Implementing NutriSTEP® in Ontario

Public Health Opportunities and Next Steps

September 23, 2011 APHEO Meeting
Contact Information

- **NutriSTEP® Web site:**
  [www.nutristep.ca](http://www.nutristep.ca)

- **Nutrition Resource Centre:**
  [www.nutritionrc.ca](http://www.nutritionrc.ca)

- **Provincial Program Coordinator:**
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Outline

- What is NutriSTEP®? (accompanying handouts)
  - Sample questionnaire
  - March 2011 Program Report
  - Sept 2011 Public Health Unit Needs Assessment Results

- APHEO Role(s) and Opportunities
  - Your experiences with NutriSTEP®

- Discussion Period

- Wrap-up and Next Steps

- Additional Background Slides
  - Evaluating NutriSTEP® in Ontario public health settings
  - Evaluating NutriSTEP® in Ontario primary health care settings
NutriSTEP® Program is ... 

- **Parent-focused** nutrition education and skill building program that starts with:
  - Nutrition risk screening index for preschoolers (3-5 years)
    - Multi-ethnic
    - 8 languages
    - Parent-administered - 5 minutes to complete
- **On-going collaborative practice-based** research with University of Guelph and others
- **Implementation Toolkit** and resources
- **NutriSTEP® Web site and Online Community**
What NutriSTEP® Measures: Constructs of Nutritional Risk

- Physical growth/weight concern
- Food and fluid intake
- Physical activity and screen time
- Factors affecting food intake (food security, psychosocial feeding environment)
Nutrition Screening Tool for Every Preschooler

Instructions
- Below are questions about your preschool child's (3 to 5 year old) eating and other habits.
- Think about your child's every day habits when answering. Check (√) only one answer for each question.
- There is a number from 0 to 4 beside each answer. This number is a score for that question.
- At the bottom of each page is a box for the score for the page. For each page, add up the scores for each question.
- At the end of the questionnaire, you will add the page scores to get the total score.

1. My child usually eats grain products:
   Examples are bread, bagel, bun, cereal, pasta, rice, roti and tortillas.
   - [ ] More than 5 times a day
   - [ ] 4 to 5 times a day
   - [ ] 2 to 3 times a day
   - [ ] Less than 2 times a day

2. My child usually has milk products:
   Examples are white or chocolate milk, cheese, yogurt, milk puddings or milk substitutes such as fortified soy beverages.
   - [ ] More than 3 times a day
   - [ ] 3 times a day
   - [ ] 2 times a day
   - [ ] Once a day or less

3. My child usually eats fruit:
   - [ ] More than 3 times a day
   - [ ] 3 times a day
   - [ ] 2 times a day
   - [ ] Once a day
   - [ ] Not at all

[ ] Total Score for Page 1
Can everyone be screened?
Universal is ideal; targeted approach realistic

- Primary Sites for Screening: Think Tank 2006
  - Screening fairs; day cares; JK/SK registration packages; doctors’ offices; and, outpatient clinics
- Dependent on resources available and knowledge of populations served
  - Targeted NutriSTEP® screening at “vulnerable” schools 22% high risk vs. 6-14% universal approach
  - “Moderate risk” preschoolers and their parents need primary prevention too – knowledge of community services key
Toddler NutriSTEP®

- CIHR funded study 2010-12
  - PI: U of Guelph
  - Collaborators: SDHU, TBDHU, York Region Health Dept
- Parent focus groups (n=48)-May-June 2010
  - 6 groups-Sudbury, York Region, Hamilton
- Pediatric RD Content Validation-July-Sept 2010
  - 13 RDs from 5 provinces
- Parent key intercept interviews-Nov 2010- Feb 2011
  - 107 parents from Thunder Bay, Sudbury, York Region, Hamilton, Guelph
Toddler NutriSTEP®

- Reliability testing-spring/summer 2011
  - 140 parents
- Criterion Validation-summer and fall 2011
  - 200 parents
- Toddler questionnaire (E/F)-Spring 2012

- Education booklets (E/F)
  - Development/peer review-winter 2010
  - Parent evaluation-spring/summer 2010
  - Translation/professional design-fall 2010
  - Study versions only at this time
Partnerships and Promotion

- **Flintbox**
  - Electronic versions of questionnaires
  - License for questionnaire use
  - Tracking uptake and use

- **Service Ontario Publications**
  - Print versions of questionnaires and education booklets
  - Questionnaires-password protected side
    - 8 languages
    - 100,000+ since July 2009 (22 PHUs)
  - Education booklets-general side
    - 6 languages
    - 150,000+ since July 2009
Partnerships and Promotion

