**Descriptive Title:** Developing and Testing Implementation Strategies for Evidence-Based Obesity Prevention in Childcare

Submission Title: Swindle\_FP00051079

**Opportunity ID:** PAR-14-266

**Opportunity Title:** NIDDK Mentored Research Scientist Development Award (K01)

Agency Name: National Institutes of Health

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APPLICATION FOR FEDERAL ASSISTANCE		3. DATE RECEIVED BY STATE	State Application Identifier
SF 424 (R&R)			
1. TYPE OF SUBMISSION		4. a. Federal Identifier	•
[] Pre-application [X] Application	[] Changed/Corrected Application	b. Agency Routing Identifier	
2. DATE SUBMITTED App	licant Identifier	c. Previous Grants.gov	
		Tracking ID	150500
5. APPLICANT INFORMATION Legal Name: University of Arka	ansas for Medical Sciences	Organizational DUNS: 1224	52563
Department:	Division		
Street 1: 4301 West Markham	Division		
Street 2:			
City: Little Rock	County/	Parish: Pulaski	
State: AR: Arkansas	County	Province:	
Country: USA: UNITED STATES		ZIP / Postal Code:	72205-7199
Person to be contacted on matters in			12203-1199
Prefix:	First Name: Suzanne	Middle Name:	E
Last Name: Alstadt	Filst Name. Suzanne		E
Position/Title: Director		Sullix.	
Street 1: 4301 West Markham			
Street 2:			
City: Little Rock	County/	Parish: Pulushi	
State: AR: Arkansas	County	Province:	
Country: USA: UNITED STATES		ZIP / Postal Code:	72205-7199
Phone Number: 501-686-5502	, Fax Number		12203-1133
Email: ORAawards@uams.ed			
6. EMPLOYER IDENTIFICATION (E		· ·	
	Public/State Controlled Institu ion of His	abor Education	
Other (Specify):			
Small Business Organization Type	e [] Women Owned	[] Socially and Economically Disadv	rantagod
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8. TYPE OF APPLICATION:		k appropriate box(es).	
[X] New [] Resubmission	Duration	Award [] B. Decrease Award [] C. Incre	ase Duration [ ] D. Decrease
[] Renewal [] Continuation [	] Revision [] E. Other (spe	ecify):	
Is this application being submitted to	other agencies? Yes [ ] No [	X] What other Agencies?	
9. NAME OF FEDERAL AGENCY:	10. CATA	LOG OF FEDERAL DOMESTIC ASSIS	TANCE NUMBER:
National Institutes of Health	TITLE:		
11. DESCRIPTIVE TITLE OF APPL	ICANT'S PROJECT:		
Developing and Testing Implementa	tion Strategies for Evidence-Based Ob	esity Prevention in Childcare	
12. PROPOSED PROJECT:	13. CONGRESSIONAL DISTRICT	OF APPLICANT	
Start Date Ending Date			
7/1/2016 6/30/2020 5:00:00 AM 5:00:00 AM	AR-002		
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# SF 424 (R&R) APPLICATION FOR FEDERAL ASSISTANCE

14. PROJECT DIRECTOR/PRINCIP	AL INVESTIGA	TOR CONTACT INFO	RMATION
Prefix:	First Name: T	aren	Middle Name: M
Last Name: Swindle			Suffix:
Position/Title: Assistant Profess	sor		
		Medical Sciences	
Department: Family and Preve		Division:	College of Medicine
Street 1: 4301 W Markham			
Street 2: Slot 530			
City: Little Rock		County/F	Parish: Pulaski
State: AR: Arkansas		,	Province:
Country: USA: UNITED STATES	3		ZIP / Postal Code: 72205-7101
Phone Number: (501) 526-7058		Fax Number:	
Email: TMSWINDLE@UAMS.E	FDU		
15. ESTIMATED PROJECT FUNDIN			16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE
	10		ORDER 12372 PROCESS?
			a. YES [] THIS PREAPPLICATION/APPLICATION WAS MADE
a. Total Federal Funds Requested		\$442,583.00	AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON:
b. Total Non-Federal Funds		\$0.00	PROCESS FOR REVIEW ON.
c. Total Federal & Non-Federal Fund	ds	\$442,583.00	DATE
d. Estimated Program Income		\$0.00	b. NO 1/1 PROGRAM IS NOT COVERED BY E.O. 12372; OR
		<b>T</b>	PROGRAM HAS NOT BEEN SELECTED BY STATE
			FOR REVIEW
complete and accurate to the best	t of my knowled	ge. I also provide th	d in the list of certifications* and (2) that the statements herein are true, hereighted assurances * and agree to comply with any resulting terms if
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COLLEGE OF MEDICINE DEPARTMENT OF FAMILY AND PREVENTIVE MEDICINE

UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

4301 W. Markham St., #530 Little Rock, AR 72205 – 7199

501-686-6560 501-686-8421 (fax

#### **September 22, 2015**

National Institutes of Health (NIH) 9000 Rockville Pike Bethesda, Maryland 20892

#### Application for the NIDDK Mentored Research Scientist Development Award (K01)

To Whom It May Concern:

I am pleased to submit a grant proposal with the title "Developing and Testing Implementation Strategies for Evidence-Based Obesity Prevention in Chulacare" for consideration under the NIH Mentored Research Scientist Development Award (K01) with PA number PAR-14-266, as discussed with program officer Dr. David Saslov/sky.

Please assign this application to the following:

Institutes/Centers

National Institute of Diabetes and Digestive and Kidney Diseases - NIDDK Scientific Review Groups Digestive Diseases, Liver Diseases, Obesity, and Nutrition

The reason for this request is the concentration of the project on nutrition promotion and obesity prevention for at-risk children.

I would also like to request an ad hoc reviewer from the Dissemination and Implementation Research in Health Study Section [DIRH]. The reason for this request is the focus of this project on implementation strategies to support best practices for obesity prevention and nutrition promotion in childcare settings.

This project is multidisciplinary and combines knowledge and perspectives from nutritional science, obesity prevention, implementation science, child development, and early childhood education. Further, this project is in alignment with the mission of the NIDDK to prevent the development of obesity for high-risk populations. It is also directly connected to the NIH Obesity Research Strategic Plan to evaluate obesity prevention strategies in real-world settings with diverse samples.

The following will serve as Referees:

Robert Bradley, PhD Professor of Psychology Arizona State University

Laura Hubbs-Tait, PhD Professor of Human Development and Family Science Oklahoma State University

Judith Weber, PhD, RD Arkansas Children's Hospital Director of the Childhood Obesity Prevention Research Program University of Arkansas for Medical Sciences **Professor of Pediatrics** 

otdistribute Amanda Harrist, PhD Professor of Human Development and Family Science Oklahoma State University

Thank you very much for your consideration.

Sincerely,

Taren Swindle, PhD Assistant Professor Department of Family and Prev stive Medicine University of Arkansas for Medical Sciences

# **Project/Performance Site Location(s)**

#### **Project/Performance Site Primary Location**

[] I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: University of Arkansas for Medical Sciences DUNS Number: 122452563 Street 1: 4301 W Markham Street 2: City: Little Rock County: Pulaski State: AR: Arkansas Province: USA: UNITED STATES Country: ZIP / Postal Code: 72205-7199 Project/Performance Site Congressional District: AR-002

Additional Location(s):

Please do not distribute

# RESEARCH & RELATED Other Project Information

1. * Are	Human Subjects Involved?	[X] Yes	[ ] No
1.a	If YES to Human Subjects		
	Is the Project Exempt from Federal regula	ations?	[] Yes [X] No
	If yes, check appropriate exemption numl	ber.	[]1[]2[]3[]4[]5[]6
	If no, is the IRB review Pending?	[X] Yes	[ ] No
	IRB Approval Date:		
	Human Subject Assurance Nu	umber:	00001119
2. * Are	Vertebrate Animals Used?	[]Yes	[X] No
2.a.	If YES to Vertebrate Animals		
	Is the IACUC review Pending?	[]Yes	[ ] No
	IACUC Approval Date:		
	Animal Welfare Assurance Number		
3. * Is pr	oprietary/privileged information included in	n the appli	cation? [] Yes [X] No
4.a. * Do	oes this Project Have an Actual or Potentia	al Impact –	- positive or negative - on the environmen? [] Yes [X] No
4.b. If ye	es, please explain:		
	is project has an actual or potential impact vironmental impact statement (EIS) been p		nvironment, has an exemption been authorized or an environmental assessment (EA) or []Yes []No
4.d. If ye	es, please explain:		
5. Is the	research performance site designated, or	eligible to	e designated, as a nictoric place? [] Yes [X] No
5.a. If y	es, please explain:		
6. * Doe	s this project involve activities outside the	United Sta	ates or partnerships with international collaborators? [ ] Yes [X] No
6.a. If y	es, identify countries:		
6.b. Op	tional Explanation:	C	
7. Projec	ct Summary/Abstract	Project S	ummary_FINAL.pdf
8. Proje	ct Narrative	Project N	larrative_FINAL.pdf
9. Biblio	graphy & References Cited	Referenc	es_FINAL.pdf
10. Faci	lities & Other Resources	Facilities	and Other Resources
11. Equi	pment	Equipme	nt
12. Othe	er Attachments		

List of Referees.pdf

# **Project Summary**

**Dr. Swindle is an outstanding candidate for a NIDDK Mentored Research Scientist Development Award.** She is an Assistant Professor of Family and Preventive Medicine with a strong background of training and experience. She has a Master of Science degree in Human Development and Family Sciences and a Doctoral Degree in Educational Psychology. She has held leadership roles in obesity-related research efforts for over 8 years and has 18 publications related to child health and development. At present, she is pursuing a Master of Science in Clinical Nutrition with an anticipated graduation date of December 2016.

Dr. Swindle's previous research illustrates a commitment to serving at-risk populations through research. Recently, she has studied the personal characteristics and beliefs of early childcare educators that may influence their ability to implement and sustain best child nutrition practices in their classrooms. She has also been a Co-Investigator on a USDA-funded effort to develop and evaluate WISE (Together, We Inspire Smart Eating), an evidence-based obesity prevention and nutrition promotion for childcare settings. This study will build logically upon that work.

**The proposed research plan has three specific aims:** (1) Identify factors associated with degree of fidelity in a previously developed and tested *basic implementation strategy* of WISE; (2) Develop an *enhanced implementation strategy* to support uptake of the WISE intervention using stakeholder input; and (3) Pilot test the *enhanced implementation strategy* on implementation and child health outcomes using formative evaluation. To execute these aims, we will use innovative methodologies including an explanatory mixed methods approach (Aim 1), a stakeholder-driven Evidence-Based Quality improvement (EBQI) process (Aim 2), and a Hybrid Type 3 implementation design using formative evaluation. (Aim 3). We expect that implementation strategies developed with stakeholders will lead to improved implementation fidelity. We will test the hypothesis that improved WISE fidelity is positively related to child outcomes (e.g., child fruit and vegetable intake, BMI). This research will provide critical knowledge on the value of investments in implementation support strategies to existing obesity prevention interventions

The career development objectives will complement the proposed research aims in three distinct areas. Dr. Swindle will advance her expertise and skins in (1) Implementation Science (2) Child and community nutrition, and (3) Community Engagement. Dr. Swindle has proposed a comprehensive plan of mentored research, didactic education, cross-disciplinary to laborations, and structured field studies to achieve competency in these areas. The activities of the career development plan will integrate effectively with her research plan and support her research activities.

The University of Arkansas for Medical Sciences (UAMS) will provide the ideal environment to support the proposed career development and research activities. UAMS has already supported Dr. Swindle's career success through the provision of a KL2 award through the Translational Research Institute (TRI; UAMS CTSA). The TRI will continue to provide training, equipment, consultation, and mentoring to Dr. Swindle. Further, the Center for Implementation Research (CIR) at UAMS led by Dr. Swindle's primary mentor will provide a supportive context for her career development and mentored research experience in Implementation Science. Dr. Swindle also has the full backing of her department (Family and Preventive Medicine) which will continue to provide office space, protected time, equipment, and professional development funds.

The candidate's primary mentor, Dr. Geoffrey Curran, is a nationally-recognized expert in Implementation Science. Co-mentor, Dr. Susan Johnson is well known for her expertise in child nutrition and child feeding, particularly in childcare settings. Further, Dr. Swindle will build on the mentoring relationship she has had with Dr. Leanne Whiteside-Mansell for the last 5 years in community-based intervention for children impacted by poverty. These mentors have the experience and knowledge needed to mentor Dr. Swindle to independence.

Together, the research strategy, career development objectives, and mentoring plan will support Dr. Swindle's achievement of her short-term goal of establishing independence as an investigator in obesity prevention efforts in childcare. This award will also lay the foundation for the accomplishment of her long-term career goal of becoming a leader in the study of factors that promote or hinder successful uptake and sustainability of obesity prevention efforts in real world settings.

## **Project Narrative**

Recently, Arkansas was deemed to have the highest rates of adult obesity in the nation at 35.9%. Prevention and intervention efforts are needed to reduce the number of children who will become obese adults and suffer the host of negative health consequences that accompany it. This proposal will develop and test strategies to support adoption and sustainability of an evidence-based intervention for nutrition promotion and obesity prevention in childcare settings serving children impacted by poverty.

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# **FACILITIES AND OTHER RESOURCES**

The following facilities and resources are available to Dr. Swindle which will contribute to the success of her research and career development.

## A. <u>Research Facilities and Resources</u>

#### University of Arkansas for Medical Sciences

The University of Arkansas for Medical Sciences (UAMS) in central Arkansas will provide the primary location for Dr. Swindle's research and training. UAMS is the state's largest basic and applied research institution which will make it the ideal setting in which to carry out the proposed research. UAMS is home to the Colleges of Medicine (COM), Nursing (CON), Pharmacy (COP), Public Health (COPH), and Health Related Professions (CHRP), and the Graduate School – all housed on the main campus. Dr. Swindle's faculty appointment is within the COM, Department of Family and Preventive Medicine (DFPM). Dr. Swindle has an office (90 square feet) on the second floor of the Family Medicine building in close proximity to Professor Dr. Whiteside-Mansell (co-mentor) and other DFPM faculty. Dr. Swindle also teaches a graduate course in Survey Research at the COPH and is currently enrolled in a Master's of Clinical Nutrition through the COPH. Primary mentor Dr. Geoffrey Curran is a full Professor in both the College of Pharmacy and the College of Medicine. Thus, Dr. Swindle has been and will continue to be connected with a variety of potential collaborators across campus. Additionally, through the UAMS library, Dr. Swindle will have access to information databases including MEDLINE, CINAHL, EBSCO, and PsychINFO which will be used during all stages of the project.

# Department of Family and Preventive Medicine, UAMS College of Medicine

The Department of Family and Preventive Medicine (DFPM) was established over 35 years ago with the goal of improving health outcomes for underserved populations. The DFPM is highly committed to supporting progressive community-centered research efforts. Dr. Swindle has administrative support for investigator needs related to grants management, purchasing, budget monitoring, and travel through the DFPM. The DFPM also provides office space, computing equipment and software, storage space, and office supplies (See Equipment). There are two conference rooms available that will be used to host mentoring meetings and stakeholder meetings. THE DPFM provides \$1500 annually to faculty to support professional development needs (e.g., conference travel, workshop attendance, equipment purchase).

# Research and Evaluation Division (RED), Family and Preventive Medicine:

Within the DFPM, RED supports a staff of over 40 individuals with over \$3 million of funding annually across 10 funding agencies. RED research focuses on family and environmental factors linked with poor health, growth and psychosocial development of child. In Funding agencies for RED include the National Institutes of Health (NIH), the Health Resources and Services Administration (HRSA), the United States Department of Agriculture (USDA), Substance Abuse and Viental Health Services Administration (SAMHSA), Arkansas (AR) Department of Human Services, AR Division of Behavior Health Services, AR Division of Child Care and Early Childhood Education, AR Department of Health, the Administration on Children and Families (ACF), the Child Care Development Fund (CCDF), and local foundations.

RED provides a collegial and supportive research environment and has sought to build the infrastructure to support community-engaged research. For example, RED has focus teams that specialize in supporting faculty research in specific areas. The <u>Communications Team</u> works with research projects to design materials that will be accessible and engaging to community populations; the <u>Data Systems Team</u> consults with investigators to assess software needs and strategies to efficiently meet project objectives; and the <u>Logistics Team</u> works with projects to employ effective strategies to organize community outreach events, training programs, and recruitment efforts. These teams will be particularly helpful to the proposed project in communicating with stakeholders (Aim 1 and 2), organizing stakeholder EBQI meetings (Aim 2), and designing data collection tools and databases (Aim 3). Dr. Swindle corresponds regularly with all Principal Investigators in RED to receive input and feedback about research protocols and analysis strategies. She will continue to do so throughout this award.

# UAMS Translational Research Institute (TRI)

The University of Arkansas for Medical Sciences (UAMS) is one of sixty-two institutions that was selected to receive a Clinical and Translational Science Award (CTSA) from the National Institutes of Health (NIH) National Center for Advancing Translational Sciences (NCATS), which is designed to help scientists achieve better, faster and more relevant results for public health. Although currently writing for renewal, UAMS is committed to sustaining the TRI independent of the result of the renewal application. The TRI offers Biomedical Informatics and Data Services support, including support and consultation regarding Electronic Data Capture for community-based studies, survey instrument development, and investigator consultation. Dr. Swindle will combine the expertise from RED and the TRI to design the best possible data systems approach for this project. The Biostatistics & Research design program area assists investigators with statistical analysis and interpretation. Dr. James Selig, an advisor on this project and a consultant for the TRI, will be actively engaged with statistical analyses of this project. He has access to the same software packages as Dr. Swindle which will facilitate collaboration. The Community Engagement program supports faculty to build functional partnerships with the community to understand and address the public's health concerns. Additionally, the TRI Community Engagement Core (CEC) provides consultation services and trainings to UAMS investigators for developing and promoting collaborative partnerships, using best practices in community engagement, and hosting Community Review Boards to solicit community experts' suggestions for improvement of a research proposal. Dr. Swindle will partner with the CEC to obtain structured training in community engagement (Career Development Aim 3) and to receive mentoring on the EBQI process with stakeholders (Research Aim 2).

#### Center for Implementation Research Center

UAMS' Colleges of Pharmacy and Medicine established the Center for Inclementation Research (CIR) in 2014. This center is directed by project mentor Dr. Geoffrey Curran. The CrR brings together research expertise in implementation across both clinical and community settings. For 15 years, this group has led cluster-randomized trials, adaptive designs, and hybrid effectiveness-implementation designs in many large NIH- and VA-funded implementation research studies. Of significance, these IS experts developed and demonstrated the effectiveness of a "blended external-internal facilitation strategy" that combines leadership engagement, audit and feedback, local adaptation of evidence-based practices, academic detailing, and technical support to foster uptake of evidence-based primery care mental health practices now being widely used and adapted. The expertise of this center will be used to develop Dr. Swindle's knowledge and competency in principles of Implementation Research (Career Development Aim 1) and to mentor her research across all years of the project. Dr. Curran and the experts at the CIR will also consult on the development the R01 application in Years 3 and 4.

