The mission of the Section of Pediatric Nutrition is to enhance the health of all infants and children through research and the promotion of best practices for nutrition and physical activity in health and disease. Our academic mission includes research, clinical care, education and training, and community outreach.

CURRENT FACULTY

<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>Position</th>
<th>Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Boles</td>
<td>PhD</td>
<td>Assistant Professor</td>
<td>2008</td>
</tr>
<tr>
<td>Kristen Boyle</td>
<td>PhD</td>
<td>Assistant Professor</td>
<td>2013</td>
</tr>
<tr>
<td>Kimberly Gracey</td>
<td>PA-C</td>
<td>Instructor</td>
<td>2010</td>
</tr>
<tr>
<td>Matthew Haemer</td>
<td>MD, MPH</td>
<td>Assistant Professor</td>
<td>2011</td>
</tr>
<tr>
<td>Michael Hambidge</td>
<td>MD</td>
<td>Professor Emeritus</td>
<td>1967</td>
</tr>
<tr>
<td>Janine Higgins</td>
<td>PhD</td>
<td>Associate Professor</td>
<td>2006</td>
</tr>
<tr>
<td>Susan Johnson</td>
<td>PhD</td>
<td>Professor</td>
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<tr>
<td>Jill Kaar</td>
<td>PhD</td>
<td>Assistant Professor</td>
<td>2013</td>
</tr>
<tr>
<td>Nancy Krebs</td>
<td>MD, MS</td>
<td>Professor</td>
<td>1993</td>
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<tr>
<td>Rebecca Lander</td>
<td>PhD</td>
<td>Instructor</td>
<td>2013</td>
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<tr>
<td>Sian Lei</td>
<td>MD</td>
<td>Instructor</td>
<td>1999</td>
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<tr>
<td>Renee Porter</td>
<td>RN, MS, ND</td>
<td>Senior Instructor</td>
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</tr>
<tr>
<td>Darcy Thompson</td>
<td>MD, MPH</td>
<td>Assistant Professor</td>
<td>2012</td>
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<table>
<thead>
<tr>
<th>Faculty</th>
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<tr>
<td>PhD Faculty</td>
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<tr>
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<tr>
<td>Instructor Mid-level (PA, PNP)</td>
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<td>Total Faculty</td>
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Table 1. Awards received by faculty, 2006-2013

<table>
<thead>
<tr>
<th>Year</th>
<th>Award</th>
<th>Name</th>
</tr>
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<tbody>
<tr>
<td>2006-2010</td>
<td>Cambridge Who’s Who</td>
<td>Krebs</td>
</tr>
<tr>
<td>2006-2012</td>
<td>“America’s Top Doctors” – Castle Connolly Medical Ltd</td>
<td>Krebs</td>
</tr>
<tr>
<td>2007</td>
<td>UCDHSC Dean’s Graduate School Mentoring Award</td>
<td>Johnson</td>
</tr>
<tr>
<td>2009-2012</td>
<td>Associate Editor, Journal of Nutrition Education and Behavior</td>
<td>Johnson</td>
</tr>
<tr>
<td>2010</td>
<td>Sewall Award for Exceptional Leadership and Vision, Univ of CO</td>
<td>Hambidge</td>
</tr>
<tr>
<td>2010</td>
<td>Excellence in Teaching Award, UCSOM</td>
<td>Krebs</td>
</tr>
</tbody>
</table>
CLINICAL

List your major clinical programs

Highlight: specific areas of expertise: note if they are local, regional, national or international in scope

- **Obesity Prevention & Treatment** (Good LIFE clinic, 1998-2013/ Lifestyle Medicine 2013)
  This is a multi-disciplinary referral clinic established by the Section of Nutrition in 1998 to provide individualized treatment of obesity and its co-morbidities in infants through young adults, including children with special needs & developmental disabilities; in-patient consultation and extended therapeutic hospital admissions for severe obesity. All participating faculty have national reputations for their expertise in childhood obesity.
  - Scope: local/regional referrals; national recognition

- **Growth & Parenting (GAP)/Nutrition clinic**
  This is referral clinic primarily for evaluation and treatment of growth faltering and nutritional micronutrient deficiencies in infants and toddlers. In recent years, scope has increased to evaluation & treatment of nutritional status in older children with medical co-morbidities (e.g. autism, developmental delays, chronic pulmonary disease, international adoptees & immigrants), and consultation for specific nutritional therapies.
  - Scope: Local/Regional
  - **Inpatient MD Nutrition consults** are provided as needed & requested, including for severe obesity assessment/treatment/management; severe malnutrition; micronutrient deficiencies, feeding intolerance; nutrition support

- **Medical Support for Clinical Nutrition (Dietitians) at CHCO**
  - Dietitian Support, ~ weekly clinical Rounding
  - Dietitian patient visits
Medical Nutrition therapy performed by dietitians within Clinical Nutrition reaches patients throughout Children’s Hospital Colorado. Physician staff provides guidance through weekly rounds with dietitians to ensure optimal care for medically and nutritionally complex patients. Dr. Krebs serves as Medical Director for Clinical Department and serves as Chair of the Nutrition Quality Improvement Committee.

Please list your interdisciplinary areas of clinical collaboration (in the SOM and beyond our walls); specific multidisciplinary clinics and your section’s role/involvement

- Dietitian support in most areas of the hospital, with medical oversight from Section of Nutrition medical providers
- **Lifestyle Medicine** is a multi-disciplinary clinic: Medical (MD, NP, PA), Dietitian, Exercise Physiology, Psychology, Social Work. By design, the clinic model is built on close collaboration with multiple medical subspecialties (Endocrinology, Hepatology, Sleep Medicine, Cardiology, ENT, et al)

Areas of care
- All areas of hospital, inpt and outpt nutrition clinics, subspecialty clinics (GI, Pulm, etc)

Unique models of collaborative care:

- Obesity Program: Lifestyle Medicine
  - **Streamline referral process** from fragmented, complex, duplicative & uncoordinated process to new **single point of entry** system in 2013: All referrals from Endo, Cardiology, ENT, Pulm, Nephrology, GI) now redirected to Lifestyle Medicine for initial consultation and treatment.
  - **Creation of algorithms** for comorbidity care – collaboration between subspecialties and Lifestyle Medicine specialists (Nutrition faculty)
  - “Two Tiered system” - using providers from each department and ancillary staff to better serve the unique medical and lifestyle needs of this population. Interdisciplinary collaboration has long been the strength of clinical care by the Section of Nutrition. Childhood obesity care delivered
within tier one (Lifestyle Medicine) relies on collaboration between physicians specializing in childhood obesity medicine, dietitians, psychologist, and exercise physiologist. Tier One Nutrition clinics coordinate care through a set of guidelines developed to ensure children appropriately access subspecialty care for comorbid conditions treated by Tier Two Lifestyle medicine providers in cardiology, endocrinology, gastroenterology, and sleep medicine.

