

The Schiefelbusch Institute for Life Span Studies The University of Kansas

Life Span Institute Annual Report 2010–2011



THE LIFE SPAN INSTITUTE:
DISCOVERY ACROSS THE LIFE SPAN



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The 2010-11 Annual Report of the Schiefelbusch Institute for Life Span Studies is meant to give a sense of the dynamic nature of this largest and oldest research entity at the University of Kansas. Since 1956, the Life Span Institute has been dedicated to discovering how to improve the health, development and well-being of individuals, families and communities in our state, region, nation and world.

Discoveries about how the brain develops and changes across the life span has become a common theme among the 171 scientists whose interests are as diverse as determining the effects of supplementing infant formula on intelligence to what causes the aging adult's typical decline in communication ability.

The basic understanding that the early period of the life span is critical to development and growth of the brain drives the research programs of many LSI-affiliated scientists. They are discovering how and when to enhance or improve the environments of infants, preschoolers and children. This knowledge is often derived from and disseminated to parents, childcare and early educators and clinicians targeting communication, reading, behavior, social-emotional development and child abuse prevention.

The urgency of understanding widespread intellectual and developmental disorders such as Autism Spectrum Disorders, Fragile X and Down Syndrome, has led investigators to dig deep into the nature and origin of these conditions through technologies that provide precise, objective measures for early identification and assessment.

Behavioral experts have learned how to break through to help children and adults with intellectual and developmental disorders communicate and learn crucial social behaviors to enable fuller participation in school and transition to work.

LSI experts in disability have continued to produce evidence that pushes past assumptions and limitations toward self-determination and participation contemplated in the ADA and IDEA.

Whether focusing on individuals, the families, practitioners or entire communities, LSI scientists are finding ways to address critical public health issues such as the obesity epidemic and substance abuse.

LSI's portfolio of work remains dynamic as LSI scientists remain entrepreneurial and innovative to compete with other scientists around the country for external funding based on the validity and soundness of each proposed investigation.

These external awards give back Kansas \$7.75 for every \$1.00 the state invests in a research enterprise that generates knowledge that can and has shaped practice and public policy in Kansas and beyond.

DISCOVERY ACROSS THE LIFE SPAN BEGINNINGS

The Life Span Institute’s reputation in discovery about the beginning of the human life span is worldwide and stretches back more than 50 years.

A landmark 1994 study by Betty Hart and Todd Risley documenting staggering differences in the number of early parent-child verbal interactions between poorer and more privileged children continues to

be a touchstone for justifying earlier intervention. One of LSI’s 2011 highlights was Betty Hart’s interview by National Public Radio on January 10.

Dale Walker, who collaborated with Hart and has extended the knowledge of how parents and early educators can enhance and promote the development of children’s ability to communicate, testified for funding Early Head Start (EHS) to a March 3 Kansas House subcommittee. The program had been left out of the state budget but was ultimately reinstated.

Walker had evidence that EHS is

working because of another KU LSI innovation: the Early Communication Indicator (ECI), developed by a team of LSI scientists including Walker, Charles Greenwood, Judy Carta and Jay Buzhardt. The ECI is a quick, play-based assessment of children’s communication growth that is used in EHS and other programs in 22 other states and three countries. Walker testified that of the 5000 Kansas children in EHS assessed with the ECI, 80 percent were at or above norm for language proficiency.

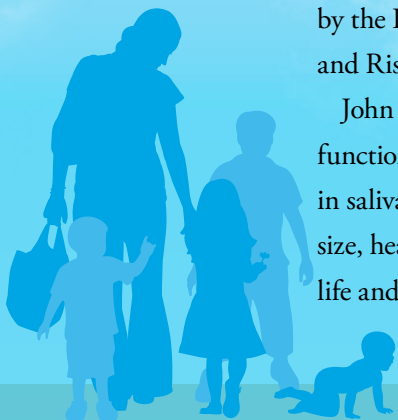
In 2011, the researchers found that an ECI innovation called the MOD (or Making Online Decisions) significantly improved children’s communication progress when it was tested by EHS home visitors. The MOD acts as an “intelligent advisor” so that EHS staff can input the ECI results into the Child Data System that then generates graphs and gives evidence-based routines that staff can teach parents.

Another 2011 highlight: the Autism Speaks Top Ten Science Research Achievement designation of the discovery that autism has a unique vocal “signature” by Steven Warren. The discovery was made possible by the LENA™ (Language Environment Analysis) system that its inventors say was inspired by the Hart and Risley study.

John Colombo and Christa Anderson have found differences in how the autonomic nervous system functions in young children with autism in resting pupil size and recently, in the levels of certain enzymes in saliva. The enzymes are related to the levels of the neurochemical norepinephrine that regulates pupil size, heart rate, breathing, etc. These findings could potentially be a way to screen for autism very early in life and more, they build evidence that the autonomic nervous system may be the nexus of the disorder.



Researcher Kathleen Baggett (left) has a major grant to develop web-based training for child-care teachers to support the social-emotional development of infants and toddlers.



DISCOVERY ACROSS THE LIFE SPAN

THE MIDDLE YEARS: LEARNING, WORKING, PARENTING, PARTICIPATING IN COMMUNITY

In the 1960s, LSI researchers were among the first in the nation to develop what they called “community research” on human behavior in the Kansas City, Kansas urban core. Working in partnership with the Juniper Gardens neighborhood, they particularly focused on parenting, public health and, especially, improving teaching and learning in low-income schools as a fulcrum to break the poverty cycle.

Then, the research groups were initially housed in the basement of a liquor store. Today, in the same neighborhood, the gleaming new Children’s Campus of Kansas City is a testament to the standing of LSI’s Juniper Garden’s Children’s Project. Scientists like Debra Kamps, Maura Linas and Howard Wills currently conduct research on student behavior issues. For example, Kamps and colleagues recently reported a successful research-to-practice model that greatly improved the behavior of students with or at risk for severe behavior disorders in high-risk urban classrooms.

Wayne Sailor and Amy McCart of the LSI’s Beach Center on Disability helped pioneer the idea of creating a “whole school” culture based on positive behavior support to teach appropriate school behavior—in and out of the classroom. U.S. Secretary of Education Arne Duncan commended a Washington, D.C. school using the Schoolwide Applications Model this year. Rachel Freeman trains a cadre of positive behavior support specialists across the state among developmental disabilities, child welfare and mental health professionals.

LSI scientists Judy Carta and Kathryn Bigelow are testing the idea of parenting support via cell phone text messages to young, often transient, low-income single mothers. Jay Buzhardt and Linda Heitzman-Powell are exploring telemedicine to coach rural parents of children with autism in rural areas of Kansas and Alaska.

Michael Wehmeyer, Susan Palmer and Wendy Parent are studying how young adults with intellectual disabilities can transition to employment. Parent’s Girls at Work project resulted in employment or post-secondary enrollment for 44 young Kansas women and several participating schools are continuing the Girls at Work curriculum.

The Work Group on Community Health and Development pioneered the study of behavioral change on a community scale. Currently researchers Steven Fawcett, Jerry Schultz and Vicki Collie-Akers are concerned with Wyandotte County, Kan., one of the least healthy counties in the state, using their expertise to help grass-root and government groups mobilize to increase health care access, healthy food sources, exercise and nutrition education.



KUMC Assistant Clinical Professor Rene Jamison, far right, has a pilot grant to increase the social competence and self-care of adolescent girls with autism.



DISCOVERY ACROSS THE LIFE SPAN LATER LIFE

With the affiliation of the Gerontology Center in 1990, the Life Span Institute emerged as the largest KU research group with scientists engaged in discovery and providing expertise for Kansas and beyond on the human behavior across the entire life span.

As we age, we process information more slowly, and some aspects of memory fade. However, this year, Susan Kemper showed that the aging brain's slower

processing speed was the prime candidate in the typical communication problems of healthy older adults. She devised a way of precisely measuring the performance of young and old individuals in a “dual-task procedure” or doing two things at once. In this case, people used a cursor to track a moving target on a computer screen while responding to questions. A milestone in the precise measurement of language and communication problems, the methodology used in the study may also help identify early dementia and evaluate treatments.

David Ekerdt's ongoing exploration of the premise that possessions—their management and disposal—can keep older Americans from moving to living quarters where they can better manage their health and well-being caught the interest of the *New York Times* writer Paula Span this year in *The New Old Age* online column.