# Opportunities for Pilot grant funding

The COM provides multiple annual opportunities for faculty to apply for internal pilot or bridge funding grants. The purpose of the COM Intramural Crant programs is to advance the research mission of the institution and provide seed money to full-time faculty members to advance/develop their individual research programs and careers. Additionally, UAMS investigators may submit applications for the TRI's funds for pilot studies. Awards range from \$10,000 to \$50,000. I will apply to these funding mechanisms to expand the number of sites included in Aim 3.

# B. Career Development Facilities and Resources

#### Interdepartmental Writing Group

RED hosts a monthly gathering of child development researchers to discuss and review manuscripts in preparation. This group includes the RED faculty and several staff as well as researchers from Arkansas Children's Hospital and the University of Arkansas at Fayetteville. Researchers present hypotheses, brainstorm research questions, discuss the interpretation and application of findings, and address barriers to the research process (e.g., identifying the appropriate analysis, deciding the most suitable journal). These group meetings encourage continual manuscript progress as members are accountable to provide an update at each meeting. The group also converses regularly via email and provides a supportive environment to converse about ongoing research topics. Dr. Swindle has a strong history of successful collaboration and publication with these investigators. This group is a valuable resource to Dr. Swindle which will support her in her efforts to disseminate the findings from this award.

## Resources for Continuing Education

UAMS offers a wide range of continuing education courses to employees. In the last 5 years, Dr. Swindle has completed 43 of these courses totaling 87 contact hours in topics such as advanced research ethics, performance management, and research misconduct. She is one of the selected UAMS employees to complete the Leadership Essentials course. This extensive course included training in project management, team and trust building, leadership styles, working with diverse personalities, communication strategies, conflict management, critical thinking, and decision making. As a Leadership Essential graduate, Dr. Swindle receives enhancement and training materials on a monthly basis and participates in open forums to discuss pertinent leadership topics. She will continue her engagement with this consortium throughout the award.

Dr. Swindle is currently enrolled in both the Leadership Academy and Educators Academy offered to UAMS faculty. The Leadership Academy is a two-year, evidence-based program designed to provide faculty with learning experiences that support effective leadership skills. Course topics cover qualities of a transformational leader, building collaboration, maximizing productivity, strategic fiscal planning, and self-awareness in leadership style and behaviors. Dr. Swindle applied and was accepted into the Leadership Academy in 2014. She will complete this training in 2016. Dr. Swindle is also taking part in the Fall 2015 UAMS Educator's Academy hosted by the Division of Academic Affairs, Office of Educational Development. This 19 hour series covers topics such as active learning strategies, presentation skills, and managing the learning environment. Dr. Swindle will apply this knowledge to her course instruction but also to her research dissemination efforts to both community and academic audiences. The Educator's Academy will be hosted annually; Dr. Swindle will continue to attend sessions as new topics are incorporated. She will also continue to seek additional training opportunities offered by UAMS.

# College of Health Professions, Master of Science in Clinical Nutrition

The UAMS College of Health Professions (CHP) was established in 1971 and is the only academic health science center in the state of AR. The goal of the CHP is to provide patient-centered education and training to develop qualified allied health professionals. A Master of Science in Clinical Nutrition is offered within the CHP and in partnership with the UAMS graduate school with three possible concentrations (Community, Geriatrics, or Health, Wellness, and Sports). The program is designed to provide graduates with specialized knowledge and applied experiences in nutrition and in their concentration area. Individualized, mentored research and practicum experiences provide a flexible curriculum that allows the student to develop their special interests. Dr. Swindle began this program in 2014 with a concentration in Community Nutrition to develop her expertise in child and community nutrition. She will complete this degree through proposed Career Development Aim 2 in 2017. As a result of this program, Dr. Swindle has discovered shared interests with CHP faculty in community based approaches and developing interventions that appropriately consider the context of poverty. These represent strong potential for future collectorations.

# C. Potential Collaborators

# Arkansas Center for Health Improvement

The Arkansas Center for Health Improvement is an independent, nonpartisan policy center jointly supported by Arkansas Blue Cross and Blue Shield, Arkansas Children's Hospital, the Arkansas Department of Health, Delta Dental of Arkansas, and the University of Arkansas for Medical Sciences. ACHI was formed in 1998 creating a much needed intersection between research and policy that addresses Arkansas's pressing health issues. As the state's primary health policy center, ACHI serves as a resource for non-partisan, policy-relevant information and has become widely recognized as a trusted advisor and catalyst for change. ACHI is recognized as a reliable source for local and national health and health policy information. This includes providing critical data, analyses, and strategies that drive decisions and shape public policy surrounding the health status of Arkansans. Through Act 1035 of 2003, establishment of the Arkansas Health Data Initiative (HDI) gives ACHI the authority to access information collected by state agencies and departments upon permission of the director of that agency or department. Through the HDI, ACHI uses data to produce information that enables policymakers to evaluate options and pursue policy changes to improve health through legislative, executive, or judicial decisions as well as through efforts in the private sector. For this project, the most notable dataset within the HDI include the school-wide BMI data, BMI records for AR children collected in alternate years from K- 12<sup>th</sup> grade by trained nursing professionals. Dr. Swindle has collaborated with ACHI over the past 5 years to match BMI with data collected through ongoing projects (with parent consent). To date, these matches have

been cross-sectional in nature. However, future collaborations with ACHI would allow for longitudinal study of the impacts of early childcare environments on BMI trajectory into the school years.

#### Arkansas Children's Nutrition Center

Since its establishment in 1995 by the Agricultural Research Service of the USDA, ACHRI's Arkansas Children's Nutrition Center (ACNC) focuses specifically on diet and nutritional status of human development. using state-of-the-art procedures, equipment, and facilities to determine how dietary factors and nutrition can affect development, learning, and attention span, as well as how early dietary intervention can prevent diseases of development and aging. The ACNC is one of the six centers in the USDA's National Human Nutrition Research Centers Program and one of only two devoted exclusively to pediatric nutrition. Several laboratory programs with specific focuses are housed at the ACNC. The Body Composition Laboratory is equipped with the best available techniques and equipment to measure growth and body composition in our participants, including Air Displacement Plethysmography (ADP), Dual X-ray Energy Absorptiometry (DXA), and quantitative Nuclear Magnetic Resonance (qNMR) techniques. The Energy Expenditure Laboratory maintains the latest technology to assess resting metabolism and exercise patterns in infants, children and adults. The Diet Assessment Laboratory uses the best available techniques to evaluate dietary intake in infants, children and adults, including the use of daily weighted records, 3-day food records analyzed using the state of the art Nutrient Data System for Research from the University of Minnesota as well as Block Food Frequency Questionnaires. Other core facilities included the Molecular Biology Core, Genomics and Bioinformatics Core, Histology and Bio Imaging Core, Immunology Core, Biochemistry Core, and Animal Research Facility Core. Dr. Swindle will seek collaboration from the ACNC in developing the subsequent R01 application to ensure design of the best possible assessment plan. Further, the capacity of the ACNC will allow Dr. Swindle to consider additional biological outcomes of early obesity prevention efforts for future studies.

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#### EQUIPMENT

<u>Dr. Swindle's office, Family and Preventive Medicine 205:</u> Dr. Swindle has a private office located in the 2<sup>nd</sup> floor of the Family and Preventive Medicine building. This office has all the necessary equipment for successful completion of the proposed project including a private landline telephone, locking file cabinets, printer, and desktop Dell computer with Nvivo qualitative analysis software; SPSS, SAS, and MPLUS software packages for quantitative analysis; Adobe, Microsoft Office; and Refworks software for reference management. She also has a webcam for Skype sessions with external mentor, Dr. Susan Johnson. She has access to departmental printers, scanners, copiers, and fax machines. Dr. Swindle also has a laptop for remote work and access to an Internet hotspot should she need it for work on the project.

Research and Evaluation Division (RED), Family and Preventive Medicine: Typical research resources and services are available to support projects. RED has an array of electronic devices to be used on demand by studies including tablets, cell phones, and hot spots. Data processing software supports electronic data entry or scanning of data from paper forms into electronic databases. Options include Remark, ABBYY, Teleform, and eForms and can be tailored to project needs. For example, pdf forms can be loaded to electronic devices that will collect data online or offline from a tablet. Paper forms that match this pdf can be e-scanned to the same database. Online data capture systems (Remark Wex and RedCAP) are available to collect web surveys from participants via weblinks or to collect observational data in real time using tablet devices. RedCAP allows concurrent racking of study participants linked to electronic data collection and allows for an array of automatic reporting and notification options to organize study data. These data collection options will help to streamline project efforts, particularly those in Aim 3. RED projectors and projector screens will be used to facilitate stakeholder EBQI meetings in Aim 2. Ipads, surface pros, and cell phones from the RED equipment library will be used to support data collection and implementation strategies in Aim 3. In addition, RED provides in-house poster printing services to support dissemination efforts.

<u>UAMS Translational Research Institute (TRI), Jackson T. Stephens Spine and Neuroscience</u> <u>Institute, 4<sup>th</sup> floor:</u> The TRI offices a e next door to the Family and Preventive Medicine building. In addition to actively supporting Career Objective 3 and Specific Aim 2 with human resources, the community engagement core maintains an equipment library. I will use the audio recorders and the transcription pedal for activities in Aim 1 and 2. Ipads will also be available for use if beneticial for providing facilitation (Aim 3). The Pilot Award Program funds UAMS investigators in promising translational research projects. Award amounts range from \$10,000 to \$50,000. I will apply for these funds to expand the number of sites included in Aim 3 of the proposed project.

## Referees

Robert Bradley, PhD School of Social and Family Dynamics and Department of Psychology Arizona State University

Laura Hubbs-Tait, PhD Human Development and Family Science Oklahoma State University

Judith Weber, PhD, RD Arkansas Children's Hospital Director of the Childhood Obesity Prevention Research Program University of Arkansas for Medical Sciences Department of Pediatrics

Amanda Harrist, PhD Human Development and Family Science Oklahoma State University

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# **RESEARCH & RELATED Senior/Key Person Profile (Expanded)**

PROFILE – Project Director/Principal Investigator				
Prefix:	First	Name: Taren	Middle I	Name: M
Last Name:	Swindle		Suffix:	
Position/Title:	Assistant Professor	Department:	Family and Preventi	on Medicine
Organization N	ame: University of Sciences	of Arkansas for Medical	Division:	College of Medicine
Street 1:	4301 W Markham			
Street 2:	Slot 530			
City:	Little Rock	County/Parish:	Pulaski	
State:	AR: Arkansas		Province:	
Country:	USA: UNITED STA	TES	Zip / Postal Code:	72205-7101
Phone Number	: (501) 526-7058	Fax Number:		
E-Mail:	TMSWINDLE@UA	MS.EDU	~0	
Credential, e.g.	, agency login	TSWINDLE		
Project Role:	PD/PI	Other Project F	Role Category:	
Degree Type:	PhD		X	
Degree Year:	2013		5	
Attach Biograp	hical Sketch	Swindle_Biosketch.;	oct -	
Attach Current	Attach Current & Pending Support			

PROFILE - Senior/Key Person								
Prefix:		First Name:	Geoffrey			Middle N	lame:	Μ
Last Name:	Curran	~00				Suffix:		
Position/Title:	F	Professor	Departmer	nt:	Pharmacy			
Organization N		University of Arka Sciences	nsas for Medio	cal	Division:		Colleg	ge of Pharmacy
Street 1:	4301 W I	Markham						
Street 2:	Slot 522-	4						
City:	Little Roo	:k	County/Parish	า:	Pulaski			
State:	AR: Arka	nsas			Province:			
Country:	USA: UN	ITED STATES			Zip / Postal	Code:	72205	5-7101
Phone Number	: (501)	526-8132	Fax Numb	er:	(501) 296-1	168		
E-Mail:	CURRAN	NGEOFFREYM@	UAMS.EDU					
Credential, e.g.	, agency lo	ogin GN	MCURRAN					
Project Role:		Other Professional	Other Proje	ect Ro	ole Category:		Prima	ry Mentor
Degree Type:	F	PhD						

# **RESEARCH & RELATED Senior/Key Person Profile (Expanded)**

Degree Year:	1996
Attach Biographical	Sketch
Attach Current & Pe	ending Support

Curran\_Biosketch.pdf Current and Pending Support

		PROFILE - Se	nior/Key	Person	
Prefix:	First	Name: Susar	1	Middle I	Name:
Last Name:	Johnson			Suffix:	
Position/Title:	Professor	Depar	tment:	Pediatrics	
Organization N	ame: University Medical Ca	of Colorado Anso mpus	chutz	Division:	School of Medicine
Street 1:	12700 East 19th S				
Street 2:	Box C225				
City:	Aurora	County/F	arish:	.01	
State:	CO: Colorado			Province:	
Country:	USA: UNITED STA	TES		Zip / Postal Code:	80045
Phone Number	: 303-724-2923	Fax N	umber:	303-724-6012	
E-Mail:	susan.johnson@ud	denver.edu		S	
Credential, e.g.	, agency login	JOHNSON.	SL C		
Project Role:	Other Profession		Project R	ole Category:	Co-Mentor
Degree Type:	PhD				
Degree Year:	1993	20			
Attach Biograp	hical Sketch	./ehnson_Bi	osketch.p	df	
Attach Current	& Pending Support	C. onnson_Cu	urrent_Pe	nding_Support.pdf	
	~	2			

		PROFILE - Senior/Key	Person	
Prefix:	First N	ame: Leanne	Middle	Name:
Last Name:	Whiteside-Mansell		Suffix:	
Position/Title:	Professor	Department:	Family and Preventi	ion Medicine
Organization N	ame: University of Sciences	Arkansas for Medical	Division:	College of Medicine
Street 1:	4301 W Markham			
Street 2:	Slot 530			
City:	Little Rock	County/Parish:	Pulaski	
State:	AR: Arkansas		Province:	
Country:	USA: UNITED STAT	ES	Zip / Postal Code:	72205-7101
Phone Number	:: (501) 686-7633	Fax Number:		
E-Mail:	WHITESIDEMANSE	LLLEANNE@UAMS.E	U	
Credential, e.g.	., agency login	LWMANSELL		

# **RESEARCH & RELATED Senior/Key Person Profile (Expanded)**

Project Role:	Other Professional	Other Project Role Category:	Co-Mentor
Degree Type:	EdD		
Degree Year:	1995		
Attach Biographical Sketch		Biosketch - Whiteside-Mansell	
Attach Current & Pene	ding Support	Current and Pending Support	

ADDITIONAL SENIOR/KEY PERSON PROFILE(S)

Additional Biographical Sketch(es)

Additional Current and Pending Support(s)

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# **BIOGRAPHICAL SKETCH**

Provide the following information for the Senior/key personnel and other significant contributors.

Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: Taren Michelle Swindle, Ph.D.

## eRA COMMONS USER NAME (agency login): TSWINDLE

#### POSITION TITLE: Assistant Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Harding University	B.A.	07/2008	Psychology
Oklahoma State University	M.S.	11//009	Human Development and Family Science
University of Memphis	Ph.D.	10.3/201.3	Educational Psychology and Research
University of Arkansas for Medical Sciences	M.S.	In Progress	Clinical Nutrition

# A. Personal Statement

I am an Assistant Professor in Family and Preventive Medicine within the College of Medicine at the University of Arkansas for Medical Sciences. Broadly, my research program focuses on understanding and improving health and developmental outcomes for children impacted by poverty. I have a particular focus on obesity prevention and nutrition promotion for young children in low-income families. My work to date has focused on the early childcare setting as a key context for obesity prevention and nutrition. Recently, I have led efforts to explore early childhood educators' (ECEs) personal nutrition habits and beliefs as primary role models for children in nutrition. I have also developed practical observational tools for assessing ECEs' child feeding practices.

I have been a Project Coordinator or Co-Investigator on 7 federally-funded projects. These experiences have given me proficiency in database management, protocol creation, timeline management, and monitoring of budgets. I have also have experience managing a research team to achieve project goals. I have actively been involved in the data analysis and dissemination efforts of each of these projects. As a KL2 scholar, I am building on these experiences to develop my skills in leading a project as the Principal Investigator.

With the K01 Mentor Research Scientist Career Development award, I am seeking to concentrate my career on the understanding and promotion of implementation strategies for effective obesity prevention practices in early childcare contexts. I am well-positioned to carry out this work as I have over 8 years in obesity-related research. My training in research methods, statistical modeling, child development, and educational psychology will provide a solid foundation from which to enhance my knowledge and skills in implementation science, child nutrition, and community engagement through the proposed career development aims.

# B. Research and/or Professional Experience

#### **Positions and Employment**

2007-2008	Research and Teaching Assistant, Harding University, Searcy, AR
2007-2008	McNair Research Scholar, Harding University, Searcy, AR
2008-2009	Data Coordinator and Project Manager, Oklahoma State University, Stillwater, OK
2009-2010	Research Assistant, University of Arkansas for Medical Sciences, Little Rock, AR
2010- 2013	Research Associate, University of Arkansas for Medical Sciences, Little Rock, AR
2013-2014	Instructor, University of Arkansas for Medical Sciences, Little Rock, AR
2014-	Assistant Professor, Department of Family and Preventive Medicine, College of Medicine,
	University of Arkansas for Medical Sciences, Little Rock, AR

# <u>Honors</u>

2007	Outstanding Student in Research, Harding University; Searcy, AR
2008	Federal TRIO Hall of Fame Inductee, U.S. Department of Education
2008-2009	Human Environmental Science Fellow, Oklahoma State University; Stillwater, OK
2013	Outstanding Doctoral Student in Educational Research, University of Memphis; Memphis, TN
2013	Rising Star Alumni Award, Oklahoma State University
2014	National Institutes for Health Loan Repayment Recipient (NIH LRP)
2015	American Society for Nutrition Emerging Leaders in Nutrition Science, 2 <sup>nd</sup> Place in Nutrition
	Education

#### Professional Memberships

2009-	Member, Society for Research in Human Development
2010-	Member, Society for Research in Child Development
2012-	Member, Society for Nutrition Education and Behavior
2012-2014	Board, Society for Research in Human Development

#### C. Contributions to Science

1. Nutrition Education and Obesity Prevention Interventions in Early Childhood. These efforts are grounded in the ecological model that recognizes multiple developmental contexts as influential for children. My particular focus is on the early childcare setting and the adults in that environment that act as role models for children. In the previous year, I have led four peer-reviewed, published abstracts on this topic. In each project, I played a Principal Investigator or Co-Investigator role and conceptualized or co-created the research questions, study design, measurement tools, and analyses. I am currently working to move these forward to publication; two are under review at leading journals in the field. This work reflects the beginning of my move toward research independence in a focused scientific area. These studies mark important scientific progress toward improving obesity prevention efforts in early childcare and equipping educators to be deliverers of these important interventions.