- **Inpatient Obesity Treatment** for patients with life-threatening comorbidities
  - CHCO program recognized as precedent in the country
  - Fostered collaboration in PICU with medical team regarding care of obese child, & with PICU pharmacists regarding medication dosing guidelines:

- **Creation of Clinical Care Guidelines for hospitalized obese child:**
  - Worked with all areas of hospital: admissions, ED, PICU, Intpt Units, Radiology, Central Supply, Nursing Administration, pharmacy
  - Interdisciplinary team represented from each area
  - Instituted EPIC support tools for improving safety of this population
  - Tracking outcomes
  - Development & initial experience published:

- **Interdisciplinary Obesity Committee**: standardize referral guidelines, practice guidelines; sponsor seminar series; Healthy Hospital; creation of Psych guidelines for obesity treatment in multi-disciplinary treatment; participation and leadership in national collaborative/Nat’l Association of Children’s Hospitals

- **Vitamin D screening and treatment**
  - Collaboration with Endo, NICU, Pulm, Inpatient Nutrition, Child Health Clinic and CHCO Laboratory
  - Establish guidelines for screening and treatment of vitamin D deficiency
  - Establish Epic support tools for providers (Best Practice Alert), medication alert for tracking outcomes

- **Faculty Medical Support (MD & mid-level providers) for CHCO Clinical Nutrition Department** (dietitians, diet assistants)
  - Unique model in the country, as most Hospitals do not have Medical Nutrition support
  - CHCO Handbook of Pediatric Nutrition: written collaboratively between MD faculty & Dietitians; resource for Pediatric residents & all providers; updated every other year; print & on-line versions
• **Nutrition Quality Improvement Committee**
  - Multi-disciplinary: nursing, Clinical Nutrition, Neonatology, Oncology, Critical Care, Pharmacy

*Do you have faculty with special training or unique expertise in the clinical arena (examples: certificate of added qualifications, expertise in specific procedure with limited national availability, national referrals to a specific person etc)?*
  - Unique for a hospital to have Physician led Medical Nutrition
    - 3 Board Certified Physician Nutrition Specialists (Haemmer, Hambidge, Krebs)
    - Expertise:
      - Growth faltering
      - Breastfeeding & infant feeding; complementary feeding
      - Micronutrient requirements & deficiencies (e.g. Iron, zinc, Vit D, et al: Krebs)
      - Feeding & eating behavior evaluation & therapy (Medicine & Psychology: Krebs, Boles)
      - Obesity – only Tertiary care program in 5 state region (Haemer, Thompson, Porter, Gracey, Boles)
      - Motivational Interviewing/health behavior change expertise (Haemmer, Thompson)
      - Caring for Limited English Proficient patients- esp Latino immigrants (Thompson)
      - Inpatient program-- nationally recognized as a leader; have shared our protocols broadly for the in-patient treatment of severely obese children and patient safety of obese children in inpatient settings.
      - Pre-post operative psychological evaluation and follow for adolescent bariatric surgery (Boles)

*What have you done to strengthen your clinical activities in the last 7-10 years?*
  - 7 years ago two medical providers with one fellow
    - Currently have Nurse Practitioner, Physician Assistant, Psychologist, three physicians and RN.
    - New recruits planned: Midlevel and Medical Director
  - Increased clinical visibility utilizing the website, primary care educational opportunities, foundation relationships
  - Network of Care and Telemedicine opportunities to increase community outreach; 2012 initiated telemedicine care for obese patients
  - Written guidelines for care for obesity (CHCO) + national guidelines (NACHRI) (2008-2013):
    Clinical faculty in Section of Nutrition have strengthened & standardized clinical care delivered at CHCO & at children’s hospitals across the country by authoring several sets of guidelines. These include internal guidelines for the screening and treatment of comorbidities of obesity created collaboratively with the Lifestyle Medicine
clinics. These guidelines have been extended nationwide as Section members participated in drafting guidelines for diagnosis and management of comorbidities of obesity with the NACHRI/Children’s Hospital Association national obesity FOCUS on a Fitter Future group. Dr. Krebs was also lead author on 2007 Recommendations from the Expert Committee on Assessment of Childhood and Adolescent Overweight and Obesity.

2. Slusser W,...Haemer M. Payment for Obesity Services...Pediatrics 2011; 128:Supplement 2 S78-S85.

- On a local level, our interaction through training and dissemination of guidelines to primary care providers around the state has been both broad in scope and deep in quality. Ongoing efforts with the Colorado Pediatric Collaborative of primary care practice seek to assure the most effective care across the continuum from primary to specialty care. A 10-hr course for Primary Care Obesity Management and Motivational Interviewing has been delivered to six clinics. Evaluated curriculum by audited visits, process of care measures, and child BMI outcomes.

- The Section has been actively engaged in quality improvement & outcomes efforts. These include leading, along with Patient Safety, nursing, and pharmacy, a Failure Modes and Effects Analysis (FMEA) for possible preventable harms to a severely obese child. EPIC-based solutions and systems changes have been implemented to avoid preventable harms and manuscripts are forthcoming. Outpatient quality improvement activities included a systematic study of efforts to reduce no-shows to childhood obesity clinics that identified simple, cost–effective strategies to reduce no-shows by 10%. We have published research demonstrating the positive outcomes of our obesity treatment program and identified patient characteristics associated with success in obesity treatment in order to target clinical efforts. (Haemer M, et al, Obesity, 2012; 21: 1004-1012.)

**What do you perceive to be your greatest challenge and greatest need in furthering the success of your clinical programs?**

- Challenges:
  - Overwhelming numbers in total population
  - Access/demand/capacity
  - Patient/payer mix – increasing % of Medicaid over the past 7-10 years
• Reimbursement
• PCP/Community capacity to address the issue
• Nature of our clinical programs are ‘history intensive’ & therapies involve behavior management, both of which require extended face time w/ patients & time-consuming documentation

• Needs:
  • Medical leadership/representation at CHCO (recruitment underway); current faculty all committed to research & academic responsibilities that limit availability to develop comprehensive clinical programs at CHCO
  • Increased provider availability to accommodate numbers
  • Increase in support staff
  • Expand access to NOC- changes payer mix and therefore reimbursement

*What do you perceive to be your greatest strength and contribution to the success of your clinical programs?*

The value of our focus on chronic disease prevention and population health is the most pervasive theme of the clinical work of the Section of Nutrition. This value ties together our clinical, research, education, and community service efforts within a positive feedback loop. Our dedication to continuous improvement, cost-effective care, and interdisciplinary collaboration has made sustaining the value of prevention possible.

