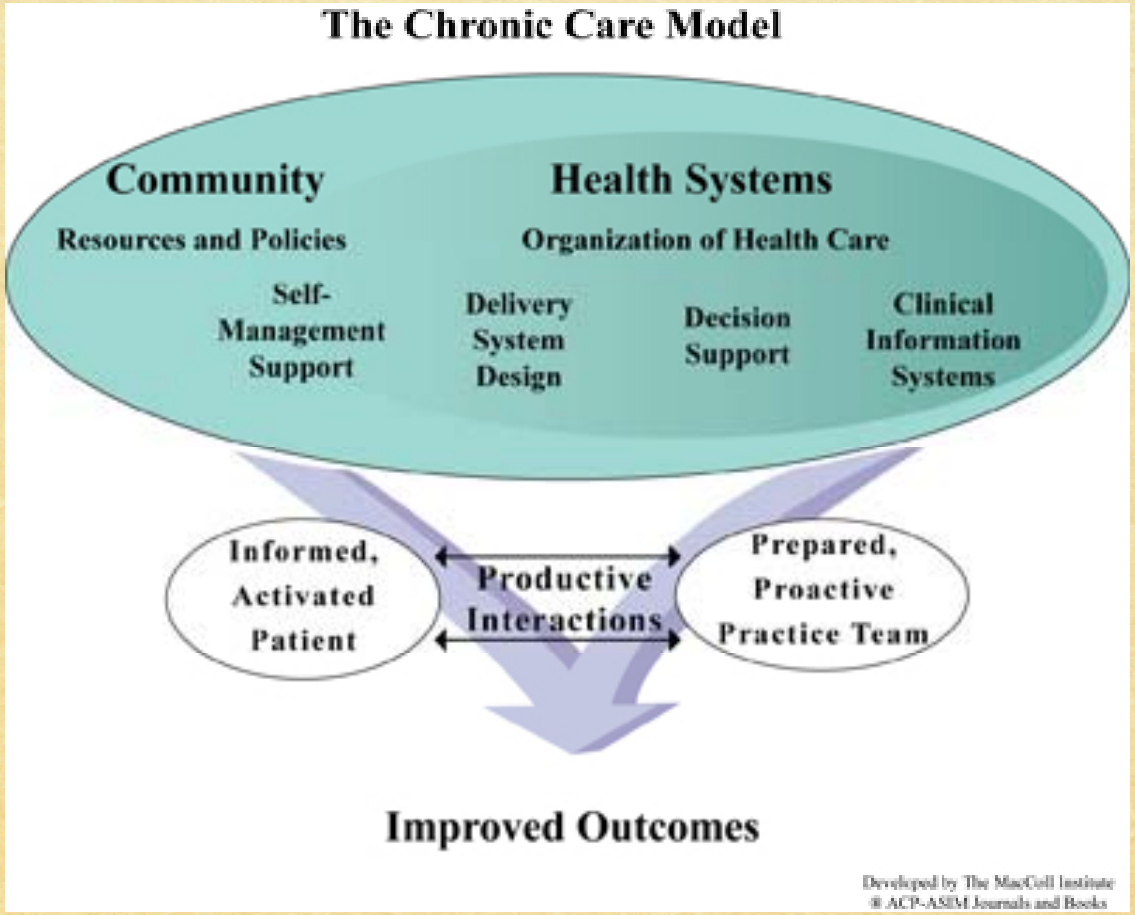
- Data Collection and Utilization
  - Utilization of Current Media
    - Paper
    - RPMS
    - Electronic Health Record
    - Coordinated efforts with Medical Home/Innovations in Planned Care (IHI)

Indian Health Service/IHI Collaborative

The Team Huddle: Utilizing the data

- Team Huddle
  - Daily – First thing in the Morning
  - Use each team member to the highest of their ability
  - Move work away from the provider
  - Anticipate the clients needs
- Improvements
  - Move teams together
    - Allows for continuous communication among members

Using the Data in a Proven Construct: The Chronic Care Model



Delivery Systems

- Process Mapping
- Pharmacy Refill Process
  - Problem – Complaints re: length of time to refill meds
  - Patient Satisfaction issue
- Mapping Process
  - Initial Map had 49 steps
  - Goal set to eliminated 50% of steps

Indian Health Council Pediatrics

- Program Strengths
  - Access
    - Care
    - Pediatrician 24/7

Barriers to Health Care Access

- Social
  - Health care maintenance remains a tough sell
  - Health access is limited to urgent/emergent
  - Follow up for maintenance is mediocre
  - Many still live in poverty
  - Applications for federal assistance is poor
  - Remedies to facilitate have been ineffective