- a. Swindle T, Whiteside-Mansell L. Educator interactions at Head Start lunches: A context for nutrition education. <u>The FASEB Journal</u>. 2015; 29(1 Supplement):731-732.
- b. Swindle T, Whiteside-Mansell L. Structures food experiences: a preliminary evaluation of the WISE curriculum. Journal of Nutrition Education and Behavior. 2014; 46(4):S133
- c. Swindle T, Whiteside-Mansell L, Bok ory P, Ward W. Nutrition experiences of early childhood educators: current and retrospective reports. Journal of Nutrition Education and Behavior. 2014; 46(4):S172.
- d. Swindle T, Harrist AW, Rutlenge JM, Topham GL, Hubbs-Tait L, Shriver LH, Page MC. Classroom intervention to decrease peer rejection improves obese children's BMI over time. <u>Journal of Nutrition</u> <u>Education and Behavior</u>. 2014; 46(4):S133.

2. Obesity within the Context of Low-Resource Populations. This work builds on cumulative risk theory to illuminate the co-occurring risks and related outcomes of weight and poor nutrition. These studies highlight that parenting characteristics and familial experiences are relevant to the discussion of weight and nutrition. With this line of research, I hope to expand the boundaries of what health professionals and scientists consider relevant to the experience of obesity and poor diet quality as well as possible approaches to address it. This work demonstrates the broad approach needed and available to address the obesity issue for families in poverty. I was a Co-PI on these studies and contributed to every phase of the publication process.

- a. Swindle T, Ward WL, Whiteside-Mansell L, Brathwaite J, Bokony PA, Conners-Burrow N, McKelvey LM. Pediatric nutrition: parenting impacts beyond financial resources. <u>Clinical Pediatrics</u>. 2014; 53:793-795. PMID: 24137034
- b. Ward WL, Swindle T, Kyzer A, Whiteside-Mansell L. Low fruit/vegetable consumption in the home: cumulative risk factors in early childhood. <u>Early Childhood Education Journal</u>. 2014; in press.
- c. Swindle T, Ward WL, Bokony PA, Pettit D, Whiteside-Mansell L. Technology use and preference by low-income parents of young children: demographic patterns and implications for intervention. <u>Journal of Nutrition Education and Behavior</u>. 2014; in press.

d. Yu G, Thomsen MR, Nayga RM, Whiteside-Mansell L, Swindle T. The effect of food store access on children's diet quality. 2013; Paper provided to the 2013 Agricultural & Applied Economics Association Annual Meeting, Washington, DC.

# 3. Promotion of Parent-Teacher Communication and Interventions to Develop and Leverage These

**Relationships.** This works builds on the recognition of the need for family-sensitive early childcare and the systems theory principle of the importance of settings outside the home for healthy child development. In the publications listed, I was the project coordinator for implicated studies, contributed to delineation of the research questions, led analytic efforts, and aided in the writing. I also conceptualized and conducted the analyses. I led the writing of the study validating the use of a two-item food insecurity screen for use by early educators with families. These studies illustrate the potential of early educators to promote health for children and provide data to support the feasibility and effectiveness of such efforts.

- a. Kyzer A, Whiteside-Mansell L, McKelvey L, Swindle T. Supporting family engagement in home visiting with the Family Map Inventories. <u>Infants and Young Children</u>. 2015; in press.
- b. Bokony PA, Whiteside-Mansell L, Swindle T, Waliski AD. Increasing parent-teacher communication in private preschools serving low-income families. <u>The Special Issue on Parent Involvement and Engagement in Head Start for Dialog: The Research-to-Practice Journal for the Early Childhood Field</u> 2013; 16 (1):45-64.
- c. Swindle T, Whiteside-Mansell L, McKelvey L. Food insecurity: validation of a two-item screen using convergent risks. Journal of Child and Family Studies. 2012; 22(7):932-941.
- d. McKelvey LM, Bokony P, Johnson D, Whiteside-Mansell L, Burrow N, Swindle T. Family engagement: Establishing a system to support the parent-teacher partnership. <u>The Special Issue on Parent</u> <u>Involvement and Engagement in Head Start for Dialog: A Research to-Practice Journal for the Early</u> <u>Childhood Field</u>, 2013; 16(1):171-175.

4. In Addition to Obesity, Children Impacted by Poverty are at Greater Health Risks. At the broadest level of my research interest, I contribute to studies of factors that increase or decrease a child's health risks. This work is once again consistent with cumulative risk theory and contributes to improved understanding of the health and developmental experiences of children living in poverty. In each of these studies, I led analytic efforts and contributed to the conceptualization and writing.

- a. Swindle T, Shapley K, Kyzer A, Cheerla R, Whiteside-Mansell L. Familial risk in low-income children with chronic illness exposed to passive sincke. <u>Clinical Pediatrics</u>. 2015; 54(9):840-846. PMCID: PMC Journal in Process
- b. Conners-Burrow N, Swindle T, McKelvey L, Bokony P. A Little bit of the blues: low-level symptoms of maternal depression and classroom behavior problems in preschool children. <u>Early Education and</u> <u>Development</u>. 2015; 26(2):230-244.
- c. Conners-Burrow N, McKelvey C, Kyzer A, Swindle T, Cheerla R, Kraleti S. Violence exposure as a predictor of internalizing and externalizing behavior problems among children of substance abusers. Journal of Pediatric Nursing. 2013; 28:340-350. PMID: 23261353
- d. McKelvey LM, Bokony PA, Swindle T, Conners-Burrow NA, Schiffman RF, Fitzgerald HE. Father teaching interactions with toddlers at risk:impacts on child cognitive outcomes. <u>Family Science</u>. 2011; 2(2):146-155.

# Complete List of Published Work in My Bibliography:

http://www.ncbi.nlm.nih.gov/sites/myncbi/taren.swindle.1/bibliography/48310052/public/?sort=date&direction=a scending

# D. Research Support

# Ongoing Research Support

KL2TR000063 (Swindle, PI) 08/01/2014-07/31/2016

Community-Based Early Childhood Obesity Prevention

This mixed methods study aims to better understand early educators' nutrition history, perceived role in child nutrition, and potential impact on child dietary behaviors.

Role: Principal Investigator

#### 2011-68001-30014 (Nayga, PI)

Interventions for Obesity Prevention Targeting Young Children in At-Risk Environments: An Integrated Approach

This is a collaborative effort by researchers at Arkansas's leading academic institutions and includes participation by the University of Arkansas, Fayetteville; UAMS Arkansas Children's Hospital; UAMS Family Medicine; and UAMS Arkansas Center for Health Information. The project developed and examined interventions for obesity prevention targeting young children in at-risk environments. US Department of Agriculture's National Institute for Food and Agriculture. Role: Co- Investigator

Lincoln Health Foundation (Rutledge, PI)

WISE: Together, We Inspire Smart Eating The purpose of this project is to translate the WISE curriculum to Head Start classrooms in Lincoln Perish, LA and evaluate impact.

Role: Co-Principal Investigator

#### **Completed Research Support**

Arkansas Biosciences Institute (Thomsen, PI) 07/01/2014-06/30/2015 *Effect of Food, Home, and Community Environments on Early Childhood Obesity* The project links child BMI with family interviews on key constructs related to child development and neighborhood characteristics by utilizing the national Geographic Information Systems. Role: Co-Investigator

R15 HD075229 (Nail, PI) 07/01/2014-06/30/2015 Decreasing Bullying with Self-Affirmation: A Test of the Compensation Model This project is providing an evaluation of a self-affirmation bullying intervention. Role: Analytic Consultant

08/01/2014-07/31/2016

08/01/2014-07/31/2016

#### **BIOGRAPHICAL SKETCH**

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. **DO NOT EXCEED FIVE PAGES.** 

#### NAME: Geoffrey M. Curran, Ph.D.

#### eRA COMMONS USER NAME (credential, e.g., agency login): GMCURRAN

#### POSITION TITLE: Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of Massachusetts, Amherst, MA	BA	05/1987	Sociology
Rutgers University, New Brunswick, NJ	MA	05/091	Sociology
Rutgers University, New Brunswick, NJ	Ph.D.	1:0/1996	Sociology

#### A. Personal Statement

I have the background, training, and expertise to act as primar (n) entor for Dr. Swindle's Mentored Research Scientist Development Award. I have been conducting and implementation research for 15 years, and I am the director of the UAMS Center for Implementation Research have studied and published manuscripts primarily on: 1) adaptation and implementation of evidence-based practices in mental health settings, and 2) the broader area of perceived need, treatment utilization, treatment retention, and outcomes in mental health/substance use disorders. Recently, I have been developing formative evaluation methods for implementation intervention development and research designs for hybrid effectiveness-implementation trials. I am PI or Co-PI on current and/or recently completed VA and NIMH grants that are testing implementation strategies to assist both primary care and specialty care settings in adapting and adopting evidence-based mental health practices. I recently completed a VA-funded grant which developed and pilot tested online training materials for substance use counselors to learn and implement CBT for depression groups. I will apply these experiences with implementation research, particularly development of implementation strategies and use of hybrid trials, to mentor Dr. Swindle in her proposed research to design and test implementation strategies for obesity prevention in childcare. I also have experience in putting together coalitions of partners to facilitate implementation research, and will put that expertise to use in supporting Dr. Swindle's recruitment and direction of a stakeholder panel.

- Curran GM, Pyne J, Fortney JC, Gifford A, Asch SM, Rimland D, Rodriguez-Barradas M, Monson TP, Kilbourne AM, Hagedorn H, Atkinson JH. 2011. "Development and Implementation of Collaborative Care for Depression in HIV Clinics." <u>AIDS Care</u> 23(12):1726-1836. PMCID: 21714689
- Curran GM, Sullivan G, Mendel P, Craske MG, Sherbourne CD, Stein MB, McDaniel A, Roy-Byrne P. 2012. "Implementation of the CALM Intervention for Anxiety Disorders: A Qualitative Study." <u>Implementation</u> <u>Science</u> 7:14. PMCID: 3319426
- Curran GM, Bauer M, Mittman B, Pyne JM, Stetler C. 2012. "Effectiveness-Implementation Hybrid Designs: Combining Elements of Clinical Effectiveness and Implementation Research to Enhance Public Health Impact." <u>Medical Care</u> 50(3):217-226. PMCID: 3731143
- 4. **Curran GM**, Allee, ME, Mukherjee S, Owen R. 2008. "QUERI Series: A Process for Developing An Implementation Intervention." <u>Implementation Science</u>, 3:17. PMCID: 2278163

## **B.** Positions and Honors

#### **Positions and Employment**

1990-1996 Lecturer, Rutgers University, Department of Sociology, Courses: Sociology of Drug Use, Sociology of Deviant Behavior, Mass Communication in Modern Society, Introduction to Sociology. 1996-1997 Research Fellow, University of Michigan, Substance Abuse Research Center (NIDA T-32). 1997-1998 Postdoctoral Fellow, HSR&D Field Program for Mental Health, VAMC, Little Rock, AR. Instructor, Department of Psychiatry and Behavioral Sciences, University of Arkansas for 1997-1999 Medical Sciences, Little Rock, AR 1998-Research Health Scientist, VA HSR&D Center for Mental Healthcare and Outcomes Research. Central Arkansas Veterans Healthcare System, Little Rock, AR. Assistant Professor, Department of Psychiatry and Behavioral Sciences, University of Arkansas 1999-2005 for Medical Sciences, Little Rock, AR. 2002-2011 Director, Postdoctoral Fellowship Program, VA HSR&D Center for Mental Healthcare and Outcomes Research, Central Arkansas Veterans Healthcare System, Little Rock, AR Co-Director, T32 Postdoctoral Fellowship Program, NIMH Division of Health Services Research, 2002-2010 Department of Psychiatry and Behavioral Sciences, University of Arkansas for Medical Sciences, Little Rock, AR. Implementation Research Coordinator, Mental Health Quality Enhancement Research Initiative, 2002-2004 Central Arkansas Veterans Healthcare System, Little Rock, AR. Associate Professor (with Tenure), Department of Psychiatry and Behavioral Sciences, 2005-2012 University of Arkansas for Medical Sciences, Little Rock, AR. 2007 Interim Director, Division of Health Services Research, Department of Psychiatry and Behavioral Sciences, University of Arkansas for Medical Sciences, Little Rock, AR. Associate Director, Division of Health Services Research, Department of Psychiatry and 2008-2014 Behavioral Sciences, University of Arkansas for Medical Sciences, Little Rock, AR. Professor, Department of Psychiatry and Behavioral Sciences, University of Arkansas for 2013-Medical Sciences, Little Rock, AR. Professor, Department of Pharmacy Practice, College of Pharmacy, University of Arkansas for 2014-Medical Sciences, Little Rock, AR. Director, Center for Implementation Research, University of Arkansas for Medical Sciences, 2014-Little Rock, AR. Honors Honorable Mention. Thompson Award-- for best paper by a graduate student, American 1996 Sociological Association, section on Organizations and Work. Junior Investigator Award, Research Society on Alcoholism and National Institute on Alcohol 1998 Abuse and Alcoholism. 1998 Poster of the Year Award (Postdoctoral), Research Society on Alcoholism and National Institute on Alcohol Abuse and Alcoholism. Mentored Career Award (K01), National Institute on Drug Abuse, National Institutes of Health. 2003-2008 National Institutes of Health Loan Repayment Program, \$38,109. 2004-2007 2010 Excellence in Research Education Award, South Central Mental Illness Research Education

# **C.** Contributions to Science

1. Methods in implementation research and study design have been a focus of my work. My earlier work in this area focused on developing formative evaluation methods to assist in the development, and continuing refinement of, implementation strategies along with making refinements to the evidence-based clinical interventions being supported by the implementation strategies. These methods combine quantitative measures of context (e.g., culture and climate), qualitative data collection from key stakeholders, and observations of clinic operations. My more recent methodological work has focused on identifying and refining hybrid (clinical/preventive) effectiveness - implementation trial designs. An effectiveness-implementation

and Clinical Center, Department of Veterans Affairs.

hybrid design is one that takes a dual focus *a priori* in assessing clinical/preventive effectiveness and implementation. We articulated three hybrid types: 1) testing effects of a clinical/preventive intervention on relevant outcomes while observing and gathering information on implementation, 2) dual testing of clinical/preventive and implementation interventions/strategies, and 3) testing of an implementation strategy while observing and gathering information on the clinical/preventive intervention's impact on relevant outcomes. Both emphasis areas have influenced the conduct of implementation research. Hybrid designs especially have been widely adopted and used in funded NIH and VA implementation research.

- a. Curran GM, Allee, ME, Mukherjee S, Owen R. 2008. "QUERI Series: A Process for Developing An Implementation Intervention." Implementation Science, 3:17. PMCID: 2278163
- b. Hagedorn H, Hogan M, Smith J, Bowman C, Curran GM, Espadas D, Kimmel B, Kochevar L, Legro M, Sales A. 2006. "Lessons Learned About Implementing Research Findings Into Clinical Practice: Experiences from VA QUERI." Journal of General Internal Medicine 21(2):S21-S24. PMCID: PMC25571313.
- c. Curran GM, Pyne J, Fortney JC, Gifford A, Asch SM, Rimland D, Rodriguez-Barradas M, Monson TP, Kilbourne AM, Hagedorn H, Atkinson JH. 2011. "Development and Implementation of Collaborative Care for Depression in HIV Clinics." <u>AIDS Care</u> 23(12):1726-1836. PMCID: 21714689
- d. Curran GM, Bauer M, Mittman B, Pyne JM, Stetler C. 2012. "Effectiveness-Implementation Hybrid Designs: Combining Elements of Clinical Effectiveness and Implementation Research to Enhance Public Health Impact." <u>Medical Care</u> 50(3):217-226. PMCID: 3731143

**2.** In addition to methods contributions, I have also made contributions to the implementation science literature around the development of implementation interventions/strategie. specifically facilitation strategies to support uptake and sustainability. My colleagues and I have developed and demonstrated the effectiveness of a range of "external" (provided by experts/consultants external to the clinical/preventive context) and "internal" (provided by trained change agents internal to the clinical/preventive context) facilitation strategies, e.g., academic detailing, web-based training, audit and feedback of performance data, use of opinion leaders and local champions, use of automated reminders, and leadership engagement. A "blended external-internal" facilitation approach proved effective in promoting uptake of collaborative care for mental health in primary care settings in the VA. Subsequently, VA mental mealth operations adopted the practice for supporting implementation of other complex behavioral interventions.

- a. Kirchner JE, Ritchie M, Pitcock JA, Perker LE, Curran GM, Fortney JC. 2014. "Outcomes of a Partnered Facilitation Strategy to Implement Primary Care Mental Health." <u>Journal of General Internal Medicine</u> 29(4):904-912.
- b. Curran GM, Thrush CR, Smith JL, Ritchie M, Owen RR, Chadwick D. 2005. "Implementing Research Findings into Practice Using Clinical Opinion Leaders: Barriers and Lessons Learned." <u>Joint Commission</u> <u>Journal on Quality and Safety</u> 31(12): 700-707. PMID: 16430023
- c. Stetler C, Legro M, Rycroft-Malone J, Bowman C, Curran GM, Guihan M, Hegedorn H, Pineros S, Wallace C. 2006. "Role of 'External Facilitation' in Implementation of Research Findings: A Qualitative Evaluation of Facilitation Experiences in the Veterans Health Administration." <u>Implementation Science</u> 1:23 (18 October 2006). PMCID: PMC1635058
- d. Curran GM, Pyne J, Fortney JC, Gifford A, Asch SM, Rimland D, Rodriguez-Barradas M, Monson TP, Kilbourne AM, Hagedorn H, Atkinson JH. 2011. "Development and Implementation of Collaborative Care for Depression in HIV Clinics." <u>AIDS Care</u> 23(12):1626-1636. PMID: 21714689
- 3. I have also made contributions to the scientific literature and practice around recognizing and treating comorbid psychiatric and substance use disorders. I have completed research demonstrating poorer outcomes associated with such comorbidity compared to "single" diagnoses in multiple health contexts. I have contributed to both science and practice concerning how best to implement screening and interventions for mental health and substance use disorders in substance use disorder treatment settings.
- a. Curran GM, Flynn HA, Kirchner JE, Booth BM. 2000. "Depression After Alcohol Treatment as a Risk Factor for Relapse." <u>Journal of Substance Abuse Treatment</u> 19(3):259-265. PMID: 11027896

b. Curran GM, Sullivan G, Williams DK, Han X, Collins K, Keys J, Kotrla KJ. 2003. "Emergency Room Use of Persons with Comorbid Psychiatric and Substance Abuse Disorders." Annals of Emergency Medicine 41(5):659-667. PMID: 12712033

c. Curran GM, Booth BM, Kirchner J, Deneke E. 2007. "Recognition and Management of Depression in a Substance Use Treatment Population." American Journal of Drug and Alcohol Abuse 33:563-570. PMID: 17668342

d. Curran GM, Woo SM, Hepner KA, Lai WP, Kramer TL, Drummond KL, Weingardt K. "Training Substance Use Disorder Counselors in Cognitive Behavioral Therapy for Depression: Development and Initial Exploration of an Online Training Program." Journal of Substance Abuse Treatment. In Press.