• Support from the Department of Pediatrics has been critical
• Medical interest in this field and specific research related interests
• Development of Advocacy Institute at the hospital, providing support for community/prevention efforts
• Historically strong relevant pediatric subspecialty programs - providing care for this population prior to others in the country (Endo/T2DM; Cardiology/hyperlipidemia, hypertension)

**EDUCATION**

Mission of Education:
The Section of Nutrition provides training at all levels for health care providers, including required and elective courses for medical students at the School of Medicine; pediatric residency program training; clinical and research fellowship training; and continuing education for practicing physicians. Section faculty members also provide supervision for undergraduate- and graduate-level internships and practicum experiences for nutrition-related health professions. Internships include clinical, laboratory, and community-based research; analysis of dietary options are available to Children’s Hospital staff and patients.

*How do you ensure that teaching and education are integrated into the work of the section?*

• All section faculty members are expected to participate in teaching activities. Faculty members are involved in a variety of educational/teaching experiences interacting with learners across the entire spectrum from undergraduate students to post-doctoral fellows to community physicians. Our teaching includes 1:1 mentoring, interactive group learning, clinical shadowing and precepting, as well as didactic sessions. At a
minimum, during the annual reviews between the Section Head and each faculty member, teaching activities are reviewed, assuring that each person is meeting expectations for Section and promotion.

- We have created a **Pediatric Nutrition Clinical Education Workgroup** which consists of 5 faculty members within our section. This workgroup has focused on setting goals and objectives to enhance the clinical teaching provided to all trainees across the campus. This includes having implementation plans as well as measures of our progress.

**Describe the educational activities of your section that focus on learning and professional development of learners across the continuum (medical students, PA students, residents and fellows.)**

<table>
<thead>
<tr>
<th>Medical Students</th>
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<tbody>
<tr>
<td><strong>1st yr</strong></td>
<td></td>
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<tr>
<td>2010, 2012</td>
<td>Hambidge, Krebs</td>
</tr>
<tr>
<td><strong>2nd yr</strong></td>
<td></td>
</tr>
<tr>
<td>2006-2013</td>
<td>Krebs/Haemer</td>
</tr>
<tr>
<td>2007-2013</td>
<td>Krebs/Thompson</td>
</tr>
<tr>
<td><strong>3rd yr</strong></td>
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</tr>
<tr>
<td>2006</td>
<td>Krebs</td>
</tr>
<tr>
<td>2007-2013</td>
<td>Krebs, Haemer, Thompson</td>
</tr>
<tr>
<td><strong>4th yr</strong></td>
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<tr>
<td>2006-2013</td>
<td>Krebs (course director)</td>
</tr>
<tr>
<td>2006-2013</td>
<td>Krebs (course director)</td>
</tr>
<tr>
<td><strong>Pediatric Residents</strong></td>
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<tr>
<td>2006-2013</td>
<td>Krebs</td>
</tr>
<tr>
<td>2006-2013</td>
<td>Krebs/Haemer</td>
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<tr>
<td>2006-2013</td>
<td>All Clinical Faculty</td>
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### CHA/PA Students

<table>
<thead>
<tr>
<th>Year</th>
<th>Instructor</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006-2007</td>
<td>Krebs/Johnson</td>
<td>Clinical Nutrition - Child Health Associate/Physician Assistant Program, 1990-2007 (20 hr, 2 credit)</td>
</tr>
</tbody>
</table>

### Graduate Students

<table>
<thead>
<tr>
<th>Institution</th>
<th>Year</th>
<th>Instructor</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO School of Public Health</td>
<td>2010-2011</td>
<td>Johnson/Krebs</td>
<td>PUBH 6624 &quot;Global Nutrition&quot; (2 credit course); course co-directors</td>
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<td>CO School of Public Health</td>
<td>2012-2013</td>
<td>Johnson/Krebs</td>
<td>PUBH 6624 &quot;Global Nutrition&quot; (4 hr lectures)</td>
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<td>CSPH- Graduate Students</td>
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<td>Krebs</td>
<td>Center for Global Health: Global Health &amp; Disasters Course</td>
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<tr>
<td>Clinical Science</td>
<td>2009-2013</td>
<td>Johnson</td>
<td>CLSC 6654; Key Concepts in Neurodevelopmental Disabilities</td>
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### Postgraduate Didactic Teaching

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<tr>
<th>Year</th>
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<th>Course Description</th>
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</thead>
<tbody>
<tr>
<td>2006-2012</td>
<td>Higgins</td>
<td>Biochemistry for Pediatric Dental Residents</td>
</tr>
</tbody>
</table>

### School of Medicine

The Section has had in a presence in the core (required) curriculum for Medical Students for over 2 decades, starting in 1989 with a free-standing 20 hr Nutrition course for first year students. Expansion to a 4 yr curriculum (+ residency) was undertaken through the 6-yr NIH supported Nutrition Academic Award (NAA). The completion of that award in 2006 coincided with major curriculum restructuring at the SOM, and resulted in Nutrition didactic lectures being integrated into the Digestion, Endocrine & Metabolism and the Life Cycle blocks for MS II’s. As indicated in Table (above), Section faculty members teach extensively in these blocks, for a total of ~ 12 hr lecture and discussion time each year. Small group, case-based discussions related to Nutrition are also a core component (2 hr session) of the MS III Pediatric Clerkship. The Clerkship Nutrition curriculum emphasizes competencies for critical nutritional evaluation and management skills. Two Nutrition electives are available to MS IV’s, and have traditionally been taken by ~ 30 students/year. For these electives, experiences with clinical Nutrition & other pediatric faculty, and CHCO dietitians are tailored to individual students’ interests and future plans. \textit{(The electives are coordinated by a 0.5 FTE dietitian, supported by the Dept of Pediatrics.)}

### Residents (Pediatric & other)

Clinical faculty members teach a multitude of trainees in our clinics (Lifestyle Medicine & GAP/Nutrition). We have developed a curriculum for pediatric obesity as well as 2 wk clinical nutrition electives. Pediatric residents also work in our clinics as part of the second year outpatient rotation, and several PL-3’s have done so as part of their Longitudinal Block in Primary Care. Through the electives developed in the NAA, we also coordinate clinical nutrition electives for residents from Family Medicine, Internal Medicine, and the CHA/PA program each year.
Two didactic lectures are given annually for the “Super Core” curriculum for Pediatric Residents: “Parenteral Nutrition” and “Growth Faltering/Failure to Thrive” (Krebs/Haemer).