- ERO web site and call centre
- Dietitians of Canada
  - Healthy Start for Life
  - PEN preschool pathway
  - Collaborative Growth Statement, 2010
  - National growth chart training package
- OCFP nutrition workshops
- BSRC
  - Website, conference exhibits, resources
- DFC Good Beginnings Online Preschool Nutrition Course for ECEs
Partnerships and Promotion

- OPHS, 2008
  - Child Health, Requirement #11
  - Guidance Documents, June 2010 (Child Health, School Health, and Healthy Eating, Active Living, Healthy Weights)

- PHO
  - Repro, child and youth health indicators project
  - Platform suite for nutrition screening-online screening, education and referrals

- MCYS
  - HBHC ISCIS database
  - EDI mapping

- Curbing Childhood Obesity: FPT Framework for Action to Promote Healthy Weights
Promotion and Knowledge Transfer

- Promotional brochure-E/F
- CIHR
  - Knowledge to Action: Casebook
- Conferences
- Publications
  - Calgary and FHA pilots
- Year end report
  - March 2011
PHU Needs Assessment -summer 2011

- 35 of 36 PHUs-June-Aug 2011
- 18 (51%) have implemented and 7 of 17 will be soon (6 in the next year)
- 11 (31%) running for over a year
- Main models:
  - HBHC #1 (n=16)
  - Early years screening clinics (n=10)
  - Preschool screening programs (n=9)
  - Parent child drop in programs (n=9)
  - JK/SK registration (n=9)
Needs Assessment - summer 2011

- Top locations
  - OHEYCs/Hubs (n=14)
  - Home visits (n=13)
  - Schools (n=11)
  - Child care centres (n=9)

- Target audiences
  - General public (n=20) and low SES (n=12)

- Main purposes
  - ID risk (n=22) and surveillance and planning (n=17)

- Would like included in provincial databases (HBHC, EDI, RRFSS) and national surveys (CCHS, CHMS) - 15 PHUs

- Demand for an online version - 17 PHUs
APHEO Role(s)

- Population Health Assessment and Surveillance Protocol
- Developmental indicators in healthy eating and child health for accountability framework
- OBRSS-repro, child and youth health indicators
- Dental screening via OHISS Mobile (OAPHD)
- EDI mapping
- 18 month screening-Rourke Baby Record
- FPT Framework for Curbing Childhood Obesity- Measurement and Monitoring Strategy
Screening tools can be used for both screening and surveillance based on need and objectives.

Need centralized screening databases.

Proposed web platform for screening will be a start.

When asked:

“How do you know your program works? “Are you making a difference?” “What are our rates for X?”

Need to put in place a way to collect data at site/community level as well as aggregate across Ontario and Canada.
Public Health Settings

Evaluating Targeted Sites
June 2007-2009

Funded by NRC and Danone Institute grant

- Two feasible models for public health
  - Self-scoring and self-referral
  - Administrator assisted scoring and referral

- Ontario sites
  - York Region-JK/SK registration packages
  - Thunder Bay-Fair Start screening program, JK/SK registration events
  - Sudbury- new “Best Start” hubs in schools
Health Fair Models

- September 2007 to July 2008
- Facilitator assisted scoring and referral
  - Thunder Bay-Fair Start screening program ($n=300$)
  - Sudbury- new “Best Start” hubs ($n=200$)
- Data collection
  - Parent level
  - Facilitator level
  - Site level
  - Community level
**JK/SK Registration Model**

- January 2008 to July 2008
- Self-referral model
  - NutriSTEP® packages sent to 137 schools
  - 1400 packages sent – goal 500 returns
- Data collection
  - Parent level
  - Site level
  - Community level
Overall Results

- York Region-131 (9.5%) were returned
- Thunder Bay-153 children were screened
- Sudbury-80 children were screened
- Only 2 parents in Thunder Bay and Sudbury declined screening process
- Total: 364 NutriSTEP® and demographic questionnaires returned
- Nutritional risk levels:
  - 6% high risk
  - 13% moderate risk
  - 81% low risk
## Parent Phone Interviews

- Total Packages Received: 364 (consent: 264)
- Interviews conducted: 164
- Participation Rate: 62%

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<th>Low Risk</th>
<th>Mod/ High Risk</th>
<th>Total</th>
<th>%</th>
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<td>Thunder Bay</td>
<td>58</td>
<td>13</td>
<td>71</td>
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<tr>
<td>York Region</td>
<td>48</td>
<td>10</td>
<td>58</td>
<td>35.4%</td>
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<tr>
<td>Sudbury</td>
<td>26</td>
<td>9</td>
<td>35</td>
<td>21.3%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>132</strong></td>
<td><strong>32</strong></td>
<td><strong>164</strong></td>
<td><strong>100.0%</strong></td>
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<tr>
<td>%</td>
<td>80%</td>
<td>20%</td>
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Parent Thoughts on Score