# Complete List of Published Work in MyBibliography

http://www.ncbi.nlm.nih.gov/pubmed/?term=Curran+GM

# **D. Research Support** (not including center grants)

R01DA034627 (Edlund, PI) NIDA

Prescribers, Pharmacists, & the Opioid Dilemma: a Multi-Site Qualitative Study

The purpose of this grant is to enhance our understanding, using gualitative interviews, of the decision-making processes that primary care providers (physicians, physician assistants, and nurse practitioners) and pharmacists use in prescribing and dispensing opioids. Role: Dr. Curran is Co-Investigator and leads the gualitative data collection and analyses.

R24 MH085104-01A2 (Curran)

NIMH

Partnership for Implementation of Evidence-Based Practices in Rural Primary Care The purpose of this grant is to develop and sustain and molementation Partnership that will focus on the adoption of evidence- based practices by rural Community Health Centers. The partnership is collectively based on the principles of evidence-based medicine, continuous guality improvement, and communityparticipatory research. Role: Principal Investigator.

ICX000452A (Drummond)

VA CSR&D

An Enthnographic Study of Post-Decloyment Substance Abuse and Treatment-Seeking

The purpose of this study is to perform an in-depth ethnographic investigation of the complex interactions between substance use, perceptions of benefits and harm of substance use, and attitudes and intentions to seek treatment among a sample of reintergrating National Guard soldiers in Arkansas. Role: Co- Investigator (Dr. Curran was PI until he reduced his VA effort in summer of 2014 and the grant was transfered to Dr. Drummond).

1 I01 HX001133-01 (Cucciare, PI) VA/HSR&D

A Computer Assisted Cognitive Behavioral Therapy Tool to Enhance Fidelity in CBOCs The purpose of this study is to develop and evaluate the effectiveness of a computer tool to assist therapists in providing cognitive behavioral therapy with fidelity, and to assess how to best to support future implementation of the tool. Roel: Dr. Curran was PI, but transfered this grant to Dr. Cucciarre when he reduced his VA appointment in 2014.

**Completed Research** (selected; not including center grants) DM090465 (Curran) DoD/ US Army MRMC Linking Returning Veterans in Rural Community Colleges to Mental Health Care

09/1/10 - 6/30/16

01/1/11 - 12/31/15

07/1/15 - 03/30/19

05/15/14 - 04/30/17

12/10/10 - 07/1/15

The purpose of this study is to develop a screening and linkage-to-care intervention that is feasible in the community college setting and acceptable to the population of student veterans and their families. Role: Principal Investigator.

1 IP2 PI000338-01 (Sullivan)

PCORI

Addressing Mental Health Needs of Rural African Americans

The purpose of this grant is to gather information that can inform culturally congruent mental health delivery approaches for rural African Americans, while at the same time investigating two different approaches to collecting that information-- focus groups and community forums. Role: Co-Investigator.

# SDP 07-319 (Curran)

08/1/08 - 09/30/13

08/1/12 - 07/31/14

#### VA HSR&D

Training SUD Treatment Counselors CBT for Depression

The purpose of this project was to 1) develop a web-based training manual to eliminate the need for facilitated, in-person, multi-hour didactic sessions; 2) demonstrate, through an interactive cycle of testing and revisions, the feasibility of the web manual to produce among VA SUD counselors the necessary acquisition of knowledge in depression and the manualized CBT techniques. Role: Principal Investigator.

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## **CURRENT AND PENDING SUPPORT**

#### CURRAN, GEOFFREY M. *Current Funding*

R24 MH085104-01A2 (PI) NIMH

Partnership for Implementation of Evidence–Based Practices in Rural Primary Care Goals: The purpose of this grant is to develop and sustain and Implementation Partnership that will focus on the adoption of evidence- based practices by rural Community Health Centers. The partnership is collectively based on the principles of evidence-based medicine, continuous quality improvement, and community-participatory research. Dates of approved project: 09/01/10-06/30/16 Annual direct costs: \$412,204 (direct)

ZDA1-02-W10 (co-I)

VA CSR&D

An Ethnographic Study of Post-Deployment Substance Abuse and Treatment-Seeking <u>Goals</u>: The purpose of this study is to perform an in-depth ethnographic investigation of the complex interactions between substance use, perceptions of benefits and harm of substance use, and attitudes and intentions to seek treatment among a sample of reintegrating National Guard soldiers in Arkansas.

Dates of approved project: 02/01/11-12/30/15 Annual direct costs: \$265,532 (direct)

IIR 11-290 (co-l) VA HSR&D

Tailoring Interventions for Rural Veterans: What We Need to Know

Goals: The goal of the proposed study is to better understand how attitudinal characteristics associated with rural culture operate to influence mental health service-use among Veterans. To this end, the 3-year mixed-methods study will incorporate (1) qualitative interviews with rural Veterans using VA services for mental health and/or physical health needs as well as with rural-based VA and non-VA mental healthcare providers, and (2) a telephone survey of Veterans in 4 heavily rural VISNs.

Dates of approved project: 04/01/2013 – 03/31/2017 Annual direct costs: \$350,000 (direct)

R01DA034627 (site PI) NIH/NIDA

Prescribers, Pharmacists, & the Opioid Dilemma: a Multi-Site Qualitative Study

<u>Goals:</u> The purpose of this grant is to enhance our understanding, using qualitative interviews, of the decision-making processes that primary care providers (physicians, physician assistants, and nurse practitioners) and pharmacists use in prescribing and dispensing opioids. Dr. Curran is Co-Investigator and leads the qualitative data collection and analyses.

Dates of approved project: 5/15/14 - 04/30/17

Annual direct costs: \$189,000 (direct)

National Community Pharmacists Association (NCPA) (PI)

<u>Goals:</u> A study for a National Community Pharmacists Association (NCPA) project aimed to understand patient and pharmacist satisfaction with the Appointment Based Model (ABM) on

medication adherence rates using medication synchronization technology. NCPA developed and implemented a virtual "adherence network" of close to 80 community pharmacies in the state of Arkansas providing ABM through a common technology platform. This study will use mixed methodology (quantitative and qualitative) to assess. Dates of approved project: 5/01/15 - 11/30/15

Annual direct costs: \$87,500 (direct)

#### Pending Funding

#### NIH/NIMHD U01 - Co-Investigator

Reducing Depressive Symptoms among Rural African Americans: REJOICE Goals: This application proposes a Hybrid-2 pragmatic-effectiveness implementation trial that seeks to test the effectiveness of the culturally adapted evidence-based intervention and gather preliminary data on the strategies necessary to support successful implementation of this intervention in rural African American churches. Specifically, this study aims to: 1) Refine a culturally appropriate, evidence-based depression intervention (REJOICE) based on results from our NIMHD-funded pilot study, 2) Determine whether REJOICE is superior to a usual-care control group at post treatment and a 3-month follow-up, 3) Collect pilot data regarding "real ik .nd co. .hes. distilution world" implementation strategies (i.e. face to face training and coaching calls) on the uptake and maintenance of REJOICE in rural African American churches. Dates of proposed project: 4/1/2016-3/31/2020

Annual direct costs: \$335,608 (direct)

#### **BIOGRAPHICAL SKETCH**

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. **DO NOT EXCEED FIVE PAGES.** 

#### NAME: Susan L. Johnson

eRA COMMONS USER NAME (credential, e.g., agency login): JOHNSON.SL

#### POSITION TITLE: Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

INSTITUTION AND LOCATION	DEGREE <i>(if</i>	Completion Date	FIELD OF STUDY
	applicable)	MM/YYYY	
University of North Carolina at Chapel Hill	B.S.	05/1980	Biology
The Pennsylvania State University	M.S.	05/1987	Nutritional Sciences
University of Illinois	Ph.D.	05/1993	Nutritional Sciences
University of Colorado Health Sciences Center	T32 Post- doctoral fellowship	07/1995	Pediatrics/Nutrition

## A. PERSONAL STATEMENT

I will serve as a co-mentor for Dr. Taren Swindle for her Mentored Research Scientist Development Award. I will complement the expertise of the other mentors in that have performed research in the area of child development and nutrition and have clinical experience in the treatment of children's growth and nutrition issues. As I was a T32 pre-doctoral (University of Illinois) and post-doctoral (UCHSC) fellow, I have intimate knowledge of such programs from personal experience. I have also served as the Associate Director for the CU Anschutz Medical Campus Nutrition T32 (N DDK). Previously, I have participated as a mentor/co-mentor for the CU-AMC T32 Training Program for 3 postdoctoral fellows and I have mentored 12 Masters, 5 MPH, 14 PhD students and 5 junior faculty members who have been active in publication, presentation of abstracts and grantsmanship. I have participated in 3 coarn science projects that were multidisciplinary and multi-institutional in nature and am currently funded on an additional team project that is a joint project across 4 universities.

Personally, I have 25 years of experience in research related to the development of children's eating behavior and growth outcomes. Specifically, The Children's Eating Laboratory currently conducts multi-disciplinary, multi-institutional, collaborative research which:

- investigates how family eating and child-feeding strategies impact children's eating behavior and weight outcome—specifically related to the etiology and prevention of childhood obesity.
- implements longitudinal interventions to prevent obesity in early childhood, including aspects of the preschool and home food and activity environments.
- focuses on differences in child-feeding and physical activity that are related to ethnicity, gender and socioeconomic status and how these relate to childhood obesity.
- investigates children's growth trajectories and the prediction of abnormal growth patterns.
- investigates the eating patterns and nutrient intakes of children with autism spectrum disorder.

#### **B. POSITIONS AND HONORS**

- 1982–1984 Graduate Research Assistant, Department of Nutrition, The Pennsylvania State University
- 1984–1985 Instructor for Continuing Education, The Pennsylvania State University
- 1986–1988 Research Associate & Visiting Associate, Chicago Medical School & University of Illinois, Chicago
- 1988–1993 NIH T32 Predoctoral Graduate Research Assistant, Division of Nutrition Sciences, University of Illinois
- 1993–1994 Research Associate, Department of Human Development and Family Studies, The Pennsylvania State University

- 1994–1996 NIH T32 Postdoctoral Research Fellow, Center for Human Nutrition, UCHSC, Denver, CO
- 1996–1998 Instructor, Center for Human Nutrition, UCHSC, Denver, CO
- 1998–2004 Assistant Professor, UCHSC, Center for Human Nutrition, UCHSC, Denver, CO
- 2004–2012 Associate Professor, UCDHSC, Department of Pediatrics, UCD, Denver, CO
- 2010– Associate Professor, Community and Behavioral Health, CoSPH, Denver, CO
- 2012– Professor, CU Anschutz Medical Campus, Department of Pediatrics, Aurora, CO
- 2015– Professor, with tenure, CU Anschutz Medical Campus, Department of Pediatrics, Aurora, CO

## Honors

- 1988–1991 NIH Pre-doctoral Fellow
- 1993–1995 NIH Post-doctoral Fellow
- 2001 University of Idaho Margaret Richie Distinguished Speaker Award
- 2001 Ruth Bowling Award for Excellence in Nutrition Education
- 2004 Who's Who in Medical Sciences Education
- 2007 UCHSC Graduate School Dean's Mentoring Award
- 2008– Associate Editor, The Journal of Nutrition Education and Behavior
- 2014 University of Illinois, Division of Nutritional Sciences External Advisory Committee
- 2015 University of Illinois, College of ACES, Alumni Award of Merit

# C. CONTRIBUTIONS TO SCIENCE

- 1. <u>Children's self-regulation of eating behavior</u>: Dr. Leann Birch first conducted observational studies of young children's self-regulation of energy intake in response to manipulations of carbohydrate content of the diet. In general, she reported significant, and sometimes perfect, unconditioned compensation by children. These findings were interpreted to mean that children are able to self-regulate energy intake in response to such covert dietary manipulations. However, if tore were the case, then children would presumably demonstrate normal healthy growth. My contribution to this area was to highlight that children compensate differently based upon macronutrient content (i.e., carbohydrate vs. fat), that children exhibit individual differences in the extent to which they self regulate energy intake and that children's self-regulation of energy intake is related to age (younger children appear to exhibit greater self-regulation). In addition, I demonstrated in an observational study that children can learn to self-regulate energy intake under conditions that foster attention to interval cues of hunger and satiety.
  - a) Johnson SL, McPhee L & Birch L (1991). Conditioned preferences: Young children prefer flavors associated with high dietary fat. *Physiology and Behavior, 50,* 1245-1251. PMID: 1798782 (cited 209 times)
  - b) Birch LL, **Johnson SL**, Andresen G, Peters JC & Schulte MC (1991). The variability of young children's energy intake. *The New England Journal of Medicine*, *324*, 232-235. PMID: 1985244
  - c) Johnson SL (2000). Improving preschoolers' self-regulation of energy intake. *Pediatrics, 106,* 1429-1435. PMID: 11099599 (cited 172 times)
  - d) Johnson, SL, Taylor-Holloway L (2006). NonHispanic White and Hispanic elementary school children's self-regulation of energy intake. *American Journal of Clinical Nutrition* 83(6):1276-82. PMID: 16762937
- 2. Parental feeding and eating practices and their relation to children's eating behaviors and weight outcome: I have conducted seminal research that has contributed to the study of parental and familial influences on the development of children's eating behaviors. This work was based upon the theory of Costanzo and Woody who posited that parental control inhibits children's self-regulation in general, and also to food intake regulation. Studies of children's regulation of energy intake and its relation to parental feeding styles have been conducted in a number of other laboratories and these studies have confirmed the influence of parent feeding practices and styles on children's food intake behaviors and, to some extent, their role in children's growth and development. Many of these studies have utilized the parent assessment, The Child Feeding Questionnaire (CFQ), which started to be developed during my dissertation work with Dr. Leann Birch. This assessment is the most frequently cited and used assessment of parental feeding strategies in the United States and globally.
  - a) Johnson SL & Birch LL (1994). Parents' and Children's Adiposity and Eating Style. *Pediatrics, 94,* 653-661. PMID: 7936891 (cited 705 times)

- b) Birch LL, Fisher JO, Grimm-Thomas K, Markey CN, Sawyer R, & Johnson SL (2001). Confirmatory factor analysis of the Child Feeding Questionnaire: A measure of parental attitudes, beliefs and practices about child feeding and obesity proneness. *Appetite, 36,* 201-210. PMID: 11358344 (cited > 715 times).
- c) Johnson SL, Goodell LS, Williams K, Power TG, Hughes SO (2014). Getting my child to eat the right amount: Mothers' considerations when deciding how much food to offer their child at a meal. *Appetite*, doi:10.1016/j.appet.2014.12.004
- 3. <u>The contribution of the child care setting to children's eating and weight outcome</u>: Studies investigating the role of the food environment and feeding on children's development of obesity have largely focused upon the role of family influences, specifically parental influences, on the development of children's eating behavior and growth. However, with the recognition that a majority of children of dual earner families are attending child care and consume at least half of their meals in the child care setting, it became critical to understand the role of the child care environment and child care providers feeding practices on children's eating behaviors. Previous studies had reported on the quality of the food offered in child care but no representative study had focused on feeding practices, staff training with respect to child feeding or the quality of the mealtime environment in child care. The importance of the work below included: 1) the characterizing of child care environments with respect to mealtimes, feeding beliefs and practices and staff education; 2) the observation of mealtime communications between child care staff and children; 3) qualitative research that investigated opportunities for intervention to engage both parents and child care staff in effectively teaching young children healthy eating behaviors.
  - a) Sigman Grant M, Christiansen E, Branen LJ, Fletcher J, **Johnson SL** (2008). About feeding children: mealtimes in child-care centers in four western states. *Journal of the American Dietetic Association*, *108*(2), 340-346. PMID: 18237580
  - b) Ramsay S, Branen LJ, Fletcher J, **Johnson SL**, Sigman Gran, M (2011). "Are you done?" Child care providers' verbal communication at mealtimes that reinforce or hinder children's internal cues of hunger and satiation. *Journal of Nutrition Education and Behavior*, 42(4):265-270. PMID: 20579609
  - c) Johnson SL, Ramsay S, Shultz JA, Branen LJ, Fletcher J, Woods D (2013). Creating potential for common ground and communication between early childhood program staff and parents about young children's eating. *Journal of Nutrition Education and Behavior*. <u>45(6):558-70</u>. PMID: 23769298
  - d) Chika S, Shultz JA, **Johnson SL**, Branen LJ, Fletcher (2011). Attitudes, concerns, and likelihood for action related to young children's overweight among early childhood program staff. *Family and Community Health.* 34(4):291-300. PMID: 21881416
- 4. Development of intervention programs for preschool children: Based upon previous work of descriptive and qualitative research studies conducted in The Children's Eating Laboratory, our current focus of research is to contribute to the development of effective interventions to improve children's eating behaviors, dietary intake, motor development and physical activity level. Through these components, we aim to improve children's growth and, specifically, to reduce the development of early childhood obesity. The publications below document my contribution to a multi-disciplinary, multi-institutional effort to develop and test the effectiveness of a program that has been implemented in Head Start across Colorado. The program was proven to be effective to improve children's willingness to try new foods and a companion program has been proven to be effective in improving children's motor skills. We are now in the process of analyzing data from a study aimed at studying the longitudinal impacts of this program on children's eating behaviors, dietary intake, motor development, physical activity levels and growth outcomes. In addition, this work has produced a validated assessment of the home food and physical activity environment.
  - a) **Johnson SL**, Bellows L, Beckstrom L, Anderson J (2007). Evaluation of a Social Marketing Campaign Targeting Preschool Children. *American Journal of Health Behavior, 31(1),* 44-55. PMID: 17181461
  - b) Young, L, Beckstrom, L, Johnson, SL, Anderson, J, Bellows, L (2004). Using social marketing principles to guide the development of a nutrition education initiative for preschool-aged children. *Journal of Nutrition Education and Behavior, 36(5),* 250-257. PMID: 15707548
  - c) Bellows LL, Johnson SL, Davies PL, Anderson J, Gavin WJ, Boles RE (2013). The Colorado LEAP Study: Rationale and design of a study to assess the short term longitudinal effectiveness of a preschool nutrition and physical activity program. *BMC Public Health.* 13:1146. doi:10.1186/1471-2458-13-1146. PMID: 24321701

d) Boles RE, Burdell A, Johnson SL, Gavin WJ, Davies PL, Bellows LL (2014). Home food and activity assessment. Development and validation of an instrument for diverse families of young children. Appetite. 80:23-7. PMID: 24798760