- **Fellows: T32 NIH Training Program in Nutrition + Clinical Fellowship**
  
  For nearly 20 years the Section of Nutrition has had an NIH(NIDDK)- supported T32 Nutrition training grant aimed at improving nutrition research and education of post-doctoral trainees (MD & PhD) who wish to take on a career of nutrition-related research. This training grant is unique in fostering physician training in nutrition and nutrition research. Faculty mentors represent the spectrum from basic/cellular research to human/translational to population/epidemiologic investigations. The training grant has been competitively renewed twice over the last 10 year period. During this time, applications from potential trainees have shifted from local “word of mouth” to a broader, nationally known and first-rate group. Over the last 15 years, 18 trainees have been supported by the grant, 13 of whom have moved into successful research careers related to Nutrition.

  A 1 year clinical fellowship in Pediatric Nutrition is another unique training component of the section. After completion, trainees are eligible to sit for a certification exam in Clinical Nutrition. Two MD fellows completed this clinical training during the period of this report. Since 2012, Dr. Darcy Thompson has assumed leadership of the clinical fellowship, with a major emphasis on greater visibility, increased number of applicants and successful recruitments. Over the last 13 years we have trained 4 MD fellows in our clinical nutrition fellowship. Clinical training consists of 6 to 12 months of clinical service in pediatric nutrition and in related areas in adult medicine as appropriate. The training aims to train pediatricians in key areas of clinical nutrition including:

  - Normal nutrition across the Pediatric age span
  - Breastfeeding/infant feeding
  - Obesity and co-morbidities
  - Growth faltering
  - Behavioral medicine/Motivational Interviewing
  - Metabolic nutrition support in clinical medicine (chronic illness/special needs, critical care, prematurity/high risk neonate)

- **Seminar Series**
  
  A bi-weekly research seminar series brings in faculty from across the UCD campus to present their research. Attendees include research and clinical faculty and staff from across the campus. All fellows on the T32 training grant are required to attend and present at least annually; their mentors and scholarship oversight committee members are encouraged to attend. The series is organized and led by 1-2 faculty members in the section each year. Recent leaders have included: Drs Boles, Haemer, Kaar and Boyle.

  The obesity seminar series at CHCO is organized by Renee Porter under the auspices of the inter-disciplinary obesity committee at CHCO. Topics range from research to clinical
guidelines, practice updates, etc, and participants (presenters & attendees) represent campus-wide entities.

- **Mentoring**
  The majority of our faculty actively mentor learners who range from undergraduates to post-doctoral fellows. This includes mentoring in programs such as the MSA program (medical student and Pediatric residents); Master of Public Health students completing practicums and capstone projects; summer students in the Pediatrics Student Research Program; and students from other Schools/programs. In 2013, in recognition of her outstanding record of mentorship, Dr. Higgins was invited to join the Department of Pediatrics’ Mentoring Committee. Dr. Krebs completed the CCTSI Co-Mentor training course in 2011-12. Dr. Krebs’ K24 award is specifically focused on mentoring future leaders in patient oriented research (in her case, as related to Nutrition).

<table>
<thead>
<tr>
<th></th>
<th>Pre-doctoral</th>
<th>Med Student (Career &amp; Research)</th>
<th>Residents</th>
<th>Post-doctoral (PhD)</th>
<th>Fellows (MD)</th>
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<tr>
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<td>Boyle</td>
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<td>Haemer</td>
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<td>Hambidge</td>
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<tr>
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<td>Johnson</td>
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<td>Krebs</td>
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<td>Porter</td>
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<td>Lander</td>
<td>8</td>
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<tr>
<td>Thompson</td>
<td>4</td>
<td>1</td>
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<td></td>
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<tr>
<td><strong>Totals</strong></td>
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<td><strong>6</strong></td>
<td><strong>12</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

The senior faculty in the Section are closely involved in mentoring the more junior faculty members, through weekly (journal club), regular (e.g. semi-weekly to monthly) mentoring meetings, service on career development awards (e.g. K’s) as mentors or scholarship oversight committees. Since 2009, Section’s annual retreat focuses on mentoring and career development as a major objective. Visiting professors have been specifically chosen for their experience and expertise in mentoring.

Through international research programs under the leadership of Drs Hambidge and Krebs, we have a strong commitment to mentoring developing-country colleagues who are providing leadership in their own countries including, but not limited to Guatemala, India, Pakistan, Kenya, Zambia, DRC and Ethiopia.

- **Dietetic Internship Program**
  In 2013, Children’s Hospital Colorado was approved to offer a dietetic internship program with Pediatrics and Adult Acute Care concentrations (at CHCO and University of
Colorado Hospital, respectively). The internship represents a formal partnership between Children’s Hospital Colorado and the University of Colorado School of Medicine (Dept of Pediatrics). This full-time, 42-week internship is currently under Candidacy Status from the Accreditation Council for Education in Nutrition and Dietetics. Section of Nutrition faculty were instrumental in the 3-yr process of developing the internship and continue to participate as preceptors and teachers for the program. The program represents a significant contribution to the nutrition profession as there is a large unmet need for internship programs. Nationally, only ~50% of applicants are successful in securing an internship position.

- **Journal club**
  The Children’s Eating Lab (Director, Susan Johnson, PhD; Co-director, Richard Boles, PhD) provides a weekly journal club for all undergraduate, graduate, and postdoctoral trainees who collaborate with Nutrition Section faculty members. Objectives of the journal club are for trainees to critically evaluate scientific papers via presentation and discussion. Dr. Boles created a didactic presentation on how to critically evaluate journal articles; this serves as a primer for all interns. Interns are also provided feedback on their performance by all participants to further guide their professional development. These sessions offer particularly lively debates each week, in which learners are encouraged to actively participate in the discussion of the selected paper.

- **Undergraduate Internship Program**
  Drs. Johnson & Boles established and lead a research internship program that is recognized by Metropolitan State, UC-Denver, Regis University & Colorado State University. The program qualifies for independent research credits for psychology, biology and nutrition students. Learners apply to participate on IRB-approved protocols. Each intern typically completes a semester for approximately 150 hours. In addition to participation in the weekly journal club mentioned above, all interns receive didactic training on ethical training to conduct human subjects research; management of data (REDCap); opportunities to interact with study participants; and other aspects of research conduct.