David Johnson is an investigator with the new federally-designated Alzheimer Disease Center at the University of Kansas Medical Center. This center includes researchers from both the Lawrence and KUMC campuses and supports longitudinal studies of people with healthy and unhealthy aging. Johnson, describing himself as a “dementia detective,” looks for the earliest cognitive fingerprints to these disorders in medical histories noting that each dementia seems to have its own fingerprint in how it effects memory and thinking.

Photo: Steve Puppe



Dick Schiefelbusch is the founding director of the Schiefelbusch Institute for Life Span Studies (Life Span Institute). At 93 he continues his vibrant approach to life.



FUNDING

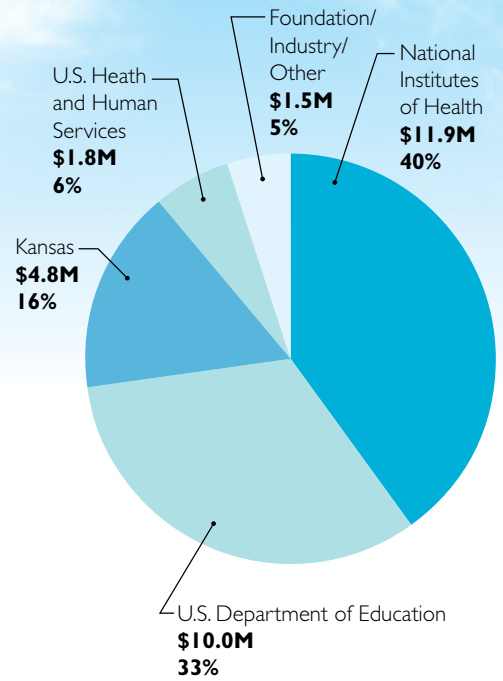
For the fourth consecutive year, the Life Span Institute (LSI) exceeded its previous best total for overall funding. Funding from grants and contracts increased by \$1.3 million, from \$28.7 million in 2010 to \$30.0 million in 2011, representing an increase of five percent over the prior year. This increase was due to the continuation of 79 previous awards and the arrival of 32 new awards. This achievement is remarkable in that it has taken place during a period of unprecedented competition for federal and state research funding for health and education.

Federal awards account for 79 percent of the Institute's overall external funding. Funding from the National Institutes of Health was sustained at last year's total of \$11.9 million, based on 36 awards (eight of which were new to KU). Awards from the U.S. Department of Education increased from \$9.6 million to \$10 million based on 28 total awards (seven new awards). Another \$1.8 million in funding was generated in awards from the U.S. Department of Health and Human Services.

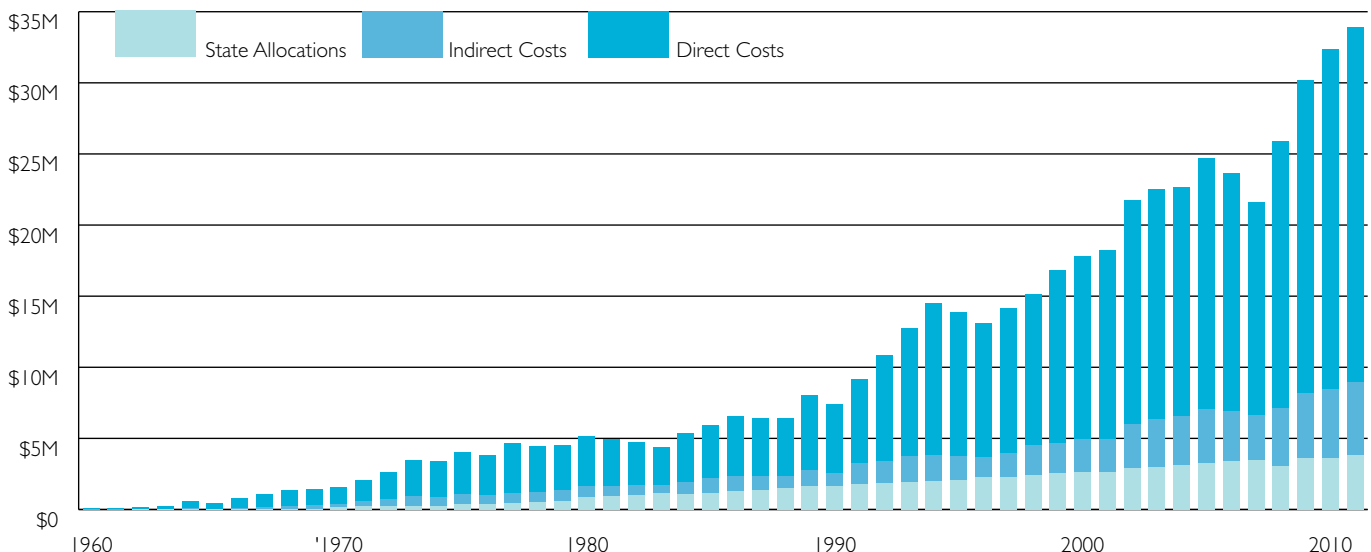
State of Kansas contracts increased from \$3.7 million to \$4.8 million this past year with 29 awards, six of which were new.

The LSI continues to leverage external funding at an impressive rate. In 1990, LSI returned \$3.30 on every dollar the state of Kansas invested in the Institute. In 2011, every state of Kansas dollar invested in LSI yielded \$7.75 in external awards.

Life Span Institute Funding by Agency - FY 2011



Life Span Institute Funding History: State Allocations and Grant Dollars by Fiscal Year



DISCOVERY ACROSS THE LIFE SPAN: RESEARCH-BASED SOLUTIONS FOR THE CHALLENGES OF HUMAN AND COMMUNITY DEVELOPMENT, DISABILITIES AND AGING

THE LIFE SPAN INSTITUTE AT A GLANCE

Who

Investigators, research and administrative staff, graduate and postdoctoral students

The LSI brings together 171 scientists who are affiliated with 20 academic departments to study human development from its genetic origins through the final stages of life through 150 research projects. These investigators are supported by 242 research and administrative staff members, including 58 graduate research assistants.

The Institute has two affiliated multidisciplinary graduate/doctoral programs, the Child Language Doctoral Program and the Gerontology Masters and Doctoral programs, as well as dual-title doctoral degrees that combine training in gerontology with certain social and behavioral sciences and several post-doctoral training programs.

What

Research, training, technical assistance, direct services and leadership

Most of the easy problems in the behavioral and the biological sciences have been solved. Today the important problems are increasingly found and solved at the intersection of many disciplines. The Life Span Institute stands at such a convergence.

At the Life Span Institute we know that our mission—to develop knowledge about human and community development, disabilities and aging—can only be achieved by problem-driven collaborations across many disciplines.

The Life Span Institute's 13 centers and Peruvian affiliate currently have 150 active programs and projects that constitute basic and translational research, training, direct services, consultation and technical assistance.

Last year, more than 41,000 Kansans benefited from the Institute's direct services, training and technical assistance.

When

History

The Schiefelbusch Institute for Life Span Studies was established in 1990, when the distinguished 67-year-old Kansas Bureau of Child Research joined with the Gerontology Center and other new research groups to form one of the premier research institutes in the world on human and community development, disabilities and aging.

The Bureau was directed for 35 years by Richard L. Schiefelbusch for whom the Institute is named. Dr. Schiefelbusch's appointment to lead the Bureau in 1956 was the beginning of its modern era.

The Institute has had three directors, Stephen R. Schroeder, from 1990 until his retirement in 2001, Steven F. Warren, from 2000 to March 2008, when he was appointed vice provost for research and graduate studies at KU, and John Colombo, who became the Institute's third director in September 2008.

Where

Administrative and Research Locations

The Institute's central office is in the Robert Dole Human Development Center at the University of Kansas in Lawrence with components at the John T. Stewart Children's Center and Malott Hall. The Institute also operates in Kansas City at the Children's Campus of Kansas City (Juniper Gardens Children's Project) at the University of Kansas Medical Center's Robert E. Hemenway Life Sciences Innovation Center and the Center for Child Health and Development and at the University of Kansas Edwards Campus (Kansas Center for Autism Research and Training). A major center is also located at the Life Span Institute in Parsons, Kansas.

Much of the work of the Institute is accomplished in and directly benefits underserved Kansas City neighborhoods and rural Kansas counties. Several projects are collaborations with researchers in other parts of the state, region, country and world, and are regional, national or international in scope.