More Complete List of Published Work in My Bibliography:

http://www.ncbi.nlm.nih.gov/sites/mvncbi/1FANBg6SkbVkG/bibliographv/45890529/public/?sort=date&direction =ascending

# D. RESEARCH SUPPORT

# **Ongoing Research Support**

USDA Bellows (PI) 05/01/15 - 04/30/20Bridging Home and Preschool Environments to Promote Healthy Eating and Activity Behaviors and Prevent Obesity in Early Childhood: To study the impact of parent-child interaction in eating and physical activity and child-care environments in obesity prevention for young children. Role: Co-PD

04/15/10 - 04/14/16USDA #2009-05124 Bellows (PI) A Longitudinal Study to Assess the Effectiveness of a Preschool Nutrition and Physical Activity Program: To assess the short term longitudinal impacts of a preschool intervention aimed at improving children eating and physical activity behaviors upon 4-6 y old children's dietary intake and physical activity levels. Role: Co-PD

02/15/11 - 02/14/16 USDA #2011-68001-30009 Hughes (PI) Nutrition and Feeding of Low-Income African American and Latino Children: To develop and test the effectiveness of a parenting intervention aimed at improving feeding practices of low income parents with the aim of reducing the risk of early childhood obesity. Role: Co-I

NIDDK DK076648 Dabelea (PI) 11/01/14 - 10/31/19 Exploring the Fuel-Mediated Programming of Neonatal Growth (Healthy Start): This project explores a timely public health problem by testing the hypothesis that maternal obesity programs neonatal growth, fatness and metabolism, and by identifying specific mediators of these effects that can be targeted by future interventions. Role: Co-I

# **Completed Research Support**

NIH/NICHD Dabelea (PI) 09/25/08 - 04/30/14 The National Children's Study: The objective of this proposal was to recruit and follow infants from birth to 21y of age and study of exposures and relate them to the emergence of chronic disease. Role: Co-I

HHS Robinson (PI) 09/01/12 - 08/31/14 Leadership Education in Neurodevelopmental and Related Disorders Training (LEND): Training grant to increase educational levels of health care professionals with respect to diagnosis and treatment of autism. Role: Co-I

### CURRENT AND PENDING SUPPORT

JOHNSON, SUSAN **Current Funding** 

T32 DK007658 (Co-I) NIH/NIDDK Institutional Training Program in Nutrition Goals: The primary goal of this training program in nutrition is to train the next generation of physician scientists and basic researchers who are committed to the prevention of disease and health promotion through careers in human nutrition Dates of approved project: 07/15/91 - 06/30/16 Annual direct costs: \$190,683

2015-68001-23240 (Co-PD) USDA Bridging Home and Preschool Environments to Promote Healthy Eating and Activity Behaviors and Prevent Obesity in Early Childhood Goals: To study the impact of parent-child interaction in eating and physical activity and child-care stillute environments in obesity prevention for young children Dates of approved project: 05/01/15 - 04/30/20 Annual total costs: \$184,101

2011-68001-30009 (Co-I) USDA AFRI

Promoting the Self-Regulation of Energy Intake in African American and Latino Preschoolers: A Family Focused Obesity Prevention Program

Goals: To examine maternal influence on children's sell regulation of energy intake by conducting observational coding/analysis of videotaped mother-child mealtime interactions in low-income African-American and Latina mothers; to develop and test an evidence-based, culturally competent parent-directed obesity prevention program focused on parent feeding strategies that support young children's self-regulation; to test the program efficacy through an RCT at 3 locations

Dates of approved project: 3/01/11 - 2/28/16 Annual direct costs: \$46,457

2010-85215-20648 (Co-PD) **USDA AFRI** 

A Longitudinal Study to Assess the Effectiveness of a Preschool Nutrition and Physical Activity Program Goals: To assess the short term longitudinal impacts of a preschool intervention aimed at improving children eating and physical activity behaviors upon 4-6 y old children's dietary intake and physical activity levels. Dates of approved project: 04/15/10 - 04/14/16 Annual direct costs: No Cost Extension

DK076648 (Co-I) NIH/NIDDK Exploring the Fuel-Mediated Programming of Neonatal Growth (Healthy Start) Goals: This project explores a timely public health problem by testing the hypothesis that maternal obesity programs neonatal growth, fatness and metabolism, and by identifying specific mediators of these effects that can be targeted by future interventions Dates of approved project: 11/01/14 - 10/31/19 Annual direct costs: \$115,348

# Pending Funding

NA

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## **BIOGRAPHICAL SKETCH**

Provide the following information for the Senior/key personnel and other significant contributors. Follow this format for each person. **DO NOT EXCEED FIVE PAGES.** 

## NAME: Whiteside-Mansell, Leanne

eRA COMMONS USER NAME (credential, e.g., agency login): lwmansell

POSITION TITLE: Professor of Family and Preventive Medicine

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)

INSTITUTION AND LOCATION	DEGREE	Completion Date	FIELD OF STUDY
University of Arkansas at Little Rock, Little Rock, AR	BSE	06/1981	Education/Mathematics
University of Arkansas at Little Rock, Little Rock, AR	MS	01/1986	Applied Mathematics
University of Memphis, Memphis, TN	EdD	12/1995	Methodology/Statistics

## A. Personal Statement

For over 20 years, I have lead research focused on the family, environmental, and maternal factors linked with poor psychosocial and physical development for young children in families living in poverty. I have been funded as an investigator or evaluator by the NIH, USDA, SAMHSA, Office of Head Start, and state of AR. I have developed and examined the psychometrics of instruments in these populations, conducted studies to investigate the impact of childcare, home environment, and parenting on child development, and tested complex, theoretical models of mediation and moderation. Between 1995 when I completed my doctorate and 2011, I advanced to full professor and to lead a dynamic research team of over 40 professional staff in the Department of Family Medicine Research and Evaluation Division (RED). In this role, I have collaborated with and mentored Dr. Swindle for 5 years. Our co-authored publications represent our success in advancing the field of child health and development in families affected by poverty.

For this award, I will use my expertise in conducting research in at-risk childcare environments, engaging community stakeholders, and developing effective early interventions and evaluation strategies to provide mentorship to Dr. Swindle. I have an active and successful history in mentoring junior faculty, graduate students, and clinical residents. As co-mentor on this project, I will use these skills to work closely with Dr. Swindle to ensure that research and training objectives are met. Given our successful history, I believe I will be well-positioned to act as a co-mentor on this project.

- 1. Whiteside-Mansell, L., Bradley, R. H., & McKelvey, L. (2009). Parenting and preschool child development: Examination of three low-income U.S. cultural groups. Journal of Child and Family Studies, 18, 48-60.
- Conners-Burrow, N, McKelvey, L., Pemberton, J.R., Lagory, J., Mesman, G.R. & Whiteside-Mansell, L. (2013) Moderators of the Relationship Between Maternal Substance Abuse Symptoms and Preschool Children's Behavioral Outcomes. Journal of Child and Family Studies, 22 (8), 1120-1129. doi: 10.1007/s10826-012-9674-1
- 3. Swindle, T., & Whiteside-Mansell, L. (2014). Structured Food Experiences: A Preliminary Evaluation of the WISE Curriculum. Journal of Nutrition Education and Behavior, 46(4), S133
- Conners-Burrow, N., McKelvey, L., Sockwell, L., Harman Ehrentraut, J., Adams, S. and Whiteside-Mansell, L. (2013), Beginning to "Unpack" Early Childhood Mental Health Consultation: Types of Consultation Services and Their Impact on Teachers. Infant Ment. Health J., 34: 280–289. doi: 10.1002/imhj.21387
- Bradley, R. H., McKelvey, L. M., & Whiteside-Mansell, L. (2011) Does the Quality of Stimulation and Support in the Home Environment Moderate the Effect of Early Education Programs? Child Development, 82, 2110-2122.

## **B.** Positions and Honors

### **Positions and Employment**

1996-1999	Assistant Professor of Education, University of Arkansas at Little Rock, Little Rock, AR
1999-2006	Associate Professor of Pediatrics, UAMS, Little Rock, AR
2001-2006	Adjunct Associate Professor Public Health, UAMS, Little Rock, AR
2006-2011	Professor, Professor of Pediatrics, University of Arkansas Medical Sciences, Little Rock, AR
2006-present	Professor, Adjunct Professor Public Health, UAMS, Little Rock, AR
2011-present	Professor, Professor of Family and Preventive Medicine, UAMS, Little Rock, AR
2011-present	Director, Research and Evaluation Division, Family and Preventive Medicine, UAMS

### <u>Honors</u>

2015	Invited speaker at Hendrix Tedx Event
2014	Outstanding Research Mentor by UAMS Women's Faculty Development Caucus
2014	UAMS Phenomenal Women Award
2014	Nominated by UAMS Women's Faculty Development Caucus for Outstanding Woman
	Faculty Award
2011-present	Member of the Network of Infant and Toddler Researchers, advisory group for research
	priorities, Office of Planning, Research and Evaluation, Administration for Children and
	Families
2006	Pediatric Mentor of the Year

## C. Contributions to Science

- 1. Findings from the Adverse Early Childhood Experiences (ACE) study articulated the deleterious effects of childhood trauma on long-term health and social outcomes. 'contification of children most at risk to experience ACE is critical for prevention and early intervention. My work has resulted in a tool that can be used to identify children at risk for adverse childhood experiences as infants and toddlers. The tool can be used by Head Start educators, home visitors, and other program staff that serve high-risk populations. I have multiple publications that demonstrate its reliability, validity, and feasibility when used by program staff. The interview has been used to drive intervention activities, to shape agency policy, and to evaluate outcomes.
  - *1a.* McKelvey, L., Whiteside-Mansell, L., Conners-Burrow, N. A., Swindle, T., Fitzgerald, S. (in press). Assessing Adverse Experiences from Infancy through Early Childhood in Home Visiting Programs. *Child Abuse & Neglect.*
  - 2a. Whiteside-Mansell, L., Johnson, D., Bokony, P., McKelvey, L., Burrow, N., & Swindle, T. (2013). Using the Family Map: Supporting Family Engagement with Parents of Infants and Toddlers. Special Issue on Parent Involvement and Engagement in Head Start for *Dialog: The Research-to-Practice Journal for the Early Childhood Field, 16* (1), 20-44. Retrieved from https://journals.uncc.edu/dialog/article/view/42/100.
  - 3a. Conners-Burrow, N.A., Fussell, J., Johnson, D.L., McKelvey, L., Whiteside-Mansell, L., Bokony, P., Kraleti, S. (2013) Maternal Low and High Depressive Symptoms and Safety Concerns for Low Income Preschool Children. *Clinical Pediatrics*, 52, 171-177.
  - 4a. Whiteside-Mansell, L., Johnson, D., Aitken, M. E., Bokony, P. A., Conners-Burrow, N.A, & McKelvey, L. (2010). Head Start and Unintended Injury: The Use of the Family Map Interview to Document Risk. *Early Childhood Education Journal*, *38*, 33-41.
- 2. Assessing intervention impacts and evaluating critical family factors influencing poor child development require tools that have been examined in the specific at-risk populations. I have contributed to the psychometric examination of an array of tools to confirm their usefulness in low-educated, low-resource parents of young children. In efforts to evaluate expensive, large scale interventions, these studies have been used to understand the research findings.

- Conners, NA, Whiteside-Mansell, L., Deere, D., Ledet, T., & Edwards, M.C. (2006). Measuring the potential for child maltreatment: The reliability and validity of the Adult Adolescent Parenting Inventory – 2. Child Abuse and Neglect: The International Journal, 30, 39-53.
- 2a. Whiteside-Mansell, L., Bradley, R. H., Owen, M., Randolph, S., Cauce, A. M. (2003). Parenting and children's behavior at 36 months: Equivalence between African Americans and European American mother-child dyads. Parenting: Science and Practice, 3, 197-234.
- 3a. Edwards, M. C., Whiteside-Mansell, L., Conners, N. A., Deere, D. (2003). The unidimensionality and reliability of the Preschool and Kindergarten Behavior Scales. Journal of Psychoeducational Assessment, 21, 16-31.
- 4a. Whiteside-Mansell, L., Ayoub, C., McKelvey, L., Faldowski, R. A., Hart, A., & Shears, J. (2007). Parenting stress of low-income parents of toddlers and preschoolers: Psychometric properties of a short form of the Parenting Stress Index. Parenting: Science and *Practice*, *7*, 27-56.
- 5a. Whiteside-Mansell, L., Weber, J., Moore, P., Johnson, D., Williams, E., Ward, W., Robbins, J., & Phillips, A. B., (2015). School bonding in early adolescents: Psychometrics of the Brief Survey of School Bonding. The Journal of Early Adolescence, 35,245-275. doi: 10.1177/0272431614530808
- 3. Confirming theoretically driven models to examine the process by which risk factors and interventions impact child development requires large, full-scale studies. This strand of work examines the integration of prevention and treatment into traditionally educational settings such as early childcare centers and public schools. As an investigator on multiple large scale national studies of early. I have addressed key intervention quesitons and more complex questions of moderation/mediation. I was an active investigator in multiple large, multi-site studies. Starting Early, Starting Smart was a multi-site study funded by the Substance Abuse and Mental Health Services Administration designed to examine the effectiveness of the integration of mental health services into early child care settings. Overall, this study improved parenting practices and maternal depressive symptoms. The National Farly Head Start Research and Evaluation (EHSRE) study was a longitudinal study of the impact of Farly Head Start. Study results are extensive and show a wide range of positive impacts of EHS and advanced our understanding of the factors that define quality early childcare. I have conducted numerous secondary data analyses of large data sets such as the Infant Health and Development program. Overall, these studies have led the way in examining the mechanisms and the impact on discreet subgroups of families resulting in more effective interventions.
  - Whiteside-Mansell, L., Crone, C. C., & Ceriners, N. A. (1999). The development and evaluation of an alcohol and drug program for womer and children. Journal of Substance Abuse Treatment, 16, 265-275.
  - 2a. Conners, N.A., Bradley, R.H., Crone, C.C., & Whiteside-Mansell, L. (2003). Looking for Common Ground -- The Use of Information on Client Satisfaction to Make Improvements in Services for Women and Children. In M. Gersbowitz (Ed.), Center for Substance Abuse Treatment: Practices that Worked.
  - 3a. Conners-Burrow, N., McKeivey, L., Sockwell, L., Harman Ehrentraut, J., Adams, S. and Whiteside-Mansell, L. (2013), Beginning to "Unpack" Early Childhood Mental Health Consultation: Types of Consultation Services and Their Impact on Teachers. Infant Ment. Health J., 34: 280–289. doi: 10.1002/imhj.21387
  - 4a. Whiteside-Mansell, L., Johnson, D., Aitken, M. E., Bokony, P. A., Conners-Burrow, N.A, & McKelvey, L. (2010). Head Start and Unintended Injury: The Use of the Family Map Interview to Document Risk. *Early Childhood Education Journal*, 38, 33-41.
  - 5a. Whiteside-Mansell, L., Bradley, R. H., McKelvey, L., & Lopez, M. (2009). Center-Based Early Head Start and Children Exposed to Family Conflict. Early Education & Development, 20, 942-957.

Complete List of Published Work in NCBI:

URL for a full list of published work

http://www.ncbi.nlm.nih.gov/sites/myncbi/1fmRRTFFXmaQV/bibliography/48621344/public/?sort=date&direction\_n=ascending

or

http://familymedicine.uams.edu/research-and-scholarly-activity-continuing-medical-education-cme/communityresearch-family-and-preventive-medicine/faculty-and-staff/whiteside-mansell/

### **D.** Research Support

### **Ongoing Research Support**

D89MC23141-01-00 McKelvey (PI) 10/1/2012 - 9/30/2017 State-wide evaluation of the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program Evaluation using tools (Family Map) developed by Whiteside-Mansell and McKelvey. Role: Co-PI

2011-68001-30014 Navga (PI) 2/1/2011 - 1/31/2016 This is a collaborative effort by researchers at Arkansas's leading academic institutions and includes participation by the University of Arkansas, Fayetteville; UAMS Arkansas Children's Hospital; UAMS Family Medicine; and UAMS Arkansas Center for Health Information. The project developed and examined interventions for obesity prevention targeting young children in at-risk environments. US Department of Agriculture's National Institute for Food and Agriculture Role (PI at UAMS)

1 RO1 HD76702-02 Aitken (PI) 10/1/2014 - 9/30/2019 Generations In Families Talking Safe Sleep (GIFTSS) is a study of an multi-generational intervention of at-risk women and their mothers to reduce the occurrence of sudden death by suffocation (SIDS) of infants. Role (PI)

### **Completed Research Support**

10/1/2009 - 9/30/2013 Webber (PI) Increasing School Bonding through Gardening to Reduce Ob-sity and other Risk Behaviors in Children in the Delta. This project tested a school garden intervention in middle schools. Role (co-PI)

> 10/1/2008 - 9/30/2012 Whiteside-Mansell (PI)

Funded by the Center for Substance Abuse Treatment, SAMHSA through Northrop Grumman, Fetal Alcohol Spectrum Disorders Prevention of Dagnosis and Intervention; This project tested the system of FASD screen in the foster care system.

Role (PI)

# Whitesido-Mansell (PI)

10/1/2010 - 9/30/2012 Evaluation of the Hot Springs Scie School, Healthy Student project; This project targeted safety and healthy development of children from birth to 18 in the school district SAMSA (Substance Abuse and Mental Health Services Administration)

Role (PI)

### **CURRENT AND PENDING SUPPORT**

### WHITESIDE-MANSELL, LEANNE *Current Funding*

G1-37946-01-2011-68001-30014 (Co-PI) USDA

Interventions for Obesity Prevention Targeting Young children in At-Risk Environments: An Integrated Approach.

<u>Goals</u>: The project involves Arkansas's leading academic institutions and includes participation by the University of Arkansas, Fayetteville; UAMS Arkansas Children's Hospital; UAMS Family Medicine; and UAMS Arkansas Center for Health Information to develop strategies for obesity prevention

Dates of approved project: 02/01/11-01/31/16 Annual direct costs: \$259,700

1 RO1 HD76702-02 (Co-PI)

Department of Health and Human Services, National Institutes of Health Generations In Families Talking Safe Sleep (GIFTSS)

<u>Goals</u>: This is a study of an multi-generational intervention of at-risk women and their mothers to reduce the occurrence of sudden death by suffocation (SIDS) of infants.

Dates of approved project: 10/1/2014 – 9/30/2019

Annual total costs: \$344,539

D89MC23141-01-00 (Co-Evaluator)

The Affordable Care Act Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program Evaluation <u>Goals</u>: This project is using the Family Map Inventories as an evaluation tool and to direct the intervention activities.

