

BIOGRAPHICAL SKETCH

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NAME Duggan, Christopher Paul		POSITION TITLE Associate Professor of Pediatrics	
eRA COMMONS USER NAME cduggan			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Dartmouth College	BA	1983	Philosophy
Johns Hopkins University	MD	1987	Medicine
Harvard University School of Public Health	MPH	1994	Epidemiology

A. Positions and Honors.Employment and Training

1987 - 1990 Intern and Resident in Pediatrics, Johns Hopkins Hospital, Baltimore, MD
 1990 - 1991 Research Associate, Department of International Health, Johns Hopkins Hospital, Abu El Reeche Hospital, Cairo, Egypt
 1991 - 1994 Clinical and Research Fellow, Combined Program in Pediatric GI/Nutrition, Harvard Medical School, Children's Hospital and Massachusetts General Hospital, Boston, MA
 1994 - Assistant in Gastroenterology and Nutrition, Children's Hospital, Boston, MA
 1994 - 1998 Instructor in Pediatrics, Harvard Medical School, Boston, MA
 1998 - 2005 Assistant Professor of Pediatrics, Harvard Medical School, Boston, MA
 2000 - 2005 Assistant Professor in the Department of Nutrition, Harvard School of Public Health, Boston, MA
 1994 - Visiting Scientist, Massachusetts Institute of Technology, Cambridge, MA
 1996 - Director, Clinical Nutrition Service, Children's Hospital, Boston, MA
 2005 - Associate Professor of Pediatrics, Harvard Medical School, Boston, MA
 2005 - Associate Professor in the Department of Nutrition, Harvard School of Public Health, Boston, MA

Honors and Memberships

1983 Graduated cum laude, Dartmouth College
 1983 Story Prize in Philosophy, Dartmouth College
 1993 Farley Fund Award, Children's Hospital, Boston
 1994 - Massachusetts Medical Society
 1994 - North American Society of Pediatric Gastroenterology and Nutrition
 1994 - Nutrition Advisory Committee, Children's Hospital (Chair)
 1998 - American Society for Nutrition (ASN) (ne American Society for Clinical Nutrition)
 2003- Society for Pediatric Research
 2005, 2006 Physician Nutrition Specialist Award (ASN)

B. Selected peer-reviewed publications.

1. Duggan C, Santosham M, Glass RI. Centers for Disease Control and Prevention. The management of acute diarrhea in children: oral rehydration, maintenance, and nutritional therapy. MMWR 1992; 41(No. RR-16):1-20.
2. Fayad I, Hashem M, Duggan C, Refat M, Bakir M, Fontaine O, Santosham M. Comparative efficacy of rice- based and glucose-based oral rehydration salts plus early reintroduction of food. Lancet 1993; 342:772-775.
3. Hendricks KM, Duggan C, Gallagher L, Carlin A, Richardson D, Collier S, Simpson W, Lo C. Malnutrition in hospitalized pediatric patients: current prevalence. Arch Pediatr Adolesc Med 1995;149:1118-1122