How

Funding

The Life Span Institute attracts more combined federal, state and private dollars than any other designated research center at the University of Kansas, drawing \$30 million in sponsored project support in FY 2010-11. Each state dollar brought in \$7.75 external dollars this fiscal year.

The Life Span Institute at the University of Kansas represents the effort and enterprise of some 171 scientists, 58 graduate research assistants and 242 staff members. The 13 Centers and Peruvian affiliate of the LSI represent the collaboration and cooperation of scientists from many different fields who share common scientific interests and compete nationally for funding from those governmental and private agencies that fund scientific endeavors. Below is a graphic representation of this discovery across the life span. The Life Span Institute web site includes descriptions of most current and recently completed research projects and a directory of affiliated scientists with links to their professional profiles at lsi.ku.edu.



Prenatal



Infant

Individual

Barlow - premature infant - NTrainer

Colombo - DHA supplement effect fetal heart development

Colombo - DHA supplement, pregnancy outcomes

Colombo/A

Colombo - nutriti

Family/Parents



John Colombo and Susan Carlson found more evidence that infant formulas fortified with long chain polyunsaturated fatty acids are good for babies' brains and hearts. DHA affects brain and eye development and babies derive it from their mothers before birth and up to age two. But the American diet is often deficient in DHA sources such as fish. By simultaneously measuring the heart rate and visual attentiveness of infants while they looked at images of human faces, the researchers found that infants who were fed fortified formula showed a higher quality of attention and lower heart rates during the first year of life than infants who were fed unenriched formula.

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Carta/Bigel

Warren

Peer groups

School

Professionals and Practitioners

Greenwood/Walker/Buzhard

Baggett - social emotional support

Lindeman - Infant-T

Community

Schroeder/Brady/Reese/Butler - aberrant behavior, preventio



Mabel Rice's world-class reputation grows every year. Of note in the 2010/11 period: she co-chaired the Speech and Hearing Working Group for PhenX, a three-year project funded by the National Human Genome Research begun in 2008 that establishes standards for speech and hearing phenotypes for epidemiological studies. Rice was also asked to present her program of research as a featured speaker at the September 16, 2011 meeting of the National Institute on Deafness and Other Communication Disorders (NIDCD) Advisory Council that advises the U.S. Secretary of Health and Human Services, the director of the National Institutes of Health and NIDCD.



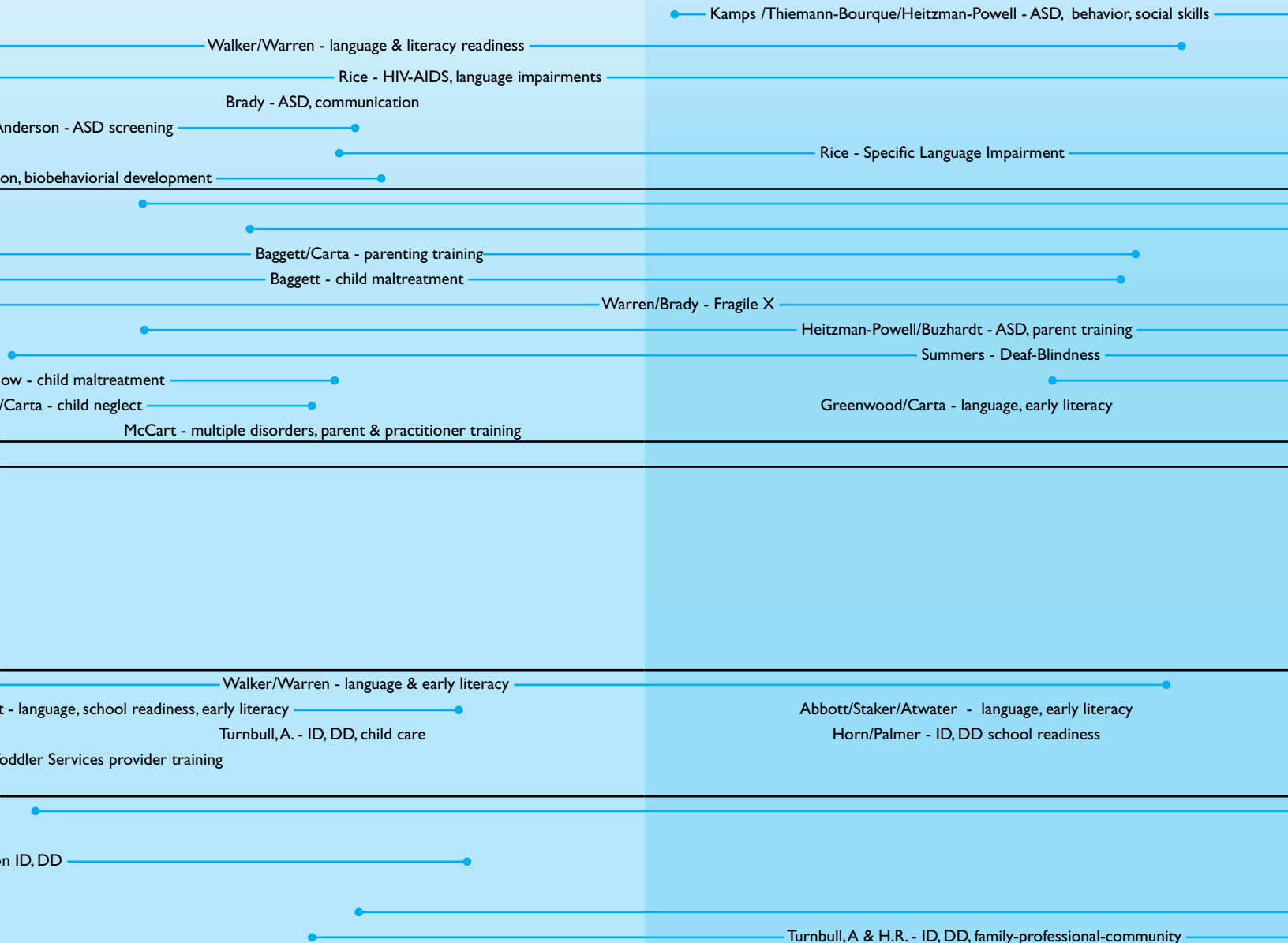
Typically, children with reading problems aren't identified until the third or fourth grade. Hugh Catts and Diane Nielsen are looking for a better way of identifying children with reading disabilities (RD) at the beginning of elementary school. They are following 350 children from kindergarten through third grade, with 250 at initial risk for reading disabilities. The children get brief screening measures and progress monitoring assessments in kindergarten. Some of the at-risk children get small-group instruction. Reading achievement for all the children is assessed in 1st to 3rd grades. The researchers hope to find more about how to identify children with RD in each grade.



Preschool



Toddler



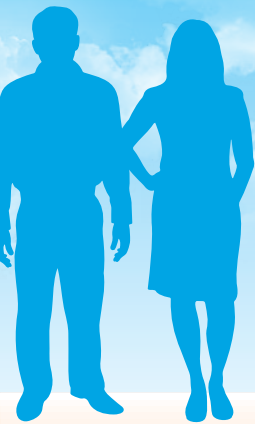


Elementary

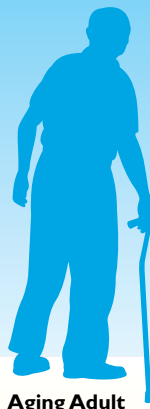


Secondary/Young Adult

<p>Jackson/Little - child maltreatment Storkel - language</p>	<p>Williams Saunders, K. - ASD, ID Parent - emp Donnelly Donnelly - Obesity Parent - post-secondary education, ID, DD Wehmeyer - ASD, ID, DD, LD self-determination White - ADA accommodations Wills/Kamps - LD, emotional/behavioral disorders</p>
<p>Turnbull, A. & H.R. - DD, ID military families</p>	<p>Lindeman - respite care Turnbull,A./Parent - DD, ID employment</p>
<p>Summers/Palmer - ID, DD, self-determination Freeman - ID, DD, ASD behavior Kamps - ASD, social skills Catts/Nielsen - reading disabilities Catts/Nielsen - reading comprehension Kamps - classroom behavior Freeman - IO, DD, ASD Summers - ID, math, reading Sailor/McCart - behavior Wills/Kamps - behavior</p>	<p>Howard Wills is putting his research on behavioral problems in children into a web-based application called I-Connect that can help parents manage their behavior and set boundaries through wireless devices. Wills said that there is increasing evidence that I-Connect is successful for at-risk teens and generalizes to other settings.</p>
<p>Lindeman - ID, DD, ASD teacher training Linan /Wills/Buzhardt/Kamps - teacher professional development Summers - DD, severe, multiple Wegner - ASD, communication</p>	<p>Wehmeyer - ASD, ID, DD, LD self-determination Parent - transition youth with special health care needs</p>
<p>Fawcett/Schultz - community health outcomes</p>	<p>Collie-Akers - commu White - disability, c White/Howland - disability, emer Schultz - community health Fawcett /Schultz - substance abuse Thompson - community/youth violence Thompson/Schultz - underage drinking</p>