- **CCTSI Nutrition Internship Program**
  Janine Higgins, PhD is Director of the Colorado Clinical and Translational Sciences Institute (CCTSI) Nutrition Internship Program which has trained 45 trainees since 2007. This program has a 75% success rate for graduates seeking to enter an American Nutrition and Dietetics (AND) Association Internship Program for credentialing as RDs whereas the national average is 50% (see above for CHCO DI). Overall, 80% of all CCTSI Nutrition trainees are enrolled in an AND accredited DI program or actively employed in the field; 67% currently have NIH or other external funding; and the research publication rate for post-graduate trainees averages 7.8 during their training and 2 yr immediate post-training period.

- **Visiting professors**
The section hosts 1-2 nationally recognized leaders in Nutrition as visiting professors each year. Each visiting professor participates in Pediatric Grand Rounds, mentoring for Section Faculty, and variety of educational activities offered to different audiences each year.

- **Course Development**
  Two courses were developed and conducted in this period (see Table above): “Global Health Nutrition” for students in the Colorado School of Public Health and “Early Childhood Education” for students at the Morgridge College of Education University of Denver. Both of these courses support the integration of nutrition education into other professional disciplines.

- **Curriculum for Primary Care Obesity Management and Motivational Interviewing:** 10-hour course delivered to six Pediatric clinics. Curriculum evaluated by audited visits, process of care measures, and child BMI outcomes.

*List your faculty who have special interest or talents in medical education and briefly describe their educational work. Please highlight new faculty who have been recruited who have a medical education interest/focus.*

- **Darcy Thompson, MD, MPH:** specific interests in 1) Educating providers on caring for immigrant and limited English proficient patients; and 2) Enhancing nutrition training within medical schools. Work to date on item 1 includes national web modules and presentations on the topic as well as publications (these were initiated at previous institution & are thus not explicitly described herein. On item 2, Dr. Thompson is leading the section effort to enhance and broaden the clinical nutrition training we provide, including specifically for residents and fellows.

- **Jill Kaar, PhD:** Pilot grant from Medical Education in Dept of Pediatrics to develop and test a web-based module for Pediatric Residents.

- **Nancy Krebs, MD, MS** has a long history of leadership in medical nutrition education (see NAA described above; first recipient (1998) of the American Society for Clinical Nutrition “Physician Nutrition Specialist” award specifically to foster medical nutrition education). She is active at the national level through ASN with initiatives to enhance Nutrition competencies of medical trainees and providers. Until 2012, she has also directed the clinical Nutrition Fellowship.

- **Susan Johnson, PhD** is an active educator & mentor. Her focus has emphasized research and Nutrition trainees, as well as clinical/medical trainees and junior faculty.

*Describe the resources that you provide for education and teaching and comment on the adequacy of these resources.*

- Few ‘tangible’ resources provided to cover faculty members’ time and efforts to teach. Ms Laura Primak, RD, was initially funded through the NAA; she has been supported since 2006 at 0.5 FTE to help coordinate medical Nutrition education activities. This support initially was through the SOM and more recently fully through the Dept of Pediatrics.
• Funding specifically for teaching and innovations in education are woefully inadequate. Our Section has a long-standing commitment to education and strongly encourages the faculty members to participate. As described above, we have been spectacularly active, in spite of extremely modest resources.

**What opportunities are provided to support faculty teaching and improve their skills?**

Dr. Higgins: mentorship courses offered by the UCD Association of Medical Educators; Dr. Kaar has received an education grant; Dr. Krebs has taken the CCTSI Co-Mentor course.

**What steps have been taken in the last few years to strengthen your educational programs?**

In the last year, under the leadership of Dr. Thompson, we have created a Pediatric Nutrition Clinical Education Workgroup which consists of 5 faculty members within our section. This workgroup has focused on setting objectives for a comprehensive clinical Nutrition education plan, with the goal of enhancing current offerings and maximizing our ability to provide the ideal clinical nutrition training (within the constraints of the system). Goals and objectives have been created, an implementation plan developed, and metrics are in place to monitor progress:

**Goal 1:** To increase trainees’ understanding of the role of nutrition in the promotion of health and the prevention and treatment of disease and morbidity.

Objectives (measurable):
- a) To create an organized approach to training opportunities provided by members of the Section of Nutrition
- b) To provide enhanced and additional learning opportunities on topics related to nutrition to all levels of trainees.
- c) To promote current training opportunities for medical students, residents, fellows for clinical training in nutrition
- d) To obtain funding to broaden the clinical nutrition training we provide
- e) To explore non-traditional avenues of teaching

**Goal 2:** To increase the favorable visibility of our practice of clinical nutrition both locally and nationally

Objectives (measurable)
- a) Enhance residents’ and medical students’ awareness of the clinical programs of the Section of Nutrition faculty members.

**Goal 3:** To increase the number of medical providers with clinical nutrition training locally and nationally.

Objectives (measurable):
- a) Increase interest in the Nutrition clinical fellowship (document number of inquiries, applications, and successful recruitments)

**What new educational programs have been implemented in the last few years?**

- Laboratory Management course offered through the Graduate School (Higgins)
- (others noted above – Global Health, Research Internship, Dietetic Internship, et al)

Describe interdisciplinary collaborations in education that your section and its members participate in.

- Laboratory Management course brings together professionals from the School of Medicine (Geriatrics, Pediatric Nutrition, and Endocrinology), the School of Pharmacy, and Human Resources to provide lectures and resources to participants (Higgins)
• Systems Biology of Energetics section of the Biomedical Core Course (IDPT 7823). This course is taken by all incoming Biomedical Science PhD graduate students and is offered by the Graduate School (Boyle)
• Nursing education related to Pediatric Obesity; also provide opportunity for PA/PNP students to do longitudinal Chronic Care block in obesity clinic (Porter & Gracey)

What CME programs does your section participate in or run?
• CHCO Pediatric Obesity Lecture Series (Renee Porter, coordinator)
• Caring for immigrant children and limited English proficient families talk given at the American Academy of Pediatrics National Conference and Exhibition (Darcy Thompson)
• Two series of CME trainings for childhood obesity, a two-hour course and a four-hour course (Matt Haemer)
• Pediatrics in Disasters course, 2 hr Nutrition module (Krebs)
• CHCO “Updates in Clinical Nutrition” (annual, multiple Section Faculty)
• The chart below indicates the numerous invited presentations made by faculty:

![Invited Presentations 2006-2012 Total/Year](chart)

The graph demonstrates that the faculty contribute generously to local and regional professional education activities. Furthermore, this chart does not capture all activities but rather represents only formal “invited” presentations tracked by faculty members.