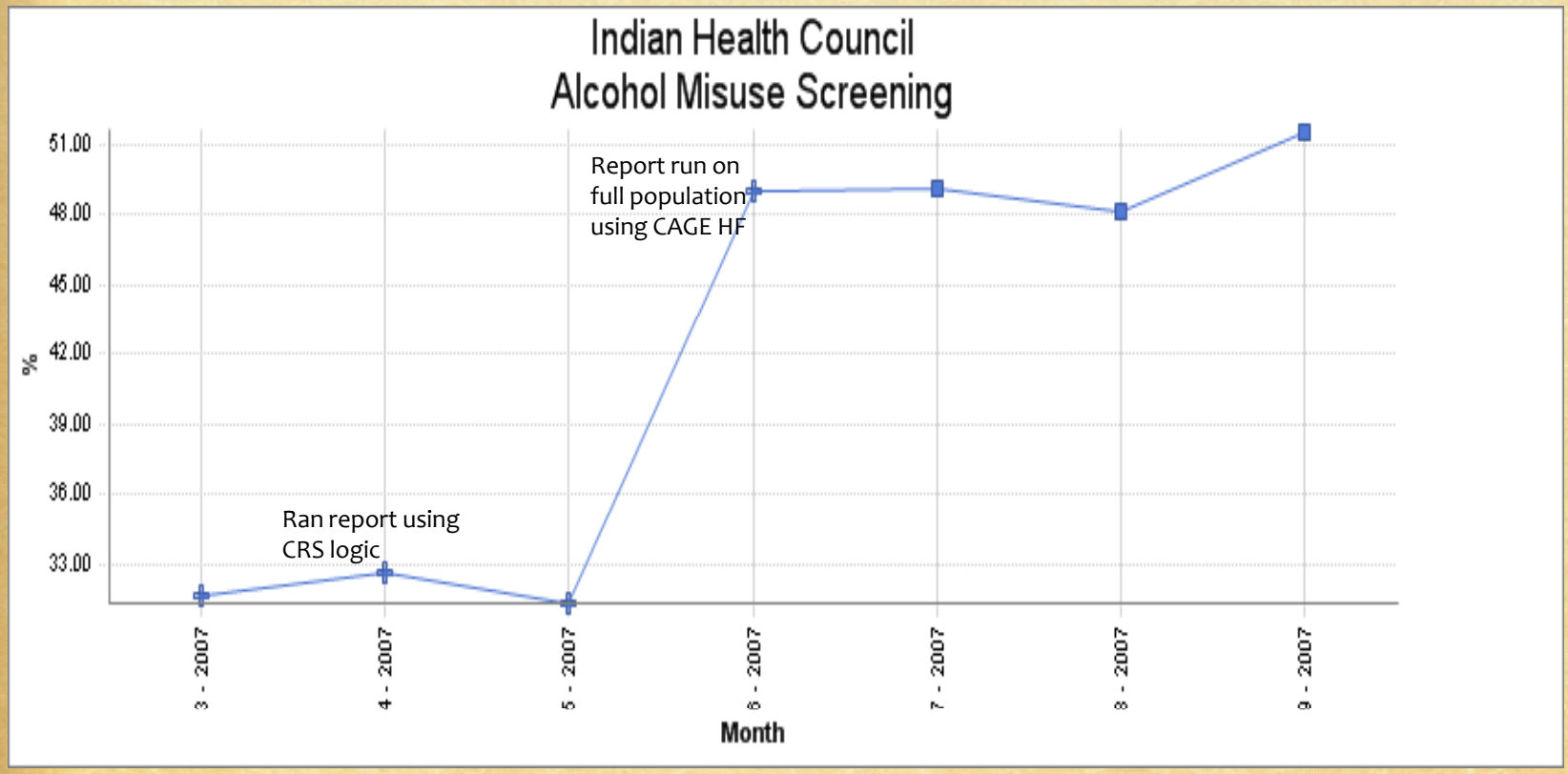
Indian Health Council Pediatrics

- Administrative Community Outreach
  - Tribal Chairs
  - Board of Directors

Effective Change
CONACH Goals for Change

- Substance Abuse
  - Methamphetamine Awareness Programs
  - Prescription Drug Awareness Programs
  - Coordination with Tribal Social Services/Law Enforcement
  - ICWA Coordination for Families at Risk

Improved Outcomes: Alcohol Screening



Effective Change
CONACH Goals for Change

- School Based Services
  - Accessing School Based Programs to promote communication and collaboration
  - Identifying current organizations that assist children (Lion's Club, PTA)