Adult



Aging Adult



Kristine Williams, an associate professor of nursing at the University of Kansas Medical Center, joined the LSI's Gerontology Center in 2011. Williams is evaluating new programs to benefit residents of assisted living facilities and nursing homes. She will test an approach to promote cognitive skills and better self-care for residents of assisted living. Among nursing home staff, she will test a training program to reduce the use of patronizing speech to reduce patients' resistance to care. Williams was the first graduate of KU's Ph.D. program in Gerontology and now will return to mentor a new generation of students.

- DD, chronic aberrant behavior
- Employment, ID, DD
- Obesity, ID
- Faiman - cocaine dependence
- Froehlich-Grobe/Washburn/Little - wheelchair exercise
- Hamilton - fibromyalgia
- Lindeman - dual diagnosis, ID, mental illness
- Saunders, K. - ID, language
- Saunders, M. - Weight loss, DD, physical disability
- Saunders, R. - obesity, DD
- Washburn /Donnelly/Smith/Sullivan/Marquis - obesity

- Ekerdt - household disbandment
- Kemper - communication, language
- Donnelly - Alzheimer's Disease, aerobic fitness
- Johnson, D. - Alzheimer's Disease and other dementias

Turnbull, A & H.R. - DD, ID, family-professional-community

high school kids with emotional and charge of themselves, so to speak. A called I-Connect lets teens manage and achieve academic goals—all like smart phones. The teens will with parents, school and support encouraging their improved positive citizenship behaviors. Wills teaching self-management is to later life.



In the economic downturn, Kansas is searching for ways to cut its budget for Medicaid, the federal-state health insurance program for low-income individuals. Amanda Reichard has found one way to minimize costs: through preventive health care and screenings for people with physical and cognitive disabilities. Reichard has analyzed the state's Medicaid claims data and sees opportunities to prevent or mitigate the chronic diseases that occur more often in people with disabilities. For example, 70 percent of Kansas Medicaid recipients with physical disabilities are overweight, putting them at risk for diabetes. Reichard suggests that Medicaid could cover diabetes education, which benefits the health of individuals as well as the state's bottom line.

- Hodgesmith/Howland - Disability, disaster preparedness, professional training
- Lindeman - ID, DD, services, training
- Olson - training, support providers for DD
- Williams - communication, language, dementia

Community health outcomes

Community integration

Agency preparedness, social media

- Fawcett/Lewis - Arabic translation Community Tool Box
- Schultz/Fawcett - domestic violence

From the Director



John Colombo, Director
The Schiefelbusch Institute
for Life Span Studies

As director of the Life Span Institute, I'm often called upon to describe the scope and function of the institute to people from all walks of life: legislators, representatives from various funding agencies, media reporters, fellow administrators and scientists, and parents. Before I finish my description, the listener almost always makes a comment about the diversity, breadth and quantity of the work conducted under LSI's umbrella.

Indeed, in the two decades since the Bureau of Child Research was renamed as the Life Span Institute, the LSI truly has lived up to its title. The research projects that live here stretch from prenatal development to gerontology and – just as importantly – they benefit all levels of society: individuals, families, schools and communities. It's maddeningly difficult to get this across in a brief annual report, but this year we've tried to show this by representing our projects in a graphical way that conveys the LSI's comprehensive scope and breadth.

I hope you enjoy LSI's 2011 Annual Report. As a final point, I'd like to take a moment to commend LSI's scientists on the quality of their scholarship, their entrepreneurial spirit and their steadfast resolve to conduct research that benefits human health and development. As a result of all this, the LSI has achieved yet another new record for external grant productivity in 2011.

A handwritten signature in black ink, appearing to read "John Colombo". The signature is fluid and cursive, with a long horizontal line extending to the left.

The Life Span Institute Affiliated Centers

The Life Span Institute at Parsons 1956

For more than 50 years, the University of Kansas Life Span Institute at Parsons in southeast Kansas has partnered with national, state, regional and community partners to conduct research, develop model service programs and provide training for professionals involved in services to young children, youth and adults with disabilities and their families. Housed on the campus of the Parsons State Hospital, the Parsons LSI includes the Kansas University Center on Developmental Disabilities and the Parsons Research Center. Current research addresses early literacy and reading, language and communication, health and obesity and maladaptive and challenging behavior. Additionally, the Parsons LSI provides significant service and training across the nation and state of Kansas on the assistive technology needs of Kansans, early intervention and early childhood training for community organizations and agencies serving persons with developmental disabilities.

David P. Lindeman, Ph.D., Director
Contact: 620 421-6550, ext. 1713, parsons.lsi.ku.edu

FY 2010-2011 Highlights

- The nationally lauded Assistive Technology for Kansans' Equipment Reutilization Program was recognized as a "Best Practice" program by the Centers on Medicaid and Medicare.
- A highly successful pilot intervention for weight loss in individuals with intellectual and developmental disabilities is being replicated with individuals who have mobility impairments.
- The Kansas Inservice Training system provided training and technical assistance for all early intervention and early childhood special education programs in all counties of the state with an impact on 6,449 teachers, related service providers and administrators.
- The Parsons LSI is the home of the only NIH-funded research program on reading in individuals with intellectual disabilities.
- Using the College of Direct Support to meet instructional requirements, three Kansans became the first direct support professionals in the United States to earn national certification from the National Alliance for Direct Support Professionals. The certification effort was supported by the Kansas University Center on Developmental Disabilities Kansans Mobilizing for Direct Support Workforce Change.
- The Family Care Treatment Project has been selected by the State of Kansas for replication. This program supports foster parents and biological parents of children with disruptive behaviors by providing an individualized, consumer driven, home-based service.
- Assistive Technology for Kansans has an accessible, inclusive community garden project that involves five communities across the state. Three hundred and seventy gardeners who have disabilities or health conditions are participating, including 150 Wounded Warriors.
- The Parsons LSI is participating in the NIH-funded research program designed to understand and develop novel treatments for self-injurious and aggressive behavior in individuals with developmental disabilities by combining clinical and laboratory research.

Juniper Gardens Children's Project 1964

The Juniper Gardens Children's Project began in 1964 when citizens from the northeast Kansas City, Kansas neighborhood joined with faculty from the University of Kansas to devise solutions to specific problems in educational achievement and parenting in that low-income community. The Project has grown over the years from a small, community-based research initiative housed in the basement of a liquor store to a unique internationally recognized research center that includes local and national community sites in projects and investigations. The Project is particularly recognized for its contributions to the development of effective approaches for accelerating learning and reducing classroom conduct problems in both special and general education. In 1996 JGCP was given the Research Award of



Children with autism are gaining social and academic skills in kindergarten and first grade from their typically developing classmates thanks to a "peer network" approach devised by researchers Debra Kamps, Linda Heitzman-Powell and Kathy Thiemann-Bourque.

the International Council for Exceptional Children in recognition of its outstanding research contributions. In 2010, the JGCP relocated to the Children's Campus of Kansas City, a joint community initiative in Kansas City, Kan.