Educational Scholarship:
List the faculty members in your section who have educational research grants.
Jill Kaar, PhD – UCD Medical Education grant

Describe the educational research that is being conducted in your section.
• Jill Kaar is working on the research to develop on-line nutrition education modules for pediatricians/residents/medical students. To date she has been award a pilot grant to conduct qualitative research to evaluate the need for nutrition education, specifically related to growth faltering. Next she will develop on-line modules on various nutrition topics for providers and mid-level providers to use.
• Dr. Darcy Thompson has conducted research focused on enhancing the training of residents on caring for limited English proficient patients.

List the educational presentations that your faculty members have made locally, nationally, internationally

See Graph for summary of invited presentations by faculty (above)

List the educational publications of your faculty


Excellence & Leadership:

List the national or local teaching awards that your section faculty members have received.

• UCDHSC Dean’s Graduate School Mentoring Award: 2007, Johnson:
• UCSOM Excellence in Teaching Award: 2010, Krebs
• UCSOM Golden Stethoscope: 2013, Krebs

Describe the local regional, national or international educational leadership positions that your faculty members hold.

Janine Higgins: National Association of Bionutritionists – member of national Standard Operating Procedures Committee Member, Pediatric Mentorship Committee

Susan Johnson: Associate Editor, Journal of Nutrition Education and Behavior;
responsibilities include:
• Handling of 150 - 180 manuscripts per year (2008 – present)
• Invitation of CU Denver AMC faculty as reviewers, some of now whom serve on the Board of Editors (A. Tsai, R Boles)
• Instituting the “mentored review” process such that medical students, PhD students, MS level staff and postdoctoral fellows may be acquainted with and learn about the review process
• Conduct of an annual workshop at a national conference to improve manuscript production & review as well as study design. Includes invitation of CU Denver AMC faculty to participate in aligned webinars related to this workshop (Richard Boles)

Darcy Thompson: Chair, Program Committee for the Academic Pediatric Association (APA) 2014 Leadership Conference for SIG/Region Chairs, and elected Board member of the APA - Chair of Special Interest Groups (SIG) & New Century Scholars Program. Oversees and mentors chairs of over 40 SIGs for the APA, and provides board level leadership to the New Century Scholars program. This is a mentoring program that targets underrepresented minority pediatric residents who are interested in pursuing careers in academic medicine.

Describe the educational groups or committees that your faculty members are involved in regionally, nationally or internationally.

• Regional School Nurses, Colorado Obesity Nursing expert for education of school nurses (Porter)
• Senior mentor for the American Society for Nutrition (ASN), Nutrition Education Research Interest Section, Society for Nutrition Education—Editorial Staff, Senior mentor, Section of Nutrition, Education committee (Johnson)
• Medical Nutrition Council for American Society for Nutrition (ASN)(2009-present); member of ASN ad hoc “Planning Committee for Establishing an ASN-Sponsored Coordinating Center for Nutrition Education of Health Professionals” (2013-present) (Krebs)
• National multi-disciplinary collaborative initiative to revitalize and advance the objectives of the NAA program is underway, facilitated by ASN, NIH, IOM, and others. Drs Krebs, Haemer and Thompson have been active participants in this agenda.

Looking to the Future:

What are the challenges, problems, gaps or deficiencies in your section’s overall teaching and education program? What plans do you have to address them?

• Challenge: Nutrition training historically has been undervalued and overlooked within the medical school curriculum. The section of Nutrition here has made many efforts to improve this situation for trainees here and the training here is better than at most institutions. Yet, faculty receive very little salary support for teaching. Without this, our efforts are limited in what we are able to accomplish. The faculty workgroup within our section is focused on optimizing training; goals include grant funding.
• Challenge for PhD faculty to reach students in a traditional setting via teaching for courses — no immediate plans.
• Limited opportunities for nonclinical faculty to teach and direct coursework within the SOM.  
• Absence of graduate program in Nutrition, students recruited from other campuses, presenting logistic and financial challenges  
• Teaching outside the campus fulfills teaching commitments but, by SOM/Board of Regents rules, payment is disallowed, so it falls in the category of service

RESEARCH & SCHOLARSHIP
In last 7 years, the Section has recruited 6 new research faculty with an emphasis on minority recruitment which has resulted in 4 women joining our faculty. Their research encompasses priorities of the section, including obesity, global health, and maternal-infant health. Specific areas include parenting practices regarding TV viewing and overweight in minority children; role of micronutrients (esp zinc and iron) on growth, development and health in low-income international settings; obesity during pregnancy, and its influence on the propensity for obesity in the offspring through epigenetic modifications; and nutritional epidemiology related to maternal (pre)pregnancy influences on offspring growth and weight outcomes. The chart below indicates the scholarly productivity of Section faculty.

What new research programs have been developed including the addition of new faculty?
The Section of Nutrition currently has 9/14 faculty engaged in funded research which encompasses investigation on multiple different projects, broadly including the areas of obesity and feeding behaviors, global health, trace mineral requirements. The following represent new or expanded areas since 2006:
  • Obesity research program
• Molecular pathways whereby fetal exposure to maternal obesity contribute to adiposity at birth and longitudinally during childhood by epigenetic modification of fetal maternal stem cells linked to adipocyte or myocyte differentiation (Boyle)
• Effects of obesity in rat model on mammary gland development and function and cancer risk (Higgins)
• Influence of maternal phenotype on bioactive components of human milk, infant growth and body composition, and development of infant microbiome (Krebs)
• Intervention to prevent early childhood obesity in African American & Latino children through feeding and physical activity (Johnson)
• Behavioral and environmental modifiable influences (e.g. dietary and activity patterns, sleep, and parenting) to prevent/treat obesity within populations having limited resources; methods to increase use of preventive health services within primary care settings (Boles)
• Identification of modifiable family and individual factors contributing to development of obesity in preschool-aged children, with focus on minority populations, media use (Thompson)
• Community and primary care based intervention for prevention and treatments of childhood obesity, using electronic decision-support tool; development of algorithms, provider training, and decision support for primary care setting; obesity outcomes research & application of implementation science in high risk populations (Haemer)
• Quality Improvement (QI) research projects at CHCO to improve safety for hospitalized obese patients and develop strategies to improve retention of obese patients in outpatient treatment programs (Porter/Haemer/Boles/Krebs)
• Nutritional epidemiology related to maternal pre-pregnancy influence on offspring growth and weight outcome(Kaar)

• **International/Global Health**

The international research program of Drs. Hambidge and Krebs has continued to grow during the period of this report. The program utilizes randomized controlled trials to test new hypotheses directed to improving maternal and offspring nutrition and health; stable isotope metabolic studies to advance understanding of micronutrient homeostasis. During the past 10 years, the program has expanded with over eleven million dollars of support from Bill and Melinda Gates Foundation (BMGF) and over ten million from the NIH, primarily through founding membership of the NICHD Global Network for Women’s & Children’s Health Research. Other significant sources of support have included the Thrasher Research Fund, HarvestPlus and the Nutrition division of the International Atomic Energy Agency.

