

# IMPACT Childhood Obesity

**Donald Schumacher, M.D.**

Co-Founder and Medical Director for the  
Center for Nutrition and Preventive Medicine  
Charlotte, NC

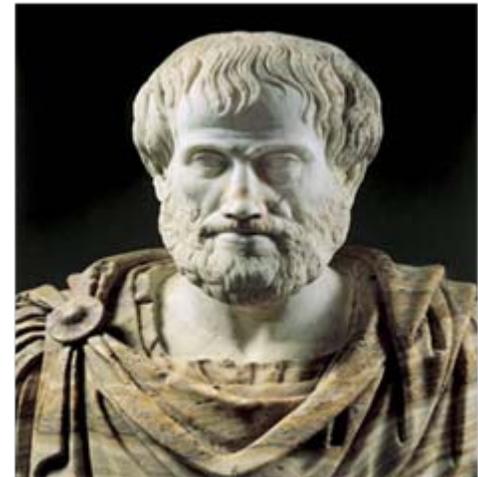
**J. Allen Queen, Ed.D.**

Professor of Educational Leadership  
UNC CHARLOTTE

**IMPACT Childhood Obesity  
Research and Program Components**

# Childhood Habits

“The habits we form from childhood make no small difference, but rather they make all the difference” – Aristotle



# The Seven Cardinal Principles

## **Major Goals for Schools in 1918**

1. Health
2. Command of Fundamental Processes
3. Worthy Home Membership
4. Vocation
5. Worthy Use of Leisure Time
6. Citizenship
7. Ethical Character

# Schools: The Panacea?

In the past 50 years, educators have responded to the challenges of

(1957) **Sputnik**

(1983) **A Nation at Risk**

(1991) **America 2000**

(1994) **GOALS 2000**

(2001) **No Child Left Behind**

(2003-20??) **Childhood Obesity**

# Childhood Obesity Facts

**Each year, more American children are killed by obesity than gun violence.**

*(Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity, 2001).*

# Childhood Obesity Facts

## ***Healthy People 2010 :***



1. Identified overweight and obesity as 1 of 10 leading health indicators
2. Called for a reduction in the proportion of children and adolescents who are overweight or obese.
3. Programs developed and implemented

# Major Barriers Existing in 2008

- Parents (School Role vs. Home Role)
- Teachers (Not Their Role or Lack of Program Involvement)
- Teachers and Principals (Loss of Instructional Time and Negative Impact on Test Scores)

# Major Barriers Existing in 2008

- Principals (Financial Loss)
- Coaches/Clubs/PTAs (Financial Loss)
- District Food Services (Financial Loss)
- Local Boards of Education  
(Limited Research Opportunities Due to Privacy Concerns)

# Major Barriers Existing in 2008

- Students (Food Choices)
- Parents and Families  
(Poverty, Time and Awareness Issues)
- Successful Programs (Sustaining Positive Results)



# Removing the Barriers

- 1. Local School Board Approval**
- 2. Strong Instructional School Leadership and Support from the Principal**
- 3. School Faculty and Staff Participation and Instructional Involvement**
- 4. Provide an Approach or Program Which Removes Fear for Loss of Time**
- 5. Classroom, School and Out-of-School Components and Support for Students**

# IMPACT Childhood Obesity

## ***Two Year Pilot Program***

- Active (IMPACT) School
  - Number of schools: 1
  - Grades K-5
  - Number of Students: 652
- Control Schools
  - Number of schools: 2
  - Grades K-5
  - Number of Students: 1280

# IMPACT Childhood Obesity

## ***Two Year Pilot Program***

- Active (IMPACT) Classrooms 4<sup>th</sup> Grade
  - Number of Students: 35
- Control Classrooms 4<sup>th</sup> Grade
  - Number of Schools: 14
  - Number of Classrooms: 32
  - Number of Students: 444

*Special Focus on Additional Instruction by 4<sup>th</sup> Grade Teachers and by Personnel (and Partner) from Stanly Memorial Hospital in Nutrition.*

# Results from the Pilot Study

## *Finding Number 1*



No Negative Impact on Academic Achievement from Increased Time in Physical Activities After Year 1

# Results from the Pilot Study

## ***Finding Number 2***

No Significant Difference in BMI Levels  
After Year 1

ANOVA  $p < .05$

# Results from the Pilot Study

## ***Findings Number 3***

No Difference in Academic Achievement of Students in IMPACT and Control Schools After Year 1

# Results from the Pilot Study

## ***Finding Number 4***

- Major Differences in Academic Achievement After Year 2
- School Demonstrated **3 Years** of Academic Growth After Year 2
- Treatment School Increased from A LOW Performing School to a HIGH Performing School After 2 Years and
- Recognized by the State of North Carolina as “A School of Distinction” Top 10 % of Schools

# Results from the Pilot Study

## ***Finding Number 5***

- Significant Difference in BMI Levels After Year 2 Among Students
- 3% weight gain in treatment school  
vs. 14% weight gain in control school  
ANOVA  $p < .05$
- 4% weight gain in treatment 4<sup>th</sup> grades vs.  
17% weight gain in control schools  
ANOVA  $p < .01$