Charles R. Greenwood, Ph.D., Director
Debra Kamps, Ph.D., Associate Director
Contact: 913 321-3143, jgcp.ku.edu

FY 2010-2011 Highlights

- Juniper Gardens Children's Project (JGCP) completed its first year located in the new Children's Campus of Kansas City/Educare at 444 Minnesota Avenue on the eastern edge of Kansas City, Kan., an effort that the JGCP has been supporting for the past decade. The new LEED silver-rated energy efficient building was awarded the Cap Stone Award by the Kansas City Business Journal in April 2011. Work at JGCP continued to promote the social well-being and academic achievement of children through development of evidence-based practice and opportunities for professional development.
- Effectiveness studies of the use of language promoting strategies (Drs. Walker, Atwater & Bigelow) continued in the Model Demonstration Center for Promoting Language and Literacy Readiness in Early Childhood in partnership with early intervention programs in Wyandotte County, Topeka and Olathe, Kan. Preliminary results were presented at the International Society for Early Intervention Conference in New York, at the Global Implementation Conference in Washington D.C., and will be highlighted in an invited presentation at the Association for Speech and Hearing Conference this fall. Findings from a completed randomized trial where Early Head Start home visitors used these language promoting procedures with parents of at risk children in the home was published in the National Head Start Association Journal, *Dialog* (Buzhardt, J., Greenwood, C. R., Walker, D., Anderson, R., Howard, W., & Carta, J. J. (2011). Effects of web-based support on Early Head Start home visitors' use of evidence-based intervention decision making and growth in children's expressive communication. *NHSA Dialog: A Research-to-Practice Journal for the Early Childhood Field* 14(3), 121-146).
- The focused research program at the JGCP-based Center for Response to Intervention in Early Childhood (CRITEC: Carta, Greenwood, Atwater; Linas) continued development of interventions for the promoting language and early literacy skills of preschool children identified at risk for delays. Identification is via a new generation of early literacy measures for screening and progress monitoring also developed by CRITEC's partner at the University of Minnesota and tested by other partners at the Ohio State University, Dynamic Measurement Group in Eugene, Ore. and at JGCP. This work is important because relatively few evidence-based practices are available to preschool teachers for intensifying the learning experiences of young children at risk (Greenwood, C. R., Bradfield, T., Kaminski, R., Linas, M., Carta, J. J., & Nylander, D. (2011). The Response to Intervention (RTI)

approach in early childhood. *Focus on Exceptional Children*, 43(9), 1-22). Plans are to test the efficacy of these interventions in controlled trials next year.

■ The remote, point-of-care interventions work group continued their focus on using cell phones, notebook video technology, networking and telemedicine technologies in homes, schools and clinics. Dr. Kathleen Baggett is evaluating the efficacy of in-home notebook video tools as a means of point-of-care intervention by strengthening parent-child interactions. Drs. Kathy Bigelow, Judy Carta and partners at Notre Dame University reported significant follow-up effects for the children and families using an evidence-based parenting intervention plus cell phone support as part of an in-home parenting intervention compared to a group using the parent intervention without cell phones at a recent meeting with the CDC Foundation funders. Drs. Linda Heitzman-Powell and Jay Buzhardt continued development and testing of content for their telemedicine approach to prompting parent's skills raising children with Autism Spectrum Disorder (ASD).

■ The behavior and autism work group at JGCP (Debra Kamps, Co-PIs Linda Heitzman-Powell and Kathy Thiemann-Bourque) with a partner at the University of Washington is investigating how well children with ASD learn both social and academic skills working in small groups (peer networks) with typically developing classmates in kindergarten and first grade. The classroom teachers have reported steady improvements in reciprocal social communicative interactions during the social networks. Observations in 35 schools, 55 classrooms/teachers show as many as 25 initiations and responses per 10 minutes of social time with peers. Participating children with ASD who are beginning readers also are showing improved literacy skills as a result of the peer networks intervention.

■ In two related reports published in *Preventing School Failure* and *Journal of Positive Behavioral Interventions*, they reported improved performance in a four-year long efficacy trial for students whose teachers used Class-wide Function related Intervention Teams (CW-FIT), a program including class wide behavior management developed by Kamps and Wills. The findings also indicated that both children with and without emotional and behavior disorders made significant improvements compared to groups not using these procedures. Drs. Wills and Kamps are also partners in the Center for Adolescent Research in Schools (CARS) that is conducting a large-scale evaluation of high-school-based behavioral and mental health interventions. In a related project, Wills and Kamps are developing I-Connect, an intervention for high school students that makes use of mobile devices such as smartphones to self-monitor and to connect with school and community mentors (see www.iwillgraduate.org).

Kansas Intellectual and Developmental Disabilities Research Center 1967

The Kansas Intellectual and Developmental Disabilities Research Center (KIDDRC) has been continuously funded by a core grant from the National Institute of Health and Human Development for the past 43 years. Throughout its history the KIDDRC has played a major international role in generating highly effective behavioral interventions aimed at the causes, prevention and treatment of intellectual disabilities and related secondary conditions and in delineating basic knowledge of the underlying biology of typical and atypical development. The center spans the KU-Lawrence and Kansas University Medical Center campuses as well as the Juniper Gardens Children's Project. Over the past four decades it has served as a model of interdisciplinary collaboration across campuses and disciplines.

John Colombo, Ph.D., Director
Peter Smith, Ph.D., Co-Director
Contact: 785 864-4295, kiddrc.kumc.edu

FY 2010-2011 Highlights

■ Mabel Rice identified a chromosome-6 mutation associated with delayed language acquisition in children with Specific Language Impairment; mutation of this gene was also associated with other language-related disorders (dyslexia, reading disabilities). This work was featured on the front page of the NIDCD website.

■ Steve Warren was part of a research team that reported a vocalization pattern that uniquely identified children with autism. *Autism Speaks* listed this finding as a Top Ten achievement of 2010.

■ Merlin Butler described a new genetic and phenotypic variant of Prader-Willi Syndrome.

■ Hinrich Staecker is the first to complete preclinical studies using gene therapy to regenerate lost hair cells to restore hearing and balance; FDA approval for Phase I clinical trials is pending.

■ John Colombo and Susan Carlson showed that postnatal omega-3 fatty acid supplementation improves cognitive performance in infancy and now, through age 5, influencing the composition of commercial infant formulas.

■ At the Juniper Gardens Children's Project in urban Kansas City, Kansas, new assessment technologies were developed that are now in use for evaluating children in Early Head Start and in research, as well as for screening in 18 states and 3 countries.

■ Steve Barlow's NTrainer, a computerized pacifier that identifies infants at risk for communication disorders and provides orofacial corrective training, is now FDA-approved and being commercialized for infants in NICUs.

■ Randy Nudo's work on a machine-brain interface is providing groundbreaking opportunities for bridging damaged brain regions.

■ John Colombo and Christa Anderson recently reported on indicators of autonomic dysfunction that are specific to autism.

■ Carl Weiner and Yafeng Dong were the first to show that transient intrauterine hypoxia results in nitric oxide-mediated regional neuronal death, which may explain symptoms in cerebral palsy.

■ Studies by Mike Soares provide new information on how the uterus remodels its blood supply to meet fetal demands, and how disruption of this process appears to contribute to fetal growth restrictions.

Kansas University Center on Developmental Disabilities 1973

Almost 40 years ago, as the Life Span Institute's research on developmental disabilities took root, efforts began to translate this research into practice through what is now known as the Kansas University Center on Developmental Disabilities (KUCDD). Virtually all of the Life Span Institute's direct service, technical assistance, and post-doctoral, pre- and in-service training are associated with KUCDD. These include clinics to diagnose and treat children with disabilities, a statewide project that provides assistive technology to people with disabilities and their families and training childcare providers and social workers to support individuals with disabilities. In addition, investigators affiliated with the KUCDD conduct research that has state, national and international impact in areas like self-determination, positive behavior supports, inclusive educational practices, early childhood education, community and workplace supports, family systems and supports and other areas critical to the lives of people with developmental disabilities and their families.

Michael L. Wehmeyer, Ph.D., Executive Director
Glen White, Ph.D., Associate Director
R. Matthew Reese, Director; KUCDD-Kansas City Site
David Lindeman, Ph.D., Director; KUCDD-Parsons Site
Michael L. Wehmeyer, Ph.D., Director; KUCDD-Lawrence Site
Wendy Parent, Ph.D., Assistant Director; KUCDD-Lawrence Site
Sara Sack, Ph.D., Director; Assistive Technology for Kansans Project
Rachel Freeman, Ph.D., Director; Kansas Institute for Positive Behavior Supports
Contact: 785 864-4295, kucdd.ku.edu

FY 2010-2011 Highlights

■ Faculty at the Center for Child Health and Development (CCHD) have combined efforts with the Kansas Instructional Support Network (KISN) to increase capacity in the state to screen and diagnose autism as well as other developmental disabilities. Forty-five Autism Intervention Teams from school districts throughout Kansas trained through KISN have also been trained to collect autism diagnostic information. These teams and their parents are then linked to CCHD interdisciplinary medical providers through interactive TV. This process has almost doubled the capacity of the CCHD at KU Medical Center to evaluate children.