Current major research project funded by BMGF is a 5 yr study to determine intrauterine and post-natal benefits, including linear growth and epigenetic benefits, of optimized pre-conception maternal nutrition. In addition to the public health outcomes, basic science effects include metabolic phenotyping, epigenetics, and microbiome, work that will primarily conducted through collaborations at UCD. Other funded projects in India that are oriented toward improvement of infant growth and nutrition have been conducted by Dr. Johnson.
What are the major sources of research funding for your faculty? [grants, gifts, foundations, clinical income]. What has been the funding trend for each of these sources?

Over the last 3 years, at least 95% of the Section’s revenue came from research funding. Research revenue consists of federal grants (USDA and NIH), Bill and Melinda Gates grants, other foundation funding (Colorado Health Foundation), and institutional pilot funding (Figure 1). Between 2011 and 2013, the Section’s total grant funding increased from $6.4M to $7.7M but federal funding declined from 64% to 52% of overall grant support. Given the decline in
general NIH funding during this time period, increased total grant funding and a relatively small decline in federal funding is a significant achievement.

*What are some of the most noteworthy achievements made by the research faculty in your section?*

- Established multidisciplinary, longitudinal study of childhood obesity prevention in at-risk children in Head Start in rural Colorado; collaborators include CU-Denver, AMC and Colorado State University. Disciplines represent nutrition, exercise science, occupational therapy, psychology and human development. (Johnson/Boles)
- Creation of broad-ranging partnerships between the Section and community-based clinic organizations, schools, recreation centers, and non-profit organizations through which to carry out Community-engaged research (Haemer)
- Expanded and strengthened global research collaborations and funding (Hambidge/Krebs)
- Successfully led a large 4 country randomized trial as a common protocol on the effects of improved complementary feeding on growth (Hambidge/Krebs)
- Recognition of the Children’s Eating Laboratory as a national and international research stronghold for study of children’s development of eating behavior and the environmental influences on children’s eating and weight outcomes (Johnson)
- Extensive investigations of mathematical and statistical interrogation of studies employing stable isotope methods to characterize zinc homeostasis and zinc requirements in adults and infants (Miller/Hambidge/Krebs)
- Established collaborations to investigate effects of nutrition and diet on the enteric microbiome in Denver infants and infants in rural Kenya (Krebs/Frank)

*Are members of your faculty involved in inter-disciplinary research projects? (between sections; between departments; between hospitals; within the community)*

The section conducts translational and interdisciplinary research with faculty members in the Sections of Pediatric Gastroenterology and Endocrinology; Geriatrics; the Division of Endocrinology, Diabetes, and Metabolism in Medicine; and external collaborators at CU Boulder, Colorado State University, Baylor College of Medicine, Washington State University, University of Idaho, University of North Carolina (UNC), North Carolina State University, and University of Alabama (UAB)—Birmingham and Clarkson University.

- Through Colorado Health Foundation funding, partnerships established among community clinics (Community Health Services Clinics, Salud Family Health Centers, Clinica Campesina, Rocky Mountain Youth, Denver Health) and community partners Kaiser Permanente, Commerce City Parks and Recreation, Denver Parks and Recreation, Adams County Schools, Share Our Strength’s Cooking Matters, Metro State University with UCD inter-departmental collaborations representing Section of Nutrition (Haemer/Boles/Porter/ Krebs), Department of Family Medicine, CHCO, and CSPH.
- Through the Global Network (Hambidge/Krebs), collaborations include 6 other US institutions (UAB, UNC, Indiana University, Drexel, Columbia, and Harvard). The
international research program of Drs Hambidge and Krebs has active collaborations in several countries including Guatemala, India, Pakistan, Kenya, Zambia, DRC, Malawi, and Ethiopia. The research is highly interdisciplinary including expertise in obstetrics, neonatology, nutrition, and infectious disease.

- Microbiome studies conducted with Drs. Dan Frank and Ed Janoff in Dept. of Medicine
- Collaboration with Neonatology (Friedman) and Endocrinology (Barbour & Hernandez) to study longitudinal infant growth and body composition outcomes related to fetal programming in lean and obese women.
- University (Nutrition & CSPH (Puma) - Community partnership with the WIC program in San Luis Valley to investigate impact of clinic based technology (kiosk) and training in motivational interviewing on maternal peri-conceptional health (Hambidge/Krebs/Thompson/Haemer)
- Collaborations within the Section Faculty, the Dept of Pediatrics (Lindsey Lane, Meghan Treitz), and other universities (North Carolina State University, Dr. Suzanne Goodell) with respect to the pilot nutrition education grant for increasing nutrition education in the medical profession (Kaar)
- Analysis of maternal/child dietary data from the Healthy Start study (CSPH/Dabelea) & Nutrition (Kaar/Johnson)

What challenges do you see facing your research faculty? [recruitment; faculty development; retention; department and/or campus resources]

- Faculty retention: driven by available funding and, to some extent, limited availability of mentorship, given limited number of senior faculty members in the section. Resources (administrative support, space) are felt to be lacking to support the growth of research programs.
- Salary coverage: in a section that has limited clinical revenue and no graduate programs to produce FTE from teaching, the stress of securing 100% of salary is extremely burdensome for both clinical and research faculty. Avenues to teach nutrition courses for health professionals should be identified that could lead to increased section revenue for teaching. Coordination with other CU campuses to connect graduate programs and an integration of graduate student outside of the SOM could also offer research opportunities for faculty.
- Limited support for sabbatical for faculty is a significant issue for the level of ongoing career satisfaction. For research to maintain its highest level of productivity and to meet the desired goal of developing multidisciplinary research programs, there must be opportunities for cross talk and reinvigoration. Perhaps this cannot occur with the usual frequency that traditional universities offer (~every 7 years) but the absence of such opportunities reduces the potential of researchers and their capacity for productivity.