# Results from the Pilot Study

## ***Finding Number 6***

- Major Difference in Student Absenteeism After Year 2
- 11 % drop (Treatment) vs. 2% gain (Control)



# Results from the Pilot Study

## ***Finding Number 7***

- Significant Difference in Teacher Absenteeism After Year 2
- 20% drop (Treatment) vs. 6% gain (Control)

# Results from the Pilot Study

- Focus Group Assessments
- Teacher attitudes in Study School compared to Control schools extremely positive and improved:
  - Eating Habits
  - Exercise
  - Wellness
  - Attendance

# Results from the Pilot Study

## ***Finding Number 8***

- Strong evidence of student improvement in wellness and better food selection in treatment classrooms (Teacher Journals) and Teacher Focus Groups



# Results from the Pilot Study

## **Evidence of Teacher Improvement**

**from Cholesterol Levels and Lower Blood Pressure  
from Pretest to Post Test in Treatment School....*no  
measurements with control schools***

*From Shared Discussion from several teachers....these  
data not available to researcher.....*

# IMPACT Study in Lincoln County

- One Year Study (2007-2008)
- Two Active (IMPACT or Treatment) Schools
- 12 Control Schools Randomly Chosen for Analysis
- Major Funding by Blue Cross and Blue Shield Foundation of North

BE ACTIVE funding provided train-the-trainer model for 23 schools in western North Carolina conducted at UNC Charlotte which included the first three sessions for the Lincoln County's train-the-trainers.

# Methods

- Lincoln County Board Approval
- Superintendent Active in Process
- Training Sessions by IMPACT Study Team
- School Team Leader for Each Grade Level
- BMI– Recorded Beginning and End of School Year
- Student Surveys-- Measuring Attitudes and Feelings Related to Food Choices, Physical Activities and Use of Time

# Methods

- **Parent Surveys** on Perception of Child's Food Choices and Activities
- **Homeroom Teacher Surveys** on Child's Food Choices and Physical Activities
- **Student Surveys** for Self-Assessment on Eating Habits, Food Choices and Physical Activities
- All Surveys Pre and Post



# Methods

## ***Classroom Instruction***

- Integrated Units and Interactive Lessons Taught Daily in Nutrition and Physical Activities
- Mentor Observation and Assistance to New and Second Year Teachers
- Time Session During Faculty Meetings to Share New Ideas and Activities
- Leaders Attended Additional Workshops
- Teacher Focus Groups

# Methods

- Pre and Post End of Grade Student Scores for Grades 3-5
- Pre and Post Teacher Perception of Students' Academic Performance
- Pre and Post Teacher Perception of Students' Responsible Behavior
- Teacher and Student Absenteeism Rates

# Methods

- Defined Activity Program for After School Programs in the Active Schools
- Faith-Based Organizations Involvement in Treatment School
- Role of Health Department Organizations
- Central Office Personnel Involvement including Director of Food Services
- Role of School Nurses in BMI Measurements

# Methods

- Focus on Federally Mandated Meals
- Focus on Providing Less Food of Minimal Nutritional Value
- Development of Teacher Wellness Programs
- School Wellness Committee- Community Leadership
- Role of YMCA and Related Organizations
- Role of Parent and Community Volunteers
- Invited Guests (Speakers/Presentations) for Faculty and Staff and for Students.

# Preliminary Findings

## **BMI**

Statically Significant Lower Levels of Students in Treatment Schools as Compared to Higher Levels of Students in Control Schools

**ANOVA  $p < .01$**

Statically Significant Lower Levels of Male Students in Treatment Schools as Compared to Higher Levels of Male Students in Control Schools

**ANOVA  $p < .01$**

Statically Significant Lower Levels of Female Students in Treatment Schools as Compared to Higher Levels of Female Students in Control Schools

**ANOVA  $p < .01$**

# Preliminary Findings

- Improvement in Academic Achievement by Teacher Perception and End of Grade Tests
- Improvement in School Behavior and Lower Number of Office Referrals
- Lower Rate of Teacher Absenteeism
- Lower Rate of Student Absenteeism



# Preliminary Findings

- Increased Involvement of Students in Organized and Individual Sports
- Improved Eating Habits of Students **AND**
- Evidence of Improved Eating Habits of Family Members

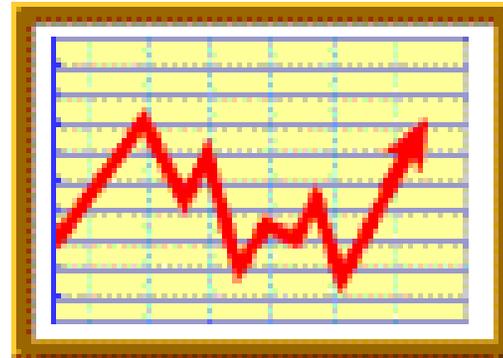
# Preliminary Findings

## ***School Food Services***

- Increase in Number of Breakfasts Served
- Increase in Number of Students Eating School Lunches
- Decrease in *a la carte* menu and Increase in School Lunch Program
- Increase in Volume of Local Vegetables Served