■ The Assistive Technology for Kansans project provided training on the availability and use of assistive devices and services to 1,208 people in Kansas and across the United States, and provided direct technical assistance on the use of AT devices to 2,105 Kansans at multiple sites across the state.

- The Girls at Work Project supported 44 young women with intellectual and developmental disabilities to find employment or enter postsecondary education.
- The Gateway to Self-Determination Project engaged in training and technical assistance on promoting and enhancing the self-determination of adults with intellectual and developmental disabilities.
- More than 75,500 on-line lessons from the College of Direct Support have been completed by 5,726 learners representing 152 Kansas community service providers.
- KUCDD Parsons-site researchers have replicated a promising approach to weight loss for adults with intellectual and developmental disabilities with people who have mobility impairments.
- The Kansas Inservice Training System provided intensive technical assistance to 27 programs early intervention and preschool programs impacting 529 teachers, 97 administrators and 4,890 children.
- KUCDD faculty in the Kansas Institute for Positive Behavior Supports trained 2,214 professionals on positive behavior supports and responded to more than 60,000 requests for technical assistance through the KIPBS website.

The Research and Training Center on Independent Living 1980

The Research and Training Center on Independent Living (RTC/IL) has a 30-year history of conducting disability research, providing training and transferring knowledge to practice. The Center furthers Independent Living for people with disabilities through the use of scientifically sound, theoretically driven sustainable interventions and measures that lead to effective community living solutions and policy change. Center researchers work closely with consumers and service providers to develop research and products that meet their critical needs. The Center also partners with other universities and agencies to design and implement projects that improve the health and participation of people with disabilities in the community.

Glen W. White, Ph.D., Director
Contact: 785 864-4095, rtcil.org

FY 2010-2011 Highlights

- The RTC/IL held a successful State-of-Science Conference in October 2010. More than 150 people attended the two-day conference, including participants from Syracuse, New York, to Seoul, South Korea. Videos about the research presented at the conference are now on YouTube; presentations from the conference are online and conference photos are posted the Center's Facebook page (see the photo albums).
- Amanda Reichard's research on Medicaid and preventive health care for people with disabilities has gained national and regional attention. Kaiser Health News, a national news service, the Kansas Health Institute, and the *Topeka Capital-Journal* are a few of the news outlets that reported on her findings which show that preventive screenings and care for people with physical disabilities and cognitive limitations could help save money for Medicaid.
- Work published by Center researchers is helping shape national and international disability studies:

The U.S. Department of Education's proposal for a Rehabilitation Research and Training Center on Interventions to Promote Community Living Among Individuals with Disabilities cites an article for which Glen White was lead author. "Moving from independence to interdependence: A conceptual model for better understanding community participation of centers for independent living" was published in the March 2010 issue of *Journal of Disability Policy Studies*.

The first-ever World Report on Disability, produced by the World Health Organization and The World Bank, cites a publication that Amanda Reichard lead authored. Health disparities among adults with physical disabilities or cognitive limitations compared to individuals with no disabilities in the United States appeared in *Disability and Health Journal* in July 2010.

- Center researchers published these articles this year:

Amanda Reichard and Hayley Stolze published *Diabetes Among Adults with Cognitive Limitations Compared to Individuals with No Cognitive Disabilities* in the June 2011 issue of *Intellectual and Developmental Disabilities*.

Glen White, Chiaki Gonda, Jana Peterson and Charles Drum published *Secondary analysis of a scoping review of health promotion interventions for persons with disabilities: Do health promotion interventions for people with mobility impairments address secondary condition reduction and increased community participation?* in the April 2011 issue of *Disability and Health Journal*.

- Martha Hodgesmith served on the Kansas Blue Ribbon Commission, a 25-member, state supreme court-appointed panel that took public comment on how to improve the Kansas court system. The review is the first of its kind since the 1970s, when the state's courts were unified.
- Cat Rooney Howland's work with KU's Nobody Left Behind project is featured in the Centers for Disease Control and Prevention's 2010 annual report for the National Center on Birth Defects and Developmental Disabilities. Howland gathered stories from people with disabilities about their experiences in emergencies and disasters.

- Center staff produced three online trainings this year. They are offered free on the national TRAIN system (for Kansans <https://ks.train.org>; all others www.train.org).

Healthcare Access for Persons with Disabilities. Amanda Reichard and Jamie Simpson, Disability Program Coordinator at the Kansas Department of Health and Environment, created this continuing education course for physicians, nurses, social workers, other healthcare professionals and medical office staff. One CME/CNE is offered for \$10. (Course #1025624.)

Planning for Disaster-Related Risk and Functional Needs of People with Disabilities: Train-The-Trainer. Cat Howland created this course to equip trainers to teach others how to understand and meet the disaster-related needs of persons with disabilities. It provides all the materials trainers need to instruct others in their community. (Course #1026720; for those not planning to teach, #1026403.)

Animal Emergency Preparedness. Val Renault and Cat Howland created this course to address the needs of service animals and pets in the event of a disaster. (Course number 1025307.)

Child Language Doctoral Program 1983

The Child Language Doctoral Program was established in 1983 as the first specialized degree program in the emerging field of child language acquisition. The program focuses on the interdisciplinary academic preparation and research training of child language specialists. The internationally recognized faculty brings diverse approaches to the study of how children communicate and speak. The program offers students a wide choice of research tools, facilities and field sites including the Child Language Acquisition Studies Lab that has the largest known archive of transcribed spontaneous samples from preschool children diagnosed as receptive/expressive specific language impaired. The Life Span Institute, the Language Acquisition Preschool, and the clinical and research facilities of the Speech-Language-Hearing Clinic provide research sites and practica.

Mabel L. Rice, Ph.D., Director
Contact: 785 864-4570, clp.ku.edu

FY 2010-2011 Highlights

- Two students, Rudy Goldstein and Margaret Echelbarger; received NIDCD pre-doctoral traineeships; while two doctoral students are in the process of writing their theses: Leah Kapa and Yi-Chih Chan.
- Juliana Keller is Coordinator for the Child Language Doctoral Proseminar.

Beach Center on Disability 1988

Through excellence in research, training, technical assistance and public service in Kansas, the nation and the world, the Beach Center on Disability seeks to make a significant and sustainable difference in the quality of life of families and individuals affected by disability. Research focuses on access to the general curriculum, assistive technology, deaf-blindness, disability policy, employment, family supports and services in early childhood, family quality of life, individual control of funding, positive behavior support and self-determination. Founded in 1988 by KU Distinguished Professors Ann and Rud Turnbull, the Beach Center honors Ross and Marianna Beach for their long-standing efforts on behalf of families affected by disability and was inspired by the Turnbulls' son, Jay, who had several disabilities.

H. Rutherford Turnbull, III, Li.B./J.D., Li.M., Co-Director
Ann P. Turnbull, Ed.D., Co-Director
Michael L. Wehmeyer, Ph.D., Associate Director

Wayne Sailor, Ph.D., Co-Associate Director
Jean Ann Summers, Ph.D., Director of Family Research
Contact: 785 864-7600, beachcenter.org

FY 2010-2011 Highlights

- Operated technical assistance project for benefit of Kansas teachers of students who are deaf, blind or both.
- Created evidence-based training of families of children with significant disabilities to raise their expectations for their children's employment and their abilities to advocate for post-school employment outcomes.
- Collaborated with Kansas early intervention program to provide on-line training to early intervention practitioners.
- Working with the Department of Defense (DOD) and Cornell University to analyze DOD and Army, Air Force, Navy and Marine policies about family support and to propose criteria for state-of-art family support programs for DOD and those branches.
- The Schoolwide Applications Model (SAM), in place and being researched in 16 schools in Washington, D.C. and 10 schools in East Palo Alto, Calif., is now being extended into six schools in the Sacramento School District in California.
- Model demonstration school sites for the third tier (tertiary level) of schoolwide positive behavior interventions and support have been put in place and are being researched in the Kansas City, Kan. (USD 500) and Topeka, Kan. (USD 501) School Districts.
- Completion of a randomized trial study of the efficacy of interventions to promote self-determination and student involvement.