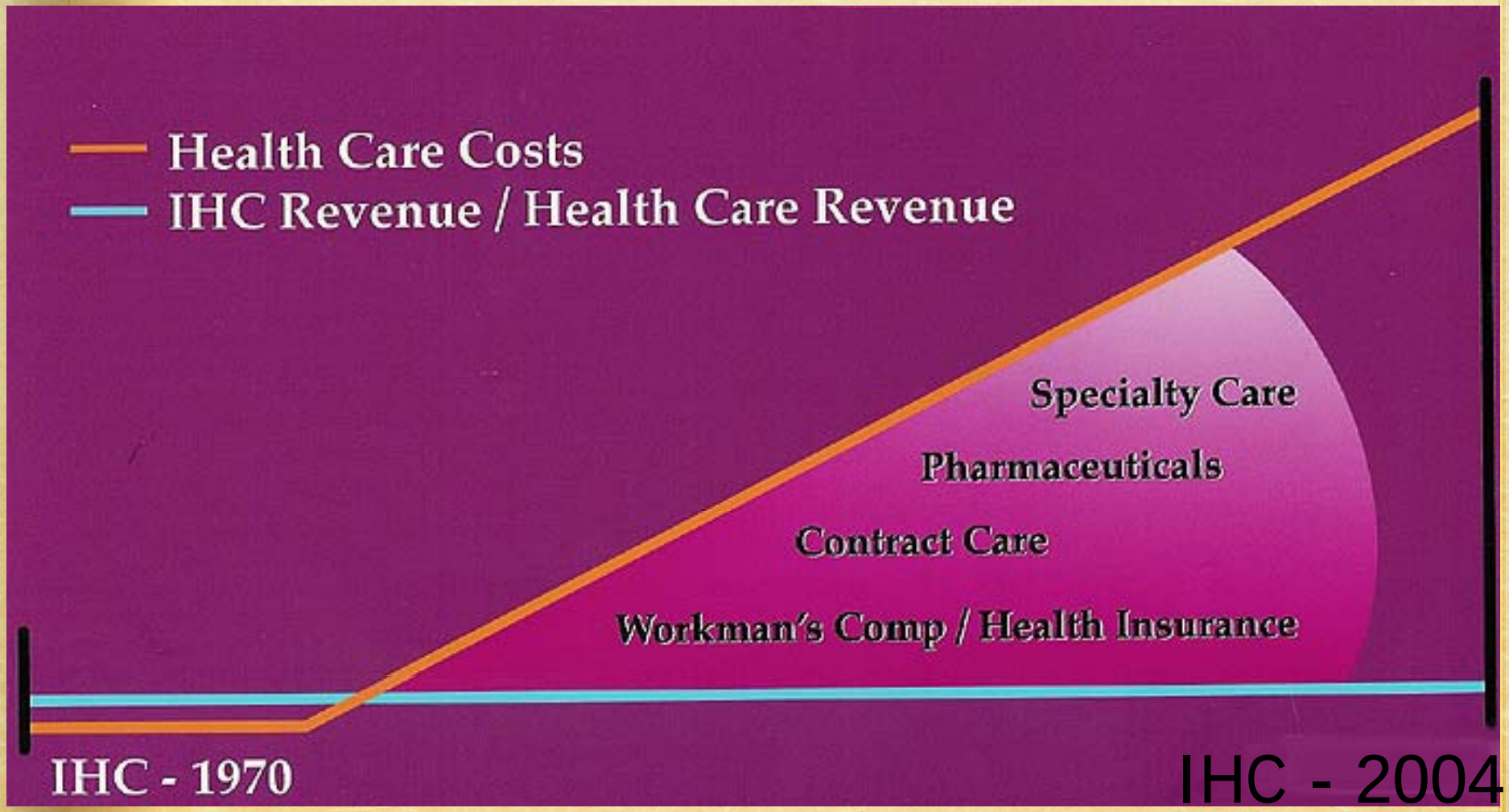
Bicycle Rodeo

Effective Change
CONACH Goals for Change

- Reimbursement for Care
  - Identifying Medi-Cal eligible families by coordinating care with WIC/Headstart programs
  - Information sharing with consortium tribes for Indian Health Service Access
  - Coordinating communication and coverage to include Indian Health Service facilities and providers

Healthcare 2005 and Beyond

The Political Reality



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Nutritional Status

- Before 1970's, underweight and malnutrition was the major American Indian pediatric health issue
- In 1990, 39% of American Indian children were overweight.

Indian Health Service, Centers for Disease Control, 1990

Cultural Issues to Consider

- A child's health is not just based on appearance or "weight"

Adams AK et al. Obesity, 2008.

- Focus on health and healing the person and **community**
- Health history includes the environment

Broome B&R. Urol Nurs, 2007.

Tradition may be the Key

- The **traditional** American Indian lifestyle has been shown to have a preventative effect on development of obesity
- Consider level of mainstream integration in recommendations

Tradition may be the Key

- Traditional Diets
  - Reflections of flora/fauna environments
    - Wiiwi$/Wiich - acorn porridge
    - Wild Berry/Melon/Cactus
    - Sage Shoots - traditional/medicinal plant
    - Local Game (Deer/turkey/rabbit/wood rat)
- Traditional diets meet recommendations to keep fat intake levels <30% of total calories