Dates of approved project: 10/1/2012 – \$/30/2017 Annual direct costs: \$380,000

**Pending Funding** 

USDA AFRI, Co-PI

A Longitudinal Study of Nutrition Interventions, Food Consumption, and Body Weight in Childhood

<u>Goals</u>: This project examines the increase in healthy food consumption by preschool and elementary children as a result of educational interventions with a longitudinal examination of changes in BMI.

Anticipated Dates: 02/01/11-01/31/16 Annual direct costs: \$339,428

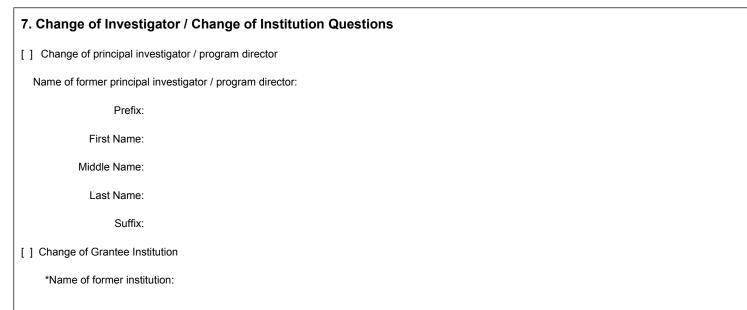
ACF, PI Brace: Building Resiliency to Adverse Childhood Experiences <u>Goals</u>: Reduce the exposure of high risk preschool children to adverse childhood experiences and reduce the impact of the ACE they experience <u>Anticipated Dates</u>: 01/01/2016 – 12/31/2021 <u>Annual direct costs</u>: \$500,000

1. Project Director	r / Principal Investigator (PD/PI)	
Prefix:		
*First Name:	Taren	
Middle Name:	Μ	
*Last Name:	Swindle	
Suffix:		
2. Human Subjects	S	
Clinical Trial?	[X] No [] Yes	
*Agency-Defined Phase	III Clinical Trial? [X] No [] Yes	
3. *Disclosure Peri	mission Statement	
address, telephone	oes not result in an award, is the Government permitted to disclose the title of your proposed project, and the name, e number and e-mail address of the official signing for the applicant organization, to organizations that may be cting you for further information (e.g., possible collaborations, investmenter)	
[X] Yes	[] No	
4. *Program Incom	ne	
*Is program income	e anticipated during the periods for which the grant support is requested?	
[] Yes	[X] No	
	s" above (indicating that program income is a nucipated), then use the format below to reflect the amount and	
	se, leave this section blank.	
*Budget Period	*Anticipated Amount (\$) *Source(s)	

# PHS 398 Cover Page Supplement

5. Human Embryonic Stem Cells		
*Does the proposed project involve human embryonic stem cells?	[X] No	[ ] Yes
If the proposed project involves human embryonic stem cells, list below http://stemcells.nih.gov/research/registry/. Or, if a specific stem cell line one from the registry will be used:	-	
Cell Line(s): [] Specific stem cell line cannot be referenced at the	his time. One from the	registry will be used.
	distri	ש
	istl	>
6. Inventions and Patents (For renewal applications only	NO.	
*Inventions and Patents: Yes [] No []		
If the answer is "Yes" then please answer the following:		
*Previously Reported: Yes [] Not		
200		

# PHS 398 Cover Page Supplement



please do not distribute

# **RESEARCH & RELATED BUDGET – SECTION C, D, E, BUDGET PERIOD 1**

ORGANIZATIONAL DUNS	122452563					
Budget Type:	Project					
Enter name of Organization:	University of A	Arkansas for Medica	al Sciences			
	Start Date:	7/1/2016 5:00:00 AM	End Date:	6/30/2017 5:00:00 AM	Budget Period:	1

#### C. Equipment Description

#### List items and dollar amount for each item exceeding \$5,000

	Equipment item		Funds Requested (\$)
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11.	Total funds requested for all equipment listed in the attached file	is	
		Total Equipment	\$0.00
Addit	ional Equipment:	X	~

#### D. Travel

Domestic Travel Costs (Incl. Canada, Mexico and U.S. Possessions) r.s. F 1.

2. Foreign Travel Costs

#### Funds Requested (\$)

Funds Requested (\$)

**Total Travel Cost** 

\$8,043.00

\$8,043.00

#### E. Participant/Trainee Support Costs

			er of Participants/Trainees	Total Participant/Trainee Support Costs	\$0.00
5.	Oth	ner			
4.	Sub	osisten	се		
3.	Tra	vel			
2.	Stip	pends			
1.	Tuit	tion/Fe	es/Health Insurance		

# **RESEARCH & RELATED BUDGET – SECTION F-K, BUDGET PERIOD 1**

Bud	GANIZATIONAL DUNS get Type: er name of Organization:	122452563 Project University of <i>I</i> Start Date:	Arkansas for Medic 7/1/2016 5:00:00 AM	al Sciences End Date:	6/30/2017 5:00:00 AM	Budget Period: 1
	ther Direct Costs					Funds Requested (\$)
1.	Materials and Supplies					\$300.00
2.	Publication Costs					
3.	Consultant Services					
4.	ADP/Computer Services					
5. c	Subawards/Consortium/Con					\$0.00
6. -	Equipment or Facility Renta					
7. °	Alterations and Renovation Other Costs	S		1		\$6,470.00
8. 9.	Other Costs			-		\$6,470.00
9. 10.				-		
10.					er Direct Cost	\$6,770.00
				Total Oth	ler Direct Cost	\$0,770.00
с п	irect Costs				:00	Funds Requested (\$)
G. D			Та	tal Direct (	Costs (A thru F)	
					SOSISTA III'U F	\$103,743.00
<b>ц</b> 1 <sub>6</sub>	ndirect Costs				0	
п. ш	Indirect Costs	ost Type	Indi	rect Cost	Indirect Cost	Funds Requested (\$)
		Jot Type		ate (%)	Base (\$)	
1.	Negotiated F&A Rate (MTD	)C)	8		\$101,343.00	\$8,107.00
2.				0		
3.				<b>)</b>		
4.						
			2	Tota	I Indirect Costs	\$8,107.00
Cog	nizant Federal Agency	DHHS/Division	or Cost Allocation	Arif Karim 214	-767-3261	
(Age	ency Name, POC Name, and I	POC Phor 3 N JI	n.ber)			
I. To	tal Direct and Indirect Cost	S				Funds Requested (\$)
			Total Direct and I	ndirect Institu	utional Costs (G+H)	\$111,850.00
J. Fe	96					Funds Requested (\$)

K. Budget Justification BUDGET JUSTIFICATION FINAL.pdf

# **BUDGET JUSTIFICATION**

### PERSONNEL

**Taren Swindle, PhD,** *Principal Investigator.* Dr. Swindle is an Assistant Professor in the Department of Family and Preventive Medicine at UAMS. Dr. Swindle will be responsible for the overall leadership, experimental design, implementation, and daily supervision of all aspects of this project. She will assure that data are collected as described and will assure the quality of the data collected. She will supervise staff, account for expenditures, and assure IRB compliance. She will directly supervise the daily work of the Research Assistant. She will have meetings with her mentor and co-mentors and be engaged in the training activities proposed. She will lead weekly group meetings to discuss the project progress and set priorities for the upcoming week. She will have primary responsibility for preparation of manuscripts. Dr. Swindle will devote 75% effort (9 calendar months) to the proposed project.

Irma Cardenas, MPH, Research Assistant. Cardenas is a Research Assistant in the Department of Family and Preventive Medicine at UAMS. Ms. Cardenas has over 15 years of public health experience and training in coordinating research, evaluation projects, and supervising and conducting program implementation. She has developed and delivered technical assistance to community based initiatives serving low-income families. She has worked with Dr. Swindle to develop and deliver training and assistance and coordinate and collect and analyze quantitative and qualitative data collection with Head Start and state-funded childcare programs in Arkansas. For this project, Ms. Cardenas will assist with collection and analysis of open-ended interviews (Aim 1), and the planning and coordination of EBQI meetings (Aim 2). In Aim 3, Ms. Cardenas will co-lead the WISE training, identify RAs for data collection activities, coordinate the data collection staff, and assist with the implementation support process as needed. She will maintain records for IRB compliance across all years of the project. Ms. Cardenas' effort will vary across the years of the project with her highest level of effort in Years 1 and 3 reflective of her involvement with data collection in those years (22%, 2.64 calendar months). Her involvement will be less in Year 2 to help coordinate the EBQ! panel (20%, 2.4 calendar months) and in Year 4 when she will assist with basic analysis, dissemination to community audiences, and manuscript/grant formatting (10%, 1.2 calendar months).

**James Selig, Ph.D.:** *Biostatistician.* Dr. James Selig is an Associate Professor of Biostatistics in the College of Public Health at UAMS. Dr. Selig teaches statistics and statistical programming courses at UAMS. He conducts research on the application of statistical methods with particular emphasis on the analysis of longitudinal data and applications of multilevel models (mixed models). Dr. Selig will provide statistical support to Dr. Swindle providing support in Years 3 and Year 4. He will collaborate with Dr. Swindle to test nested model analysis estimating the comparative effectiveness of the enhanced WISE strategy (Aim 3). He will also consult in preparation of an appropriately designed and powered external funding application. He will devote 4% effort in Year 3 (0.48 calendar months) and 10% effort (1.2 calendar months) in Year 4 for this purpose.

## TRAVEL

			Y	ear 1	`	Year 2		Year 3		Year 4
TRAVEL				\$8,043		\$8,163		\$4,217		\$4,319
Trip	Miles	Mileage	#		#		#		#	
Travel for Qualitative Data Collection	150	0.42	20	\$1,260						
Travel for EBQI meetings	170	0.42			8	\$571				
Travel for Fidelity and Child Data Collection	30	0.42					39	\$491		
Travel for Implementation Support	30	0.42					40	\$504		
PI travel to NIDDK workshop				\$1,500						
PI travel to ISBNPA						\$2,429				\$2,429
PI travel to D&I				\$1,890		\$1,890		\$1,890		\$1,890
PI travel to TIDRH						\$1,941				
PI travel to VCU				\$2,061						
PI travel to CEL at UC Denver				\$1,332		\$1,332		\$1,332		

### Travel for Data Collection

The Research Assistant and PI will travel within one hour of UAMS to reach previous WISE sites for openended interviews in Aim 1. We have budgeted up to 20 day trips as we anticipate being able to complete more than one interview per trip with some visits. These trips are expected to be 150 miles round trip on average at \$0.42 cents per mile (\$1,260).

In the second year, we will host EBQI meetings near partnering sites. Funds are requested to reimburse out-oftown expert advisors for mileage (150 miles round trip x  $3.42 \times 8$  meetings = 504) and local mileage for the research team (20 miles x  $3.42 \times 8$  meetings = 67).

In the third year, local travel will include (a) data collection trips and (c) implementation support trips. We will likely be able to complete 2 fidelity assessments per data collection trip (~RT 30 miles x .42 x 10 trips x 3 time points = 378. However, teacher absences and center schedules may interfere. We are budgeting for a 30% return rate (9 trips) based on previous projects in this setting (~RT 30 miles x .42 x 9 trips= 113). Thus, the total cost for data collection will be 491.Half of these classrooms (i.e., enhanced strategy) will be receiving implementation support visits from the PI or research assistant. We plan to complete these visits on a monthly basis and to support at least 2 classrooms per visit (~RT 30 miles x .42 x 8 months x 5 (2 of 10 classrooms per trip) = 504).

### Travel for PI Training and Dissemination

Funds are requested in Year 1 in the amount of \$1,500 per the program announcement for Dr. Swindle to attend the <u>NIDDK workshop</u> for K awardees in Bethesda, MD.

In Year 1, Dr. Swindle will travel to the <u>Community Engagement Institute</u> (CEI) at Virginia Commonwealth University (VCU) in Richmond, VA to complete 6 days of training in community engaged research. Registration costs are estimated to be \$500. Funds are also requested for a 5 right stay (\$113 per night x 5 = \$565), per diem (\$66 x 6 = \$396), round-trip flight (\$500), and cab ride costs (\$100). This brings the total cost to \$2,061.

In Year 2, Dr. Swindle will attend the six-day <u>Training Institute for Dissemination and Implementation Research</u> <u>in Health (TIDRH)</u>. The 2015 conference was held in Pasadena, California. While there is no registration fee for selected scholars, hotel stay (5 nights x \$183 = \$915), flight (\$500), per diem (6 days x \$71 = \$426) and cab costs (\$100) are budgeted for this trip. The total projected cost is \$1,941.

In Years 1-3, Dr. Swindle will complete a weak of mentored research experiences at the <u>The Children's Eating</u> <u>Laboratory (CEL) at the University of Colorado School of Medicine</u> in Denver under the direction of co-mentor, Dr. Susan Johnson. Flight (\$300), hote  $\$163 \times 4 = \$652$ ), per diem ( $\$66 \times 5 = \$330$ ), and cab costs (\$50) are budgeted for a total of \$1,332.

Dr. Swindle will attend <u>The Society for Nutrition Education and Behavior (SNEB)</u> Annual Conference in Year 1 and 3. Funds are already in place for attendance at this conference. Therefore, no additional funds for this conference are requested.

In the alternate years (Years 2 and 4), Dr. Swindle will attend the <u>International Society for Behavioral Nutrition</u> <u>and Physical Activity</u> (ISBNPA) annual conference. This 4-day conference will be held in Victoria, Canada in 2017. Based on estimated costs to travel to this location, the budget includes staying 4 nights at \$186 per night x 4 = \$744, \$71 per diem rate x 5 = \$355, with a round-trip flight of \$800, and cab ride costs at about \$100. Registration for the 2016 conference is \$430. This brings the total cost to \$2,429.

In all years, Dr. Swindle will attend the <u>Annual Conference on the Science of Dissemination and</u> <u>Implementation</u> (D&I) held in Washington, DC. For this 3-day conference, \$1,890 is budgeted per trip to cover registration (\$325), hotel (\$752), round-trip airfare (\$500, cab costs (\$100), and a per diem rate (\$71 x3 = \$213).

# **OTHER EXPENSES**

Funds are requested for the following:

	Year 1	Year 2	Year 3	Year 4
OTHER EXPENSES	\$6,770	\$5,900	\$3,390	\$300
Item				
Incentives	\$925	\$2,000	\$250	
Transcription	\$3,145			
Tuition	\$2,400			
Intervention Materials		\$3,300		
WISE Training		\$300	\$440	
Data Collection			\$2,400	
Printing and Dissemination	\$300	\$300	\$300	\$300

<u>Incentives:</u> Teachers and directors will be paid \$25 for participation in the open-ended interview in Year 1 (37 x \$25 = \$925). In year 2, stakeholders will be paid \$200 for service on the 6-8 sessions of the EBQI panel (\$200 x 10 stakeholders = \$2,000). In Year 3, we will pay the 10 randomly selected teachers \$25 to participate in the semi-structured interviews in the fall and winter (\$25 x 5 teachers x 2 time points = \$250).

<u>Transcription</u>: We will contract with Landmark Associates to ensure accurate and rapid turnaround of openended interviews in Year 1. This is estimated to cost \$85 per hour of audic (37 hours x \$85 = \$3,145)

<u>Tuition:</u> Based on 2014-2015 prices, it is estimated that UAMS courses will cost approximately \$200 per hour including fees and discounts. Four courses (12 hours, \$2,400) will be taken in Year 1. Dr. Swindle will take these course toward the completion of the Master of Science Degree in Nutrition that was begun as part or her institutional KL2 award.

Intervention Materials: Materials provided to each classroon include a manual (\$30), eight color 'letters' from the farmer for each of 20 children ( $9 \times 20 \times 0.5 = 9$ ), 5 copies of 9 pictures ( $5 \times 9 \times 1.20 = 54$ ), and the Windy puppet (\$20). Each class will receive basic crocking equipment estimated at \$52 (slow cooker or blender \$40, measure cups \$4, child safe knives \$3). We estimate the total per classroom for the curriculum at \$165 per class (\$165 x 20 = \$3,300). We will purchase all of the materials in the Year 2 to prepare for training in Year 3.

<u>WISE Training</u>: Face-to-Face training with be provided by Dr. Swindle and Ms. Cardenas in Little Rock in Year 3. Trainings will provide lunch to altendees (\$10/person x 40 ECES (2 per class) and 4 directors = \$440). We will purchase materials to use in training including paper, color markers, wall posters, binders for training handouts, etc. in Year 2 and have allocated \$300.

<u>Data collectors</u>: We anticipate that the PI and Research Assistant will be able to be responsible for data collection in 4 classrooms. We expect that a data collector will be able to be responsible for data collection in 4 classrooms (8 weeks available for WISE lesson observation at each time point with allowance for teacher absences and site schedule conflicts). Thus, we will hire 4 data collectors to complete the activities in Year 3. Each data collector will take place in 12 hours of training to obtain Human Research Subjects certification (Citi) as well as protocol and reliability training (12 hours x \$12 per hour x 4 data collectors = \$576). Each classroom will require 4.5 hours (1.5 hours per time point) of observational data collection and paperwork (\$12 per hour x 4.5 hours x 16 classrooms = \$864), 2 hours of data collection at baseline and follow up for Child RRS hand scan collection (\$12 per hour x 2 hours x 2 time points x 16 classrooms = \$768) and one hour for record extraction per classroom (\$12 per hour x 1 hour x 16 classrooms = \$192). Thus, total cost to pay data collectors will be \$2,400.

### Printing and Dissemination:

We have budgeted \$100 in each year for conference abstract submission costs. We are also requesting \$200 to cover the cost of purchasing ink and paper for the in-house poster printer. This will be used to print the posters for the two conferences I will attend each year (D&I and SNEB/ISBNPA).

# **RESEARCH & RELATED BUDGET – SECTION C, D, E, BUDGET PERIOD 2**

ORGANIZATIONAL DUNS	122452563					
Budget Type:	Project	Project				
Enter name of Organization:	University of A	University of Arkansas for Medical Sciences				
	Start Date:	7/1/2017 5:00:00 AM	End Date:	6/30/2018 5:00:00 AM	Budget Period:	2

#### C. Equipment Description

#### List items and dollar amount for each item exceeding \$5,000

	Equipment item		Funds Requested (\$)
1.			
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11.	Total funds requested for all equipment listed in the attached file	is	
		Tutal Equipment	\$0.00
Addit	ional Equipment:	X	

#### D. Travel

Domestic Travel Costs (Incl. Canada, Mexico and U.S. Possessions) Please 1.