Gerontology Center 1990

The Gerontology Center's affiliation with the Bureau of Child Research in 1990 paved the way for an extended research agenda of the newly formed Life Span Institute. Center researchers are interested in all areas of aging, but are distinguished by seminal research in cognition, communication and aging, long-term health care and housing alternatives and decision making in later life. The Center coordinates a multidisciplinary graduate program that offers both masters and doctoral degrees in gerontology, as well as dual-title doctoral degrees that combine training in gerontology with certain social and behavioral sciences.

David J. Ekerdt, Ph.D., Director
Contact: 785 864-4130, <http://www2.ku.edu/~kugeron/>

FY 2010-2011 Highlights

- Gerontology faculty received approval from the Kansas Board of Regents to implement a novel "dual-title" Ph.D. degree that recognizes doctoral study in Gerontology and selected social science disciplines. The dual-title degree will enable students at KU to meet the challenge of undertaking graduate education in the emerging, interdisciplinary field of Gerontology that is combined with training in established, traditional disciplines.
- The Gerontology Center joined a special project in Spring 2011 to examine and reconceive the residential environments in which aging occurs—buildings, neighborhoods, communities, and culture. This collaboration with Architecture and American Studies included interlinked graduate courses as well as a speaker series on aging, Boomer Futures, that brought five distinguished gerontologists to KU and the Lawrence community.
- Susan Kemper's article, *Older Professors: Fewer, and Better, Than You Think*, was the featured back-page essay in the November 14 issue of the *Chronicle of Higher Education*. She cited evidence to counter the assumption that older professors are less productive. Higher education, she argued, should nurture the creativity and research engagement of young, midcareer, and senior faculty alike.
- David Johnson is leading a collaborative effort with the University of Costa Rica to apply procedures from the University of Kansas Alzheimer and Memory Program to the Costa Rican health care system. Beginning with the exchange of training visits during the past year, the initiative will build clinical research expertise in Costa Rica for the assessment and treatment of Alzheimer's disease.
- David Ekerdt's study of older people and their divestment of possessions during residential relocation has now interviewed elders in over 100 households in the

Midwest. Preliminary findings were featured in the New Old Age blog of the *New York Times* in September and generated many readers' comments.

The Merrill Advanced Studies Center 1990

The Merrill Advanced Studies Center, established in 1990 with an endowment from Virginia Urban Merrill and Fred Merrill, is a catalyst for scholarship on disabilities and policies that shape university research. Merrill conferences and publications establish new directions and build collaborative projects in both science and policy. World-class experts often meet as a group for the first time at Merrill conferences and go on to develop national projects that answer key questions in science. The Center publishes books on topics relevant to developmental disabilities and makes policy papers available online and in print. The Merrill web site at KU has fact sheets and discussions on science and policy for the general public.

Mabel L. Rice, Ph.D., Director
Contact: 785 864-4570, merrill.ku.edu

FY 2010-2011 Highlights

- The Merrill Center held a scholarly conference in Phoenix, Ariz., December 8-10, 2010, entitled, *Epigenetics of the pathogenesis of language and speech impairments: Biological systems and behavioral development*. A special edition focusing on Epigenetics is planned for the *Journal of Neurodevelopmental Disorders*, which will feature the papers resulting from this conference.
- The 15th annual Merrill Research Retreat was held July 13-15, 2011, at the Lied Lodge and Conference Center, Neb., on the theme Behavioral and Social Sciences as Key Components in National Research Initiatives. There were 19 participants at the invitation-only conference, including the keynote speaker Dr. Robert Kaplan, NIH Associate Director for the Behavioral and Social Sciences, KU Provost Jeffrey Vitter, and research officers and researchers from KU, Kansas State University, Iowa State University, the University of Nebraska-Lincoln and the University of Missouri.
- A white paper from the 14th annual Research Retreat, on the topic of Sustaining and Enhancing the Research Mission of the Public Universities, was published and posted to the web site of the Merrill Advanced Studies Center: <http://www2.ku.edu/~masc/publications/2010whitepaper.pdf>.

Work Group for Community Health and Development 1990

Established in 1975, the KU Work Group joined the Life Span Institute as a distinct center in 1990. The Work Group has developed widely used capabilities for community evaluation and community-based participatory research (including its Online Documentation and Support System) and building capacity for community health and development (including the Community Tool Box). Recognition of these capabilities led to official designation in 2004 as a World Health Organization Collaborating Centre.

Stephen B. Fawcett, Ph.D., Director
Jerry A. Schultz, Ph.D., Co-Director
Contact: 785 864-0533, ctb.ku.edu

FY 2010-2011 Highlights

- Latino Health for All Project: Implementation of coalition-determined strategies for promoting physical activity (i.e., soccer), healthy nutrition (i.e., community gardens), and access to health services (i.e., Celebrating Healthy Families).
- Continued designation as a WHO (World Health Organization) Collaborating Centre.
- National Healthy Communities Study: The KU Work Group is a scientific partner in the National Study of Childhood Obesity Prevention Programs. Funded by several NIH Institutes, CDC, and the Robert Wood Johnson Foundation, this five-year study will examine what works in community-level efforts to prevent childhood obesity.
- The KU Work Group was recently selected for one of ten Racial and Ethnic Approaches to Community Health (REACH) for Communities Organized to Respond and Evaluate (CORE) programs across the nation. Our project, "Mobilizing to Reduce Health Disparities among Latinos in Wyandotte County Kansas," will take a health equity approach to working to prevent diabetes and cardiovascular disease among the Latino community.

■ An Evaluation of U.S. State Department Bureau for International Narcotics and Law Enforcement Affairs (INL) Coalition Training in Lima, Peru is being conducted by the Work Group in partnership with MSU.

■ Report for the Centers for Disease Control and Prevention and the National Network of Public Health Institutes: Recommended Practices for Enhancing Community Health Improvement.

■ Working with partners in the Middle East on the Arabic translation and cultural adaptation of the Community Tool Box, <http://ctb.ku.edu>, a global resource for community health and development.



Community gardens are just one way the Work Group for Community Health and Development with Wyandotte County groups are trying to change the behavior and health outcomes of the most unhealthy county in Kansas.

Center for Physical Activity and Weight Management 2001

The Center for Physical Activity and Weight Management joined the Institute in 2001 and supports research, education, training and clinics for promotion of physical activity and nutrition to diminish obesity and related co-morbid diseases. The Center provides evidence-based programs for community-wide dissemination. The Center has a major effort aimed at preventing overweight and obesity in children by increasing physical activity and improved nutrition in elementary and middle schools. The Center's Energy Balance Laboratory features a whole-room indirect calorimeter that measures energy expenditure precisely under a variety of experimental conditions.

Note: The Center for Physical Activity and Weight Management is now affiliated with the University of Kansas Medical Center with the exception of the Energy Balance Laboratory, which remains with the Life Span Institute on the Lawrence campus.

Joseph E. Donnelly, Ed.D., Director
Contact: 785 864-0797, ebl.ku.edu

Biobehavioral Neurosciences in Communication Disorders Center 2002

The Center for Biobehavioral Neurosciences in Communication Disorders (BNCD) was founded in 2002 when the National Institute on Deafness and Other Communication Disorders awarded a core grant to establish the center. The BNCD is a natural outgrowth of the Life Span Institute's long-standing focus on communication and language development and intervention. The BNCD's research spans a wide range of issues relevant to the causes and treatment of communication disorders from infancy to old age including studies on infant attention, the genetics of language impairments, language intervention, the decline of working memory in old age as reflected in speech and more precise measures of hearing loss to aid cochlear implant design.

Mabel L. Rice, Ph.D., Director
Contact: 785 864-4570, bncd.ku.edu

FY 2010-2011 Highlights

■ Seventeen investigators are affiliated with the BNCD, with research interests in the areas of language and language impairments, phonological impairments, speech disorders, reading disorders, hearing impairments, infant cognitive and language development, language use and disability in aged humans, and language intervention.

■ The BNCD added four new investigators (Yolanda Jackson, Erik Lundquist, Hinrich Staecker and Kristi Williams,) as part of the competing renewal recently submitted. Staecker and Lundquist are part of our interest in molecular biological bases of communication disorders, as markers of growth in the nervous system implicated in the pathogenesis of genetically regulated infrastructure of speech/language/hearing impairments (Rice, Colombo, and likely to be developed by other investigators during the next funding cycle).