Outline the actions that the school or department should implement to foster a better research environment.
• Consistently applied rubrics, and availability for funding for professional activities (specialized training, memberships) across the clinical and the research domain would be a step towards providing support for research faculty.
• Better funding for COMIRB and OGC would help to improve the process related to grant acquisition and conduct. Delays in consideration of research protocols by COMIRB, derived from inadequate staffing, prevents researchers from conducting research in a timely way.
• Space policies and processes (at the section, department and SOM levels) such that space considerations and issues could be addressed in a transparent and timely manner.
• Strategies for PhD faculty to be supported financially via mechanisms appropriate to non-clinical faculty. (Teaching, paid mentoring of students/residents interested in research, partial dedicated salary support in alignment with other analogous research/health sciences institutions).
• Creation/improvement of existing networks of collaboration of AMC faculty with UC campuses (Denver, Boulder, CS) to foster integration of research opportunities with graduate students interested in medical or health related careers.

FINANCIAL

From a leadership perspective, how would you describe the financial environment in your section, and what do you think has been the biggest financial challenge facing your section, and the department?

• Salary Support- the biggest financial challenge facing our section and the department is that faculty have to identify support for essentially all of their own salary. (Administrative support has been available to some faculty). Our section has also had little to no administrative support until just this year, and it has put a strain on the section, putting an even greater burden on the faculty. Current faculty are required to find funding through their research to pay their salaries and this is very difficult for junior faculty to balance their productivity with career development.
• Clinical- our current patient population includes a high percentage of families with low income/Medicaid coverage, which presents challenges for clinical revenues. Additionally, the physicians are primarily committed to establishing and maintaining their own research programs, which limits the time available to optimize programs, revenue, QI initiatives, etc. More physician leadership and presence at CHCO would be very helpful to support the growth and development of clinical Nutrition programs at CHCO, including especially the obesity program, as well as the in-patient consult service, and the GAP/Nutrition referral clinic. Recruitment of a Medical Director primarily based at CHCO will help resolve some of these issues. (It is noted that the growth the Section has experienced over the period of this reports reflects determination and conviction from extremely committed individual faculty members, and support (financial and moral!) from CHCO and the Department of Pediatrics.)
• **Education** - While our faculty currently are extremely active in teaching and mentoring, the virtual absence of funding specifically for teaching is a disincentive. As noted above, the lack of graduate programs and thus graduate students is particularly onerous for the non-clinical faculty. The greater the pressure (perceived and real!) to cover salaries, the willingness to undertake teaching and mentoring is inevitably compromised, to the detriment of all.

**COMMUNITY (OUTREACH/SERVICE/DIVERSITY)**

• **Integrated Nutrition Education Program (INEP)**
  The Integrated Nutrition Education Program (INEP) addresses the need for healthy, life-long nutrition behaviors to prevent obesity and other chronic illness by working with children and their families through a school-based nutrition curriculum. The curriculum is developed around the 2010 Dietary Guidelines and USDA’s MyPlate recommendations and focuses on increasing consumption of fruits and vegetables, whole grains, low-fat dairy, and the importance of daily physical activity. In the 2012-2013 year, INEP delivered approximately 3,120 lessons statewide in 260 classrooms, and reaching approximately 6,000 students and their families. The table below shows INEP’s reach from 2008 to the current numbers in the 2013-2014 school year.

<table>
<thead>
<tr>
<th>Year</th>
<th>Reach</th>
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<tbody>
<tr>
<td>2008-2009</td>
<td>17 school districts&lt;br&gt;92 schools; 1004 classrooms&lt;br&gt;Reaching approx. 28,112 students and their families</td>
</tr>
<tr>
<td>2009-2010</td>
<td>21 school districts&lt;br&gt;1,310 classrooms&lt;br&gt;Reaching approx. 37,000 students and their families</td>
</tr>
<tr>
<td>2010-2011</td>
<td>21 school districts&lt;br&gt;120 schools; 1,372 classrooms&lt;br&gt;Reaching approx. 34,265 students and their families</td>
</tr>
<tr>
<td>2011-2012</td>
<td>16 school districts&lt;br&gt;32 schools; 346 classrooms&lt;br&gt;Reaching approx. 6,900 students and their families</td>
</tr>
<tr>
<td>2012-2013</td>
<td>13 school districts&lt;br&gt;24 schools; 260 classrooms&lt;br&gt;Reaching approx. 6,000 students and their families</td>
</tr>
<tr>
<td>2013-2014</td>
<td>18 school districts&lt;br&gt;38 schools; 373 classrooms&lt;br&gt;Reaching approximately 9,325 students and their families</td>
</tr>
</tbody>
</table>

The USDA’s Supplemental Nutrition Assistance Program – Ed (SNAP-Ed), primarily funds the program. Past funding has included grant awards from the Colorado Health Foundation, Colorado Department of Public Health and Environment, ARRA funds and small gift funds. During FY 12 & 13 the contracted amount was reduced as a result of nationwide cuts to the USDA SNAP-Ed budget and the impacts on funding directed to Colorado. The approved
amount for the FY14 budget is $996,485, which is based on an increase in participating classrooms and new parent engagement activities.

The evaluation tools have recently been enhanced through strengthened collaboration with faculty in CSPH. Evaluation conducted in the 2013-2014 school year measured statistically significant increases in correct responses to nutrition-related knowledge questions regarding grains, calcium and MyPlate recommendations around fruits and vegetables. This difference was not seen in the control group, reinforcing the impact INEP has on the mediating factors that can lead to behavior change. Additionally, this last school year, INEP measured its impact on the home environment and found that close to a third of parents indicated that the nutrition lessons, recipes and/or newsletters have changed how they eat at home in some way: consuming more fruits and vegetables, healthier meals and snacks. INEP directly impacts students and indirectly impacts parents and teachers, increasing the likelihood that the positive program effects will be sustained.

- **Diversity Pipeline:** Faculty participate with Aurora Lights, GEMS, Undergraduate Pre-med Programs
- **National Children’ Study:** Until 2012, Drs. Johnson, Kaar & Haemer were in leadership positions for this project, and thus were actively involved in community engagement with potential participants and community health networks.
- **Professional Educational Outreach:** As tallied in chart on page 15, the faculty members in the Section of Nutrition contribute very actively through invited lectures in the community as well as through many informal interactions.