2. Foreign Travel Costs

#### Funds Requested (\$)

Funds Requested (\$)

**Total Travel Cost** 

\$8,163.00

\$8,163.00

#### E. Participant/Trainee Support Costs

1.	Tuition/Fees/Health Insurance		
2.	Stipends		
3.	Travel		
4.	Subsistence		
5.	Other		
	Number of Participants/Trainees	Total Participant/Trainee Support Costs	\$0.00

# **RESEARCH & RELATED BUDGET – SECTION F-K, BUDGET PERIOD 2**

Budg	ANIZATIONAL DUNS get Type: r name of Organization:	122452563 Project University of <i>J</i> Start Date:	Arkansas for I 7/1/2017 5:00:00 AM	Medical Sciences End Date:	6/30/2018 5:00:00 AM	Budget Period: 2
F. 01	ther Direct Costs					Funds Requested (\$)
1.	Materials and Supplies					\$3,900.00
2.	Publication Costs					
3.	Consultant Services					
4.	ADP/Computer Services					
5.	Subawards/Consortium/Cor	ntractual Costs				\$0.00
6.	Equipment or Facility Renta	I/User Fees				
7.	Alterations and Renovations	3				
8.	Other Costs					\$2,000.00
9.						
10.						2.
				Total Oth	ner Direct Costs	\$5,900.00
G. Di	irect Costs			Total Direct	Costs (A tnru F)	Funds Requested (\$)
H. In	direct Costs			×	O.	
H. In	direct Costs Indirect Co	st Type		Indirect Cos Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)
<b>H. In</b> 1.			8	Rate (%)		Funds Requested (\$) \$8,156.00
	Indirect Co		8	Rate (%)	Base (\$)	1
1.	Indirect Co		8	Rate (%)	Base (\$)	
1. 2.	Indirect Co		8	Rate (%)	Base (\$)	
1. 2. 3.	Indirect Co		8	Rate (%)	Base (\$)	\$8,156.00
1. 2. 3. 4.	Indirect Co Negotiated F&A Rate (MTD	C)	29	Rate (%)	Base (\$) \$101,944.00	\$8,156.00
1. 2. 3. 4. <b>Cog</b> i	Indirect Co Negotiated F&A Rate (MTD	C) DHHS/Division	(17 20st Alloc	Rate (%)	Base (\$) \$101,944.00	\$8,156.00
1. 2. 3. 4. <b>Cogi</b> (Age	Indirect Co Negotiated F&A Rate (MTD	C) DHHS/Division POC Phon 2 N J	(17 20st Alloc	Rate (%)	Base (\$) \$101,944.00	\$8,156.00
1. 2. 3. 4. <b>Cogi</b> (Age	Indirect Co Negotiated F&A Rate (MTD nizant Federal Agency ncy Name, POC Name, and F	C) DHHS/Division POC Phon 2 N J	n ber)	Rate (%) Tota ation, Arif Karim, (2	Base (\$) \$101,944.00	\$8,156.00 \$8,156.00 \$8,156.00

# **RESEARCH & RELATED BUDGET – SECTION C, D, E, BUDGET PERIOD 3**

ORGANIZATIONAL DUNS	122452563					
Budget Type:	Project	Project				
Enter name of Organization:	University of A	University of Arkansas for Medical Sciences				
	Start Date:	7/1/2018 5:00:00 AM	End Date:	6/30/2019 5:00:00 AM	Budget Period:	3

#### C. Equipment Description

#### List items and dollar amount for each item exceeding \$5,000

	Equipment item		Funds Requested (\$)
1.			
2.			
3.			
4.			
5.			
6.			
7.			2
8.			
9.		· 10	
10.		*(1)*	
11.	Total funds requested for all equipment listed in the attached file	is	
		Tutal Equipment	\$0.00
Addit	ional Equipment:	X	

#### D. Travel

Domestic Travel Costs (Incl. Canada, Mexico and U.S. Possessions) Please 1.

2. Foreign Travel Costs

#### Funds Requested (\$)

Funds Requested (\$)

**Total Travel Cost** 

\$4,217.00

\$4,217.00

#### E. Participant/Trainee Support Costs

1.	Tuition/Fees/Health Insurance		
2.	Stipends		
3.	Travel		
4.	Subsistence		
5.	Other		
	Number of Participants/Trainees	Total Participant/Trainee Support Costs	\$0.00

# **RESEARCH & RELATED BUDGET – SECTION F-K, BUDGET PERIOD 3**

Bud	ANIZATIONAL DUNS get Type: r name of Organization:	122452563 Project University of <i>I</i> Start Date:	Arkansas for 1 7/1/2018 5:00:00 AM	Medical Sciences End Date:	6/30/2019 5:00:00 AM	Budget Period: 3
F. 0	ther Direct Costs					Funds Requested (\$)
1.	Materials and Supplies					\$740.00
2.	Publication Costs					
3.	Consultant Services					
4.	ADP/Computer Services					
5.	Subawards/Consortium/Con	tractual Costs				\$0.00
6.	Equipment or Facility Rental	/User Fees				
7.	Alterations and Renovations	i				
8.	Other Costs					\$2,650.00
9.						
10.						2
				Total Ot	ther Direct Costs	\$3,390.00
G. D	irect Costs					Funds Requested (\$)
				Total Direct	Costs (A tnru F)	\$102,392.00
L In	direct Costs				913	
	Indirect Costs	st Type		Indirect Cos' Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)
1.	Negotiated F&A Rate (MTD	C)	8		\$102,392.00	\$8,191.00
2.				20		
3.				0		
4.				5		
			2	Tot	al Indirect Costs	\$8,191.00
Cog	nizant Federal Agency	DHHS/Division	OT DOUG Alloc	ation, Arif Karim, (	(214) 767-3261	
(Age	ncy Name, POC Name, and F	OC Phor J N JI	n.her)			
I. To	tal Direct and Indirect Costs					Funds Requested (\$)
			Total Direct	and Indirect Insti	itutional Costs (G+H)	,
J. Fe	e					Funds Requested (\$)

# **RESEARCH & RELATED BUDGET – SECTION C, D, E, BUDGET PERIOD 4**

ORGANIZATIONAL DUNS	122452563					
Budget Type:	Project	Project				
Enter name of Organization:	University of A	University of Arkansas for Medical Sciences				
	Start Date:	7/1/2019 5:00:00 AM	End Date:	6/30/2020 5:00:00 AM	Budget Period:	4

#### C. Equipment Description

#### List items and dollar amount for each item exceeding \$5,000

	Equipment item		Funds Requested (\$)
1.			
2.			
3.			
4.			
5.			
6.			
7.			2
8.			
9.		· 10	
10.		*()	
11.	Total funds requested for all equipment listed in the attached file	is	
		Tutal Equipment	\$0.00
Addit	ional Equipment:	X	

#### D. Travel

Domestic Travel Costs (Incl. Canada, Mexico and U.S. Possessions) Please 1.

2. Foreign Travel Costs

#### Funds Requested (\$)

Funds Requested (\$)

**Total Travel Cost** 

\$4,319.00

\$4,319.00

#### E. Participant/Trainee Support Costs

1.	Tuition/Fe	ees/Health Insurance		
2.	Stipends			
3.	Travel			
4.	Subsister	nce		
5.	Other			
	Numl	ber of Participants/Trainees	Total Participant/Trainee Support Costs	\$0.00

# RESEARCH & RELATED BUDGET – SECTION F-K, BUDGET PERIOD 4

Bud	GANIZATIONAL DUNS get Type: er name of Organization:		ansas for Medi /1/2019 :00:00 AM	cal Sciences End Date:	6/30/2020 5:00:00 AM	Budget Period: 4
F. 0	ther Direct Costs					Funds Requested (\$)
1.	Materials and Supplies					\$300.00
2.	Publication Costs					
3.	Consultant Services					
4.	ADP/Computer Services					
5.	Subawards/Consortium/Cor	ntractual Costs				
6.	Equipment or Facility Renta	I/User Fees				
7.	Alterations and Renovations	3				
8.						
9.						
10.						0
				Total Other	er Direct Costs	\$300.00
G. D	irect Costs					Funds Requested (\$)
			Т	otal Direct C	Costs (A tnru F)	\$101,898.00
H. In	direct Costs			×	912	
	Indirect Co	st Type		irect Cos Rate (%;	<ul> <li>Indirect Cost Base (\$)</li> </ul>	Funds Requested (\$)
1.	Negotiated F&A Rate (MTD	C)	8		\$101,898.00	\$8,152.00
2.				$\overline{\mathbf{v}}$		
3.				<i>y</i>		
4.						
	-				Indirect Costs	\$8,152.00
•	L	DHHS/Division of	9	n, Arif Karim, (21	14) 767-3261	
(Age	ncy Name, POC Name, and F	OC Phon a Nunih	er)			
I. To	tal Direct and Indirect Costs	;				Funds Requested (\$)
I. To	tal Direct and Indirect Costs		tal Direct and	Indirect Institu	tional Costs (G+H)	,

# PHS 398 Career Development Award Supplemental Form

Please attach applicable sections, below

OMB Number: 0925-0001

Introduction (if applicable)	
1. Introduction to Application (for RESUBMISSION applications only)	
Candidate Information	
2. Candidate's Background	Candidate Background_FINAL.pdf
3. Career Goals and Objectives	Career Goals and Objectives_FINAL.pdf
<ol> <li>Candidate's Plan for Career Development/ Training Activities During Award Period</li> </ol>	Plan for Career Devleopment_FINAL.pdf
5. Training in the Responsible Conduct of Research	Training in the Responsible Conduct of Research
<ol> <li>Candidate's Plan to Provide Mentoring (as applicable)</li> </ol>	N N N
Statements and Letters of Support	
<ol> <li>Plans and Statements of Mentor and Co- Mentor(s)</li> </ol>	Mentor-Co-Mentor Letters- Final.pdf
8. Letters of Support from Collaborators, Contributors, and Consultants	Letters of support
Environment and Institutional Comm	interit to Candidate
9. Description of Institutional Environment	Description of Institutional Environment
10. Institutional Commitment to Candidate's Research Career Development	Institutional Commitment to Candidates Research
Research Plan	
11. Specific Aims	SPECIFIC AIMS_FINAL.pdf
12. * Research Strategy	FINAL RESEARCH STRATEGY.pdf
13. Progress Report Publication List (for RENEWAL applications only)	
Human Subject Sections	
14. Protection of Human Subjects	Protection of Human Subjects
15. Inclusion of Women and Minorities	Inclusion of Women and Minorities
16. Inclusion of Children	Inclusion of Children

# PHS 398 Career Development Award Supplemental Form

Other Research Plan Sections							
17. Vertebrate Anim	als						
18. Select Agent Research							
19. Consortium/Con	19. Consortium/Contractual Arrangements						
20. Resource Sharin	ng Plan(s) Resource Sharing P	lan					
Appendix (if a	pplicable)						
21. Appendix							
Citizenship	[X] U.S. Citizen or noncitizen national	[] Permanent Resident of U.S. Pending					
		[] Non-U.S. Citizen with temporary U.S. visa					

### CANDIDATE'S BACKGROUND

When I was a preschool teacher prior to my undergraduate study, I knew little about child nutrition or my role in helping to establish healthy habits for children. I encouraged children to make 'happy,' empty plates and sent home brightly-colored stickers on their daily sheets for doing so. I never ate with the children. I never modeled trying new foods. I never had a single minute of training on these topics. This personal experience coupled with my later academic and professional experiences has inspired my current research program. I am passionate about the prevention of overweight and obesity, particularly for children impacted by poverty, and I recognize that early childhood and the educational setting are a critical environment for intervention.

My commitment to research began as an undergraduate McNair Scholar at Harding University. The McNair program prepares first-generation scholars from low-income families to complete doctoral degrees. My McNair-sponsored research focused on social experiences of overweight children and included primary data collection in childcare and college settings. After completing three independent undergraduate research projects, and graduating Summa Cum Laude with a BA in Psychology, I continued research at Oklahoma State University (OSU) in the Human Development and Family Studies Masters program. There, in addition to study of social isolation of overweight children, I was a project coordinator for a USDA-funded longitudinal evaluation of approaches to obesity prevention and reduction. This formative training gave me a solid foundation in psychological theory, a firm understanding of child development contexts, and shifted my interest toward primary prevention of obesity.

While computing to complete doctoral coursework in Educational Psychology and Research at the University of Memphis (UM), I worked as a full-time project coordinator on several studies at the University of Arkansas for Medical Sciences. Initially, I managed large-scale data collection and analysis efforts including inhome assessments, school-based parent surveys, and structured parent interviews in contexts impacted by poverty. After completion of my doctoral degree, I was promoted to Co-Investigator for WISE, a USDA-funded project to design, implement, and evaluate an early childhood contriculum for obesity prevention through fruit and vegetable consumption. In this role, I conducted over 100 real-time observations of educators at mealtimes, snacks and educational food experiences. The strengths and shortcomings of educators relative to best practice sparked my pursuit of research to improve nutritional influences on young children.

In August 2014, I received a UAMS CTSA Kiz to investigate personal characteristics and beliefs of early childcare providers that influence their ability to implement and sustain best classroom nutrition practices. This award has funded 75% of the completion of UMaster of Science degree in Clinical Nutrition. The next steps to advance my research agenda are to undercland barriers or facilitators to implementation of obesity prevention best practices (Aim 1), develop enhanced strategies to address barriers (Aim 2), and to test effectiveness of these strategies on implementation and child health outcomes of an evidence-based intervention (EBI) for obesity prevention (Aim 3). This explication will position me to develop a competitive R01 to complete a full-scale implementation trial of an EBI for obesity prevention in childcare and launch my career as an independent researcher in childhood obesity prevention.

Together, these experiences illustrate my capability to lead research efforts and my commitment to serving disadvantaged populations through research. The quality of my work is validated by the research community. I have published 4 peer-reviewed manuscripts as first author and 14 as co-author. Several of these publications are with co-mentor Dr. Leanne Whiteside-Mansell, a nationally recognized expert in Head Start research and the impacts of poverty on children. Based on my recent work in the observation of Head Start mealtimes, I was awarded runner-up in the 2015 Emerging Leadership in Nutrition Science competition held by the American Society for Nutrition. Harding and UM named me The Outstanding Student in Research (2008 and 2013), and OSU honored me with the Rising Star Alumni Award (2013). In 2014, I was selected as an NIH Loan Repayment Recipient, reflective of my commitment to a research career in obesity prevention.

My current professional responsibilities are divided between research (91%), education (7%), and service (2%) for a full-time appointment. The proposed project will align with my research responsibilities with a guaranteed 75% to be protected for this project

### CAREER GOALS AND OBJECTIVES

With this award, my goal is to gain the specific knowledge, practical skills, and real-world experience necessary to become an independent investigator in the design, implementation, and sustainability of effective obesity prevention efforts in the childcare setting. I am capable of fulfilling this research proposal because I have experience in early childcare, graduate training in child development and quantitative research methods, a background in child obesity research, and demonstrated capacity to coordinate the design and evaluation of interventions. To become an independent researcher of obesity prevention program implementation, I need additional training and mentoring in three critical areas: (1) Implementation Science (2) child nutrition, and (3) principles of community-engaged research. The proposed training plan to address these gaps aligns with the Logic Model for Training in Translational Research (Rubio et al., 2010) including didactic education, mentored research, cross-disciplinary collaborations, and structured field studies. The diversity of planned learning strategies will increase my technical skills and knowledge of operational paradigms in these areas.

This training plan has been developed in collaboration with my mentors and supports the proposed research plan and my long-term career development goals. Each objective will be targeted by multiple strategies that will provide a holistic approach to my advancement that compliments my previous training and experiences. Further, each objective contains activities that will leverage existing resources at my institution and build my network of scholars across the nation. This additional training and mentored research will position me to compete for R01 funding and launch an independent and productive career in obesity prevention.

To ensure that I will be successful in advancing toward my career goals, I is ave assembled a strong team of mentors. <u>Geoffrey Curran, PhD</u>, has extensive expertise in dissemination are implementation science with emphasis on designing studies to understand adoption of evidence-based practices in various settings. He has published seminal implementation science papers on the use of hybric research designs and development of implementation interventions. <u>Susan Johnson, PhD</u>, is a nationally recognized expert in child nutrition and child feeding, particularly in the childcare setting. She has extensive experience in development of assessments for measuring child feeding practices, designing observation projects in childcare settings, and mentoring young scientists to independence. <u>Leanne Whiteside-Mansell, Ec/D</u>, nas over 20 years of experience with interventions in childcare settings including as a site lease on the multi-state, longitudinal evaluation study of Early Head Start. She has over 90 publications related to the development of at-risk children and adverse childhood experiences (ACEs). Her experience in building community partnerships to support early intervention will be valuable to both the career development and research aims of this proposal. Bi-weekly meetings with mentors, quarterly meetings with my advisory committee, and semi-annual evaluations of my progress by mentors and advisors will ensure my successful fulfillment of this plan.

#### CANDIDATE'S PLAN FOR CAREER DEVELOPMENT/ TRAINING ACTIVITIES DURING AWARD PERIOD

*Career Development Aim 1.* Obtain expertise in Implementation Science (IS) to apply to obesity prevention efforts. Implementation Science (IS) is the study of methods to promote systematic uptake of research findings and other evidence-based interventions into routine practice, thus improving program effectiveness<sup>1</sup>. I am well-equipped with knowledge in research methodology and applied statistics. However, I have not trained formally or performed mentored research in IS to fully understand processes that contribute to or prevent success of intervention. My research plan is framed to provide me with knowledge of IS frameworks, application of IS principles, and skills in IS study design and hypothesis development.

<u>Strategy A:</u> My primary strategy to achieve IS competence will be directed study and mentored research under the guidance of Dr. Geoffrey Curran, project mentor and director of the Center for Implementation Research (CIR) at UAMS. Years 1 and 2 will involve didactic learning. In the first year, I will take Dr. Curran's graduate course *Implementation Research in Clinical Practice Settings* (HSRE 9653) to explore IS theoretical frameworks, empirical evidence on strategies for improving implementation, methods of assessing implementation processes, and IS research design issues. After the course, I will read and discuss selected readings with Dr. Curran each month. Topics will include implementation of prevention/health promotion interventions, implementation context measurement, and sustainability. I will review implementation strategies tested in childcare settings with an emphasis on child health outcomes. My review will be a publishable product of interest to the fields of implementation science, child obesity, and early education.

Years 3 and 4 will include experiential learning. In addition to working on the proposed IS research project with mentors, I will apprentice and assist with UAMS CIR advisory sessions for researchers designing new IS projects. This will help me apply IS knowledge and identify potential collaborators on campus. Toward the end of the award period, under Dr. Curran's mentorship, I will provide consultation for residents and junior faculty members doing pilot implementation research projects in the Cr.P.'s Rural Primary Care Implementation Research Network. During this period, the CIR will fund approximately 5% of my salary. Throughout the award, I will attend IS workshops offered by the UAMS CIR as well as wobinars sponsored by Veteran's Affairs Quality Enhancement Research Initiative (QUERI), and the Center for Research in Implementation Science and Prevention (CRISP) at the University of Colorado Anschut. Medical Campus. Sessions to date have covered implementation-focused grant proposals, engaging stak sholders, and case studies in implementation.