- Low Risk
  - Reassured, happy, relieved, useful confirmation

- Moderate or High Risk
  - Often a chronic health or health history issue (e.g. anemia)
  - Confirmation of issues that were suspected
  - Screening helped to see changes can be made and reinforced importance of good eating habits
  - Increased awareness of less healthful behaviours (e.g. TV watching)
  - Got caregiver resources
Parent Thoughts on Site

- **Assisted Referral Model-Screening Fairs and Hubs**
  - Good place, convenient, self-selection, missing those who need most
  - Multiple screens, some steps can get missed
  - Concern about follow-up
  - Lack of space, time, environmental issues for completion
  - Site needs to be flexible-drop-in is not ideal for screening

- **Self Referral Model**
  - School is for everyone
  - Being part of school entry package reinforced importance and relevance
  - Parents liked being able to take questionnaire home
  - Increased awareness of nutrition issues
Parent Conclusions

- **Main Benefit**
  - Screening increased parent awareness

- **Barriers to Referrals/Screening**
  - Already aware
  - Other situations take precedence
  - No time to make changes

- **Need to ensure adequate follow-up of ‘at risk’ families**
What We Found Out After Evaluating Three Sites

- **Assisted Referral Model**
  - Feasible, need for training of facilitators, communication with numerous community partners

- **Self Referral Model**
  - Would likely work better if not part of a research project
  - Can reach a large number
  - Good partnership opportunity for public health, schools

- Did not overwhelm follow-up services
- Training about preschool nutrition for follow up by health professionals may be needed
Key Learnings

- Study settings and procedures may not be typical/usual
- Nutrition concerns are complex to address
- We can screen, ID, refer and gather data well
- Ethical practice hard to do - follow-up with parents is critical
- Measuring efficacy and effectiveness requires long term evaluation efforts
Primary Health Care Settings

TARGeKids!, Toronto
Family Health Teams
Healthy Children Through Preventive Healthcare
Research Process

Data Collection:

- **NutriSTEP®, child temperament, health questionnaires**
- **Anthropometrics and BP:**
  - Child – height (cm), weight (kg), waist circumference (cm) and BP
  - Parent - height (cm), weight (kg) and waist circumference (cm)
- **Blood sample is collected**
Data and Future Plans

- Data entry >1000 subjects
- Data analysis ongoing
- Establish stable infrastructure funding
- Continue to secure project based grants
- Nurture and build partnerships
- Expand TARGGet Kids! other local and national sites
- Enhance communication and feedback
FHTs-Process Evaluation

Stratford and Hamilton FHTs

- Feasibility of NutriSTEP® screening
- Perceptions of the screening process by parents and FHT staff
- 314 parent-completed NutriSTEP® and demographic questionnaires
- 153 parent follow-up telephone interviews
- 17 staff interviews
Acceptability - Parents

Facilitation

- Changing behaviour
- Increasing knowledge & awareness

Affirmation

- Feel good factor
- Benchmark

© D. Van Dyke
Acceptability – RDs and NPs

RDs
- Training for process: fine
- Comfortable answering parent questions:
  - Yes 2/5, No 1/5
  - Parent questions: score interpretation, question clarification, sources for resources
- Comfort with this age group: 3/5
- “I would definitely promote NutriSTEP® to other dietitians and health care professionals.”

NPs
- “Great tool for opening the discussion on feeding issues, etc.”
- “I would like to see NutriSTEP® used on an ongoing basis without the study and consent.”
What We Found Out After Evaluating FHT Sites

- Screening Clinic Model
  - Feasible and sustainable – another FHT in Stratford is continuing with NutriSTEP® in Wellness Clinic for Tots

- Physician Visit Model
  - Need buy-in from physicians
  - Would work better if not a research study
  - Did not overwhelm follow-up services

- Training about preschool nutrition for follow up by health professionals may be needed
Preschool Nutrition Modules “RD Primers”

- Front-line health professionals require extra training on preschool nutrition
- Top 5 preschool nutrition issues identified as learning opportunities for Registered Dietitians (RDs):
  1) Growth assessment (part 1) - theoretical and background information
  2) Growth assessment (part 2) - abnormal growth (failure to thrive, overweight and obesity) and body image/self-esteem
  3) Nutritional assessment - developmental stages, parenting and the feeding environment
  4) Nutrient deficiencies - iron and vitamin D
  5) Food allergies and intolerances
“RD Primers”

- Development-March and April 2009
- Translated into French
- E/F Primers launched June 2009
- E/F Audio modules
  - Updated, reformatted and launched late July 2010
- NutriSTEP® website (www.nutristep.ca)
- 12,000 visits since July 2010
Nutrition Screening Tool for Every Preschooler
Évaluation de l’alimentation des enfants d’âge préscolaire

The NutriSTEP® name and logo are owned by the Sudbury & District Health Unit