# Preliminary Findings

With an Increase in More Students Eating the Regular Lunch Program, Profits Increased for School Food Services in Lincoln County



# New Study

## **New Study in Rockingham County (2008-2012)**

- School Board Approved IMPACT and Supports Everyone to be Involved
- All 24 Schools K-12 Involved
- Base Line BMI Collected for Pre Test
- All Surveys Collected for Pre Test
- Health Centers in Four High Schools Involved

# New Study

- Training Sessions Conducted
- Remaining Train the Trainer Sessions Scheduled
- Seeking Grants for Funding to Continue the Largest Study in the United States
- Principals Receiving Special Training
- Person Assigned from Central Office to Coordinate IMPACT Program

# New Study

- Special Tested Lessons Being Used
- Special Web Program Being Developed for the Schools and IMPACT
- IMPACT Website for Sharing
- Team Leaders and Individual Trainers have the Cell Phone Numbers of the Designers of the IMPACT Program for Immediate Assistance if Needed

# Components of IMPACT

- **Impact Childhood Obesity™**
- **Components of School Model**
- ***The Role of the Teacher***
- Conduct Student Survey early fall / late spring.
- Conduct Parent Survey early fall / late spring.
- Conduct Teacher Survey early fall / late spring.



# Components of IMPACT

- Incorporate Daily Integrated Lessons (30-45 minutes of physical activity) in core subjects.
- Incorporate Interactive Instruction in most lessons.
- Daily Integrated Lessons (15-30 minutes of nutritional education) in CORE CLASSES.
- Assist in the BMI Measurement for each child two-three times per year September, January, June.

# Components of IMPACT

- Teachers record their BMI Measurements two-three times per year September, January, June.
- Observational Journal to include special experiences, students comments – minimum of one entry weekly.
- **Obtain end-of-grade tests (or equivalent, based upon the state')**
  - Last Year's Tests = Pre Test
  - Current Year's Tests = Post Test
  - Next Year's Tests = (Repeated Measures)

# Components of IMPACT

- **Teacher Grades For Current Year**
- 1st Quarter
- 2nd Quarter
- 3rd Quarter
- 4th Quarter
- NOTE: ALL Archival Data will be completely anonymous and untraceable for any individual or classroom. Confidentiality is guaranteed.

# Components of IMPACT

## ***The Role of the Student***

- Complete all surveys.
- Maintain a special journal of personal experience (positive and negative). Comments from peers, statements from parents, siblings, teachers, etc. Three entries per week (minimum).
- Daily entries of what they Eat and Drink and the amount and type of physical activity.

## ***The Role of the Parents***

- Parent's Survey 2 (fall/spring)
- Teachers collect notes from parents sent, positive or negative related to health and wellness.
- Teacher Preparation and IMPACT materials
- Direct training by certified IMPACT trainers.

# Components of IMPACT

- Receive a personal copy (and have opportunity to submit manuscripts) of the IMPACT CHILDHOOD OBESITY referred journal, ***The Journal of Childhood Obesity***, published by The Writer's Edge Press quarterly beginning June 2009.
- **Funding, IRB and Confidentiality**
- IMPACT Personnel will assist schools in obtaining grants, local funding, etc.
- IRB is EXEMPT, schools using IMPACT materials/training and electing to have IMPACT personnel to analyze and collect data, and prepare findings for THEIR individual school or district study. District agrees to give IMPACT CHILDHOOD OBESITY™ the archival data collected to add to files. Schools should check with the district for any specific requirements and stay in line with all laws and policies.

# Components of IMPACT

- In the event of any reports, articles, or presentations made publicly, IMPACT personnel will not identify any individuals or classes without written permission.
- Fictitious names may be used in publications and/or presentations. At no time will IMPACT CHILDHOOD OBESITY, including all personnel, leadership, members, or affiliates ever accept data from any school, district, principal, teacher, parent or student that is NOT completely anonymous and untraceable.

# Components of IMPACT

- How to use the *WIN Manual for Teachers* by Schumacher and Queen.
- Guidance on using *Guidelines from Overcoming Childhood and Adolescent Obesity*.
- Assistance in using state and local curricula in the process of developing integrated units / lessons plans using the IMPACT model.
- Guide in the development of a school wide Faculty and Staff Wellness Plan.
- Use of and Contribution to website, [WWW.IMPACTCHILDHOODOBESITY.ORG](http://WWW.IMPACTCHILDHOODOBESITY.ORG)
- Weekly Electronic Newsletter on website



**NOTE: Website is under reconstruction until November 1, 2008**

# Contacts

**Reach Dr. Queen at:**

704-739-1073

704-779-5795

Email: [jaqueen@uncc.edu](mailto:jaqueen@uncc.edu),  
[jqueen3@carolina.rr.com](mailto:jqueen3@carolina.rr.com)

or reach Heather at 704-734-0677

*Stay Well!*