4. Duggan C, Refat M, Hashem M, Wolff M, Fayad I, Santosham M. How valid are clinical signs of dehydration in infants? *J Pediatr Gastroenterol Nutr* 1996;22:56-61.
5. Santosham M, Fayad I, Abu Zikri M, Hussein A, Amponsah A, Duggan C, Hashem M, El Sady N, Abu Zikri M, Fontaine O. A double blind clinical trial comparing World Health Organization oral rehydration solution with a reduced osmolarity solution containing equal amounts of sodium and glucose. *J Pediatr* 1996;128:45-51.
6. Duggan C, Refat M, Hashem M, Fayad I, Santosham M. Interrater agreement in the assessment of dehydration in infants. *J Trop Pediatr* 1997; 43:119-121.
7. Duggan C, Colin A, Higgins L, Rifai N. Vitamin A status in acute exacerbations of cystic fibrosis. *Am J Clin Nutr* 1996; 64:635-639.
8. Duggan C, Nurko S. "Feeding the gut": the scientific basis for continued enteral nutrition during acute diarrhea. *J Pediatr* 1997; 131:801-808.
9. Alam NH, Majumder RN, Fuchs GJ, and the CHOICE Study Group. Efficacy and safety of oral rehydration solution with reduced osmolarity in adults with cholera: a randomised double-blind clinical trial. *Lancet* 1999; 354:296-299.
10. Duggan C, Lasche J, McCarty M, Mitchell K, Dershewitz R, Lerman SJ, Higham M, Radzevich A, Kleinman RE. Oral rehydration solution for acute diarrhea prevents subsequent unscheduled follow-up visits. *Pediatrics* 1999, 104, e29.
11. CHOICE Study Group. Multicenter randomized double blind clinical trial to evaluate the efficacy and safety of a reduced osmolarity oral rehydration salts solution in children with acute watery diarrhea. *Pediatrics* 2001; 107:613-618.
12. Andorsky DA, Lund DP, Lillehei CW, Jaksic T, DiCanzio J, Richardson D, Collier S, Lo C, Duggan C. Nutritional and surgical management of neonates with short-bowel syndrome correlates with clinical outcome. *J Pediatr* 2001; 139:27-33.
13. Duggan C, Fawzi W. Micronutrients and child health: Studies in international nutrition and HIV infection. *Nutr Rev*, 2001; 59:358-369.
14. Jones M, Campbell KA, Duggan C, Young G, Bousvaros A, Higgins L, Mullen E. Multiple micronutrient deficiencies in a child fed an elemental formula. *J Pediatr Gastroenterol Nutr* 2001; 33: 602-605.
15. Duggan C, Penny ME, Hibberd P, Gil A, Huapaya A, Cooper A, Coletta F, Emenhiser C, Kleinman RE. Oligofructose-supplemented infant cereal: two randomized, blinded, community-based trials in Peruvian infants. *Am J Clin Nutr*, 2003; 77:937-42.
16. Duggan C, Rizzo C, Cooper A, Klavon S, Fuchs V, Gura K, Richardson D, Collier S, Lo C. The effectiveness of a clinical practice guideline for parenteral nutrition: a five-year follow-up study in a pediatric teaching hospital. *J Parenteral Enteral Nutr*, 2002; 26:377-381.
17. Zinc Against Plasmodium (ZAP) Study Group. Lack of effect of zinc on the treatment of *Plasmodium falciparum* malaria in children: a randomized controlled trial. *Am J Clin Nutr* 2002; 76: 805-812.
18. Friedman JF, Phillips-Howard PA, Hawley WA, Terlouw DJ, Kolczak MS, Barber M, Okello N, Vulule JM, Duggan C, Nahlen BL, ter Kuile FO. Impact of permethrin-treated bednets on growth, nutritional status, and body composition of primary school children in western Kenya. *Am J Trop Med Hyg* 2003, 68: 78-85.
19. Duggan C, Bechard L, Donovan K, Vangel M, O'Leary A, Holmes C, Lehmann L, Guinan E. Resting energy expenditure changes among children undergoing allogeneic stem cell transplantation. *Am J Clin Nutr* 2003, 78:104-109.
20. Kim HB, Lee PW, Garza J, Duggan C, Fauza D, Jaksic T. Serial transverse enteroplasty (STEP) for short bowel syndrome: a case report. *J Pediatr Surg* 2003, 38:881-885.
21. Duggan C, Stark A, Auestad N, Collier S, Fulham J, Gura K, Utter S, Teixeira-Pinto A, Donovan K, Lund D. Glutamine supplementation in infants with gastrointestinal disease: a randomized, placebo-controlled pilot trial. *Nutrition*, 2004, 20:752-756.
22. Duggan C, Fontaine O, Pierce NF, Glass RI, Mahalanabis D, Alam NH, Bhan MK, Santosham M. Scientific rationale for a change in the composition of oral rehydration solution. *JAMA* 2004; 291: 2628-2631.
23. Duggan C, MacLeod WB, Krebs NF, Westcott JL, Fawzi WW, Premji ZG, Mwanakasale V, Simon JL, Yeboah-Antwi K, Hamer DH, and the ZAP Study Group. Plasma zinc concentrations are depressed during the acute phase response in children with acute falciparum malaria. *J Nutr*, 2005; 135: 802-807.

C. Research Support.

Ongoing Research Support

Glaser Pediatric Research Network Duggan (PI) 1/1/01-12/31/06

Glaser Pediatric Research Foundation

The major goals of this project are to perform multicenter clinical studies in pediatric patients among a five institution consortium (Harvard, Stanford, UCLA, UCSF, and Baylor). Dr. Duggan is the Site Director for Harvard.

Role: Principal Investigator

1 R01 HD043688-01 Fawzi (PI) 7/01/03 – 6/30/08

NIH/NICHD

Trial of Vitamins among Children of HIV-infected Mothers

The major goals of this project are to perform a randomized controlled trial of multiple micronutrient supplementation among Tanzanian infants and young children ages 6 weeks to 24 months born to HIV-positive mothers. Outcomes include mortality, morbidity from diarrhea and respiratory infections, and growth.

Role: Co-PI

R01 HD048969-01 Duggan (PI) 08/10/06 – 06/30/07 15%

NICHD

\$425,609

A Trial of Zinc and Micronutrients in Tanzanian Children

The major goals of this project are to perform a randomized controlled trial of zinc and multiple micronutrient supplementation among Tanzanian infants and young children ages 6 weeks to 24 months. Outcomes include morbidity from diarrhea and respiratory infections, and growth.

Role: Principal Investigator

Pending Research Support

Randomized trial of vitamin B12 in pregnant Indian women

Duggan PI pending (scored at 5.2%)

NIH-NICHD R03 HD 054123-01A1

A Randomized Trial of Parenteral Nutrition in Pediatric Stem Cell Transplantation

Duggan PI pending

NIH-NCI R01 CA 127407-01

SPECS: Safe Pediatric Euglycemia in Cardiac Surgery

Duggan Co-Investigator, Agus PI pending (scored at 7.6%)

NIH 1R01HL088448-01