■ The other two new investigators, Williams and Jackson, share an interest in treatment of populations at risk for language impairments that in turn interact with treatment methods. The clinical trials research of Williams is highly relevant to possible language intervention methods for elderly persons with aphasia and Jackson is documenting language impairments in children in foster care, with relevance for studies of possible environmental effects on language impairments in children.

■ Common interests across this varied group of investigators include interests in the underlying biological and genetic bases of speech, language, and hearing disorders, and the way in which these processes and abilities play out over time, whether in the natural course of acquisition, age-related decline, trauma-induced decline or impairment, or in behavioral intervention settings.

■ BNCD held its semi-annual meetings with investigators and Core personnel in Fall 2010 and Spring 2011.

■ Personnel changes: Yo Jackson joined the PARC core as the co-director, and Kelsey Flake as the PARC Coordinator. Nancy Brady joined the DEEC core as co-director.

■ The DEEC Core contributed significantly to projects that yielded 18 journal publications, three patents and new collaborations with new NIH grant applications.

■ Outreach newsletters are published by the PARC core 3-4 times annually, both in hard copy and on the BNCD website.

The Kansas Center for Autism Research and Training 2008

The Kansas Center for Autism Research and Training (K-CART), established in 2008 with private and public funds, is a multidisciplinary center that promotes research and training on the causes, nature and management of autism spectrum disorders (ASD). Committed to the highest standards of scientific rigor, K-CART generates new scientific discoveries about ASD, disseminates research-based practices by training professionals, practitioners and families who serve children and adults with autism and provides clinical services through the Center for Child Health and Development at the University of Kansas Medical Center.

Debra Kamps, Ph.D. Director
R. Matthew Reese, Ph.D., Co-Director
Contact: 913 897-8472, kcart.ku.edu



Christa Anderson (left) uses a technology called eye-tracking to record children's pupil and gaze location as they look at images. With John Colombo, she has found distinct differences in children with autism.

FY 2010-2011 Highlights

■ K-CART, through joint funding of KU and KUMC, has funded 10 Discovery Grants since 2008 to advance the treatment and discovery of the causes of autism. One discovery by investigators Drs. Jill Jacobson and Kathryn Ellerbeck was that exposure to Bisphenol A (BPA) causes certain genes associated with autism to "up regulate" or turn on. BPA is present in many household products including the linings of most canned foods. Scientists Cary Savage, Christa Anderson and John Colombo are using fMRI technology to examine the functioning of several brain regions that control the size of the pupil that they found in previous studies to be atypical in children with autism. The examination of these regions may be a key to identifying and diagnosing children with autism.

■ Matt Reese, director of the Center for Child Health and Development at KUMC and co-director of K-CART, has provided clinical services to 600 children with autism and 1,500 children overall. Outreach trainings across the state have benefitted more than 2,000 professionals and family members. Eleven weekly clinics are provided at KUMC, with the age of diagnoses reduced at CCHD from 4.5 to 3.5, dramatically increasing the likelihood of critical early intervention services. In 2010 the partnership between K-CART and CCHD produced another milestone: the first database in Kansas containing critical information about children suspected of autism. The CCHD database is a searchable resource that compiles family medical history, lifestyle, information on health issues that surface with autism (sleep problems, gastrointestinal distress). Reese estimates that more than 1,000 families call the CCHD every year and will contribute to the data base.

■ The Kansas Statewide Training for Autism Waiver Service Providers at K-CART, funded by the Kansas State Department of Social and Rehabilitation Services and directed by Linda Heitzman-Powell, provided 28 local and statewide training sessions for 221 persons to provide intensive early intervention services. Heitzman-Powell and investigator Jay Buzhardt are also developing and testing a training system for parents who live in rural or remote regions of the state. Funded by the National Institute on Disability and Rehabilitation Research, the system uses video conferencing and some face-to-face sessions to help parents improve their child's language and social skill.

■ In 2011 Kansas joined Missouri and several other states in passing autism insurance legislation. In January 2011, K-CART and the Kansas Coalition for Autism Legislation (KCAL) co-hosted a community seminar to provide information on the new insurance bill. Guest speakers included Mike Wasmer, founder of KCAL, Dan Unum with Autism Speaks, Representative Thomas "Tim" Owens from Overland Park, Kan., and representatives from the Kansas Health Policy Authority and the Kansas Insurance Department. Approximately 200 parents and service providers attended the forum.

■ In the past year, K-CART hosted three follow-up sessions to the Advancing Futures for Adults with Autism (AFAA) National Town Hall meeting, one of 16 national sites, held in November 2009. This community advocacy group addresses

housing, employment and community life issues and is piloting the Systems Navigator program, a model of case management, in the fall of 2011. Funding for the AFAA effort is provided by K-CART, the Bi-State Autism Initiative, Children's Mercy Hospital and Clinics, and donations from the Border Challenge event sponsored by Project Change (a corporate challenge groups with SFS Architects) and the Boulevard Brewery, all in Kansas City Mo. The Border Challenge pits the participation of Jayhawks against Tigers in an annual spring fundraiser for autism causes at both schools.

■ K-CART and the Life Span Institute joined the Johnson County Community College in Overland Park, Kan. to host a statewide conference, Beyond the Diagnosis: Autism Across the Life Span in October 2010. More than 300 persons attended 50 sessions and workshops. Dr. Roy Richard Grinder, author of *Unstrange Minds: Remapping the World of Autism* was the Keynote Speaker.

Centro Ann Sullivan del Perú

Centro Ann Sullivan del Perú (CASP) is a nonprofit educational institution that serves children and adults with severe intellectual disabilities, autism and behavioral problems, their families and professionals from Peru and other parts of the world. Under the direction of its founder Liliana Mayo, Ph.D., CASP is recognized and honored worldwide for its contributions as a model research, demonstration and training center. Mayo has been supported by a steady stream of her KU colleagues who have volunteered as consultants, trainers, administrators and fundraisers, notably, Judith Le Blanc, who serves as CASP research director, and retired Life Span Director Stephen Schroeder and Carolyn Schroeder. CASP has a formal agreement with the Life Span Institute and receives much of its staff education through university faculty from the KU departments of Special Education and Applied Behavioral Science.

Liliana Mayo, Ph.D., Director

Contact: annsullivan.fundaciontelefonica.org.pe

FY 2010-2011 Highlights

■ CASP continues to educate more than 400 people with different abilities and their families. Teamwork between the staff and families continues to prepare students for inclusion and work in real jobs for real pay: more than 100 individuals currently hold positions in small and large companies and banks in Peru and 70 are included in regular schools.

■ The CASP online Long Distance Education Program via Elluminate Live with help from LSI and the University of Iowa produced 15 conferences between 2008-2010 for more than 12,000 parents and professionals in 22 departments of Peru and 10 countries, teaching them how to change expectations and attitudes, how to successfully teach people with different abilities and how to use positive approaches and respect for students in ways that everyone wants to be respected.

■ In February 2010 a National Institutes of Health Fogarty International Research Program grant was awarded to a proposal entitled Early Prevention of Aberrant Behaviors in Mental Retardation and Developmental Disabilities. Stephen R. Schroeder, former LSI director, is the principal investigator. Liliana Mayo, CASP director, and Judith LeBlanc, CASP research director, are co-principal investigators. This two-year grant will determine the most efficient and effective way to identify children between 0-3 years of age who are at risk for later self-injurious behavior. Programs will then be developed to reduce risk. The first year was a very successful pilot study in which we screened, evaluated and followed 262 infants and toddlers who were at risk for severe behavior disorders. This pilot study will now be followed with a larger 5-year proposal on early intervention to prevent these serious behavior problems. KU academic contributors for the grant in 2010 are: Steve Schroeder, Janet Marquis, Matt Reese, Nancy Brady, Merlin Butler, Ed Zamarripa and Lisa Hallberg.

■ Liliana Mayo was awarded the 2010 Peruvian Human Rights Ombudsman Medal on April 27 along with former United Nations Secretary General Javier Pérez de Cuéllar. This award was in recognition for the work that Mayo and her staff are doing for individuals of different abilities in Peru.

■ In June 2010 Dr. Beatriz Merino, the Ombudsman of Peru and Ambassador Javier Pérez de Cuéllar, visited CASP. Steven Schroeder was present during their visit and presented the role of the Life Span Institute with CASP.

Life Span Institute Affiliated Investigators

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David F. Albertini, Ph.D.
Christa J. Anderson, Ph.D.
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