**Strategy B:** To supplement training at my home institution and to expand my network of IS scholars, I will apply to attend the Training Institute for Dissemination and Implementation Research in Health (TIDIRH) developed by the NIH Office of Behavioral and Social Sciences in collaboration with leading experts in IS<sup>2</sup>. TIDIRH is an annual summer institute training program that combines didactic training with small group work sessions and individualized mentoring. Leading experts in the field provide interactive learning and networking opportunities. Substantive (e.g., interventions at multiple levels) and methodological (e.g., comparative effectiveness research) topics are covered. Further, attendees receive materials to conduct their own IS workshops. The UAMS CIR will host cresentations that I will lead using these materials. This will increase my fluency with the material and recognition in the local IS community. Applications to attend TIDRH are accepted in April of each year for attendance at the following summer session. I will apply in the first year (for attendance in the second year) and each subsequent year if not initially accepted. The application process is competitive, but preference is given to transdisciplinary researchers working in community-based settings. My application will align strongly with these priorities.

<u>Strategy C:</u> The NIH collaborates with Academy Health to host an annual conference in the Science of Dissemination and Implementation. The goal of this conferences is to improve the skills of researchers to increase the uptake of evidence into practice and policy in their respective content areas. The conference also provides interactive forums, small break-out sessions with experts in the field, and training in specialized IS topics (e.g., SMART designs, strategy customization). I will submit for presentation and attend this conference (including pre-conference workshops) during each year of the proposed project.

Career Development Aim 2. Advance content knowledge and experience in child and community nutrition and nutrition intervention. Nutritional science is vital to the study and promotion of best nutritional and obesity prevention practices in early childcare. As a skilled researcher in child development and interventions in educational settings, I have partnered with registered dietitians and nutrition scientists on previous obesity prevention projects. However, my goal is to lead nutrition-focused obesity prevention projects as Principal Investigator. Formal training and directed research experience in nutrition will serve that career goal and enable me to be a content-expert external facilitator in implementation-focused projects.

<u>Strategy A:</u> I will complete structured field experiences at The Children's Eating Laboratory (CEL) at University of Colorado School of Medicine, directed by Dr. Susan Johnson, a co-mentor on the proposed research project. The CEL is known for its work on development of children's eating behaviors and weight outcomes and impacts of the mealtime environments on children's eating patterns. The CEL currently has active projects funded by the USDA and the industry in obesity prevention and children's development of food preferences. I will complete a one-week field study with the CEL in Years 1-3 of the project. I will have the opportunity to shadow CEL faculty, to participate in data collection and meetings on active research projects, and to interact with project teams. I observe interventions taking place in community and primary care settings. To prepare for the field studies, I will complete readings assigned by Dr. Johnson relative to work of the CEL.

<u>Strategy B:</u> Through my KL2 award, I have pursued a Master of Science in Clinical Nutrition (MSCN) with a concentration in Community Nutrition. When the proposed project begins, I will have 9 hours remaining to complete this degree. Remaining courses will include NUTR 5213 *Pediatric Nutrition*, NUTR 5161 *Advanced Nutrition Seminar*, and NUTR 608 *Research in Nutrition*. I will finish the degree in December of Year 1 of the proposed training plan.

**Strategy C:** To connect with other scholars in child and community nutrition, I will attend and present at leading nutrition conferences. The Society for Nutrition Education Behavior (SNEB) holds an annual conference on nutrition research and its translation to education, policy, and practice. SNEB focuses on the implementation of nutrition intervention and education efforts in community settings. I will continue my active involvement in the Children's Division, a sub-committee of the SNEB focused children's nutrition education. I will attend SNEB in Years 1 and 3 of this project. In alternate years, I will present at the conference of the International Society for Behavioral Nutrition and Physical Activity (ISBNPA) when it is located in North America. ISBNPA focuses on advances in behavioral nutrition research and draws leading experts from across the globe. Plenary sessions from 2015 covered relevant topics such as cultural relevance in interventions, socioeconomic inequalities in nutrition behavior, and harnessing policy change. ISBNPA is acknowledged as the cutting edge forum for presenting intervention studies related to early childhood and childcare settings.

**Career Development Aim 3.** Increase Community Enclosement (CE) skills to inform design and implementation of evidence-based interventions relevant to targeted communities. Community-engaged research has the potential to improve cultural relevance of intervention approaches, determine the community's priorities in approaching a health topic, and communicate research in ways that are most helpful to the public<sup>3</sup>. Further, community engaged research develops community leader understanding of clinical trials and large population-based studies. By promoting community ownership of health research, researchers can reduce recruitment barriers and delays in translational science. To date, I have led focus groups to gather early educator perspectives, held community review boards to garner input on research protocols, and piloted research tools and measures with communic nembers. However, I lack a full understanding of theoretical underpinnings and conceptual approaches to community engagement and how to systematically integrate the community into my ongoing program of research. This knowledge is critical to ensure that implementation strategies I develop are relevant and useful to the targeted individuals, communities and systems.

**Strategy A.** In Year 1, I will attend workshops offered by the Virginia Commonwealth University (VCU) in community-engaged research (3 days), community partnerships (1 day), and service learning (2 days). These workshops are held annually through a partnership with the VCU Division of Community Engagement and the VCU CTSA. Previous topics have included authentic community partnerships, strategies for community-engaged research funding, and strategic community outreach. These workshops will provide me with a foundational understanding of the core principles of community engagement and lay the groundwork for me to engage in experience-based learning in community engagement at my institution.

**Strategy B.** The Translational Research Institute (TRI; UAMS CTSA) has a strong Community Engagement (CE) Core led by Dr. Kate Stewart. Under her direction, I will engage in: (a) directed readings to establish strong conceptual knowledge of community engagement approaches, (b) attendance and reflection on CE training opportunities offered by the TRI (e.g. "The Dos and Don'ts of Community Engagement"), (c) annual participation in the planning and execution of a Community Review Board, and (d) observation and assistance with community engagement consultations with other UAMS investigators at least twice yearly. Dr. Stewart will also provide consultation on the stakeholder engagement activities planned for Aim 2 of the research project. Additionally, Dr. Pam Williams of UAMS has current PCORI funding to provide community partnership training to research investigators. I will serve on the advisory board of the training development program which will provide me with an in-depth understanding of cultivating community partnerships from their formative stages to true long-term research collaborations. This will also expose me to adaptations that can be

used in forming community partnerships and how measures are used to evaluate their success.

Strategy C. To practice community partnership development. I will lead the establishment of a community advisory board for my division (RED; Research and Evaluation Division) in Year 2. Under directorship of Dr. Leanne Whiteside-Mansell (co-mentor), RED has established many informal community partners. RED wants to provide structure to these partnerships to ensure their sustainability, to inform research priorities, and to translate research findings back to relevant stakeholders. The stakeholders include educators, parents, agency administrators, and state policy makers. Drs. Stewart and Whiteside-Mansell will provide mentorship in inviting stakeholders, establishing responsibilities of board members, defining the guidance desired from the group, and outlining board structure (e.g., frequency of meetings, leadership). This will provide real-world practice in partnership development and result in tangible improvements in community engagement skills.

Table 1: Timeline of Training and Research Activities								
Career Development	Year 1	Year 2	Year 3	Year 4				
<b>Objective 1: Implementation Scie</b>	Objective 1: Implementation Science							
Complete IS directed study	7%	5%	2%	2%				
Attend TIDRH	-	2%	-	-				
Attend & present at DNI	2%	2%	2%	2%				
conference								
<b>Objective 2: Child Nutrition</b>								
Complete MSCN degree	5%	-	-	-				
Complete field study at CEL lab	2%	2%	2%	-				
Attend & present at SNEB/	2%	2%	2%	2%				
ISBNPA								
Objective 3: Community Engagement								
Attend VCU workshops	2%	-	-	-				
Complete CE directed study	5%	7%	2%	2%				
Establish & sustain RED CAB	-	3%	2%	2%				
Research								
Research Activities	35%	32%	35%	25%				
Mentoring and Development								
Mentoring meetings	<b>)</b> 5%	5%	5%	5%				
Additional ongoing research	16%	16%	11%	11%				
Teach Graduate course in Survey	7%	7%	7%	7%				
Research								
Teach/Consult with C!R			5%	5%				
Service activities	2%	2%	2%	2%				
Manuscript/Grait Preparation								
Manuscript Preparation	5%	10%	10%	15%				
Grant applications (e.g., R01)	5%	5%	13%	20%				

Table 1 provides an overview of the planted allocation of my time across both career development and research aims. Table 2 provides an overview of the research activities of the project across the study aims. These activities, combined with the career covelopment activities, will provide a solid foundation from which to launch my career as an independent scientist in obesity prevention for at-risk children. Further, the proposed strategies have significant potential to incrove obesity prevention practices in a critical real-world setting.

Table 2: Research Project Timelin									
·	Yea	r 1	Yea	r 2	Ye	ar 3	)	/ear 4	1
Specific Aim 1									
Identify ECEs for interviews (quant)									
Recruit ECEs and complete interviews									
Analyze interview content (QUAL)									
Specific Aim 2									
Form panel & Prepare materials for EBQI									
Complete EBQI iterations									
Design materials for enhanced strategy									
Specific Aim 3									
Train ECEs in WISE									
Implement Enhanced Strategy									
Collect Implementation data									
Collet Child data									
Analyze data to compare conditions									
Prepare R01									

## **Training in the Responsible Conduct of Research**

As part of the KL2 award from the UAMS CTSA, I am completing approved training hours in the Responsible Conduct of Research (RCR) through a Scientific Communications (SC) course. This course is offered in a collaboration between The UAMS Office of Research Compliance (ORC) and the College of Medicine Graduate School and is designed to meet the federal requirements for RCR. Sessions in this course are face-to-face and one hour in length. Topics include:

Mentor- Trainee Relationships	Plagiarism*	Responsible Conduct of Research*	Data Acquisition, Lab Notebooks, Management, and Ownership	Publication Practice and Responsible Authorship*
Research Involving Animals	Small Talk, Networking, and Collaboration	Research Involving Humans	Diversity in the Workplace and Social Responsibility	Peer Review and Conflict of interest

I will attend additional sessions in the fall of 2016 to reach the 8 hour requirement. An additional 1.5 RCR hours were gained in 2015 by attending an interactive case-based session at Translational Science 2015 entitled "The Leadership Takes the Stage: Interactive Training in the Respersible Conduct of Research." I have also completed the online training courses offered by the Collaborative Institutional Training Initiative (CITI) in the responsible conduct of human research. My mentors and (will maintain up-to-date human subjects training certification throughout this award. I will take refrecter courses in these topics as needed to ensure I have covered 8 hours of approved RCR training at least once every 4 years.

I will also attend regular training opportunities offered by the UAMS Division of Medical Humanities in research and healthcare ethics. Sessions in advance research ethics and conflicts of interest are recurring workshops in which I plan to participate. Further, I will include ethic airssues as a recurring agenda topic for mentor meetings. The mentors on this application have extensive experience with identifying and addressing ethical issues in research in community settings. They will monitor my adherence to appropriate ethical standards and protection of human subjects as part of ongoing evaluation of my work.

210250

September 28, 2015





Dear Review Committee,

It is with great pleasure that I support Taren Swindle, PhD, in her pursuit of a Mentored Research Scientist Development Award. The overall program Dr. Swindle has proposed combines an impressive team of mentors and high quality research design to ensure her development as an independently funded investigator. As Dr. Swindle' primary mentor on this award, I am delighted to discuss her talents that will assist her in becoming an independently funded investigator and the expertise I bring as a mentor.

**Dr. Swindle has the ideal training and record of performance for a career development award.** Her research training commenced in undergraduate as a McNair scholar, a research training and development program to prepare low-income, first-generation students for graduate study. She has built on these skills with continual leadership on federally-funded research programs since 2008. She has been recognized as an outstanding scholar through awards from each of her training institutions. The NIH has already invested in her success through a Loan Repayment award. She has 18 published or in-press peer-reviewed manuscripts in nutrition, education, pediatrics, and child development journals.

The proposed training and research activities will provide her the skills and experience needed to be a successful independent investigator in the implementation of best practices in childhood obesity prevention. Few investigators will have the comprehensive expertise in implementation science, child nutrition, and community engagement to address the complex childhood ot esity problem that Dr. Swindle will have upon completion of this award. Further, there are few scholars currently working in implementation research who focus on child obesity and childcare. The field will benefit from her expertise and commitment in these areas. In addition, Dr. Swindle's research design involves an impressive plan that builds on her existing training and experiences and provides opportunity to build her ckills in the targeted career development areas. Her research utilizes mixed methods to understand barriers and facilitators to implementation of an evidence-based intervention for obesity prevention in childcare (Aim 1). She will partner with key stakeholders to develop implementation strategies to address identified barriers and promote facilitation (Aim 2) and test the effectiveness of this package of strategies on implementation and child outcomes (Aim 3). At the end of this research, Dr. Swindle will be well-positioned to successfully submit a large-scale R01 implementation trial to test the enhanced implementation strategy that will be developed and piloted in the K01. Her timeline and budget have been thoughtfully planned to realize the full potential of this award toward her advancement.

My expertise in Implementation Science will allow me to provide mentorship to Dr. Swindle. have extensive expertise in implementation science (IS) with a particular emphasis on designing and testing implementation strategies to support the adoption and sustainability of evidence-based practices (EBPs). I have focused additional work on 1) formative evaluation methods to assist in developing and revising implementation strategies based on data derived from local contexts, and 2) "hybrid effectivenessimplementation" designs which combine elements of clinical/preventive effectiveness and implementation research to speed the translation of EBPs. Both of these approaches are being applied in the K01. I currently serve on the NIH Dissemination and Implementation Research Design and Methods Working group. I am currently funded by NIMH and have a large partnered implementation study in the field in Federally Qualified Healthcare Centers in rural Arkansas. I have also been PI on NIDA and VA-funded implementation research in mental health and primary care settings. I have served on the Executive Committees of two VA Quality Enhancement Research Initiative (QUERI) programs (Mental Health and Substance Use Disorder) and will shortly serve as a lead consultant on 3 new QUERI Field Programs on Team-Based Care, Women's Health, and Telehealth (which are replacing the earlier, disorder-focused programs). I served on the Expert Committee for the recent Expert Recommendations for Implementing Change (ERIC) study which refined and defined a published compilation of implementation strategies and terms. I serve on the Editorial Board of Implementation Science and have reviewed IS grants for the VA and NIH.

In addition to my scientific contributions, I have a strong history of mentoring. I have served as Director of a VA postdoctoral fellowship program and as Co-Director of an NIMH T32. I have mentored numerous postdoctoral fellows and junior faculty members, most of whom now hold academic positions with Center for Implementation Research, 4301 W. Markham, slot 522-4, Little Rock, AR 72205-7199 (501) 686-7610 (501) 296-1168(fax) currangeoffreym@uams.edu extramural funding. I am currently mentoring 5 junior faculty members at UAMS across 3 Colleges and comentoring others at the University of Washington, Baylor, Colombia University, and one scholar who is a Career Development Awardee at the Seattle VA. I am also on the Steering Committee of the NIDA T32 at UAMS. Recently, I joined a proposed implementation science-focused T32 application from the University of Pennsylvania as an external expert who will provide didactics and mentoring. In my role as Director of the Center for Implementation Research as UAMS, I am working with a team of senior investigators to develop curriculum and mentor new scholars at interested in IS. Dr. Swindle is one of these new scholars. As is evident in the application, she and I have only recently begun to work together. In the development of this application, Dr. Swindle has worked incredibly hard on learning and applying implementation science principles. I look forward to continuing our work together and I am confident that she has the intelligence and drive necessary to become expert in implementation science and make major contributions to the field.

I am fully committed to mentoring Dr. Swindle during the completion of her career development award. As her primary mentor, I will be responsible for directing the organization of training and research, collaboration with her mentoring committee, and providing specialized mentoring in the area of Implementation Science. The table below summarize the expert team of mentors, advisors, and consultants we have assembled and the role that each will have on the project. Mentors and advisors will contribute feedback on performance and progress, help to identify emerging research and training opportunities, clarify goals and expectations, and provide a forum for candid conversations. Together, we will conduct a semi-annual review of her progress toward important milestones such as course/workshop completion, research timeline progress, presentations at meetings, and submitted/published manuscripts. We will take supportive and corrective action to address any barriers to Dr. Swindle's success. I expect to dedicate 5% of my time to mentoring Dr. Swindle.

Name	Role	Expertise	Commin.ne nt
Geoffrey Curran, PhD	Mentor	Implementation Science	1. Weekly meetings
		_	2. Coordinate mentoring & advisory team
			3. Lead semi-annual evaluation
			4. Lead career development in Implementation Science
Susan Johnson, PhD	Co-Mentor	Nutrition Science & Child	Monthly teleconferences
		Feeding	2. Lead career development in child nutrition
			3. Coordinate CEL field study, Years 1-4
			4. Participate in quarterly meetings and evaluations
Leanne Whiteside-	Co-Mentor	Community-Based Early	1. Monthly meetings
Mansell, EdD		Interventions	2. Lead career development in community engagement
		0	3. Participate in quarterly meetings and evaluations
Alice Ammerman,	Scientific	Community Nutrition &	1. Advise on implementation strategy development
DrPH, RD	Advisor	Imp'ementation Science	2. Participate in quarterly meetings and evaluations
Wendy Ward, PhD	Career Advisor	C'n'dhood Obesity &	1. Advise on leadership development
-		Faulty Development	2. Participate in quarterly meetings and evaluations

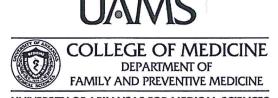
At present, Dr. Swindle's time is allocated 91% to research, 7% to education, and 2% to institutional service. As she develops expertise in Implementation Science through her career development objectives, the CIR expects to pick up 5-10% of her time to provide didactics and mentoring to more junior investigators, residents, and clinicians involved in CIR-supported pilot research at UAMS.

In summary, I have complete confidence that Dr. Swindle's proposal will provide the further and final development necessary to achieve her long-term career goals. Dr. Swindle's strong enthusiasm, excellent qualifications, and proposed mentoring plan ideally position her to achieve continued success in making significant contributions to the field of obesity prevention through implementation science

Sincerely,

Reoffrey M. Guran

Geoffrey Curran, PhD Director, Center for Implementation Research Professor, Departments of Pharmacy Practice and Psychiatry



UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

4301 W. Markham St., #530 Little Rock, AR 72205 - 7199

501-686-6560 501-686-8421 (fax)

Dear Review Committee,

I am very pleased to offer my support as mentor for Dr. Taren Swindle for the NIDDK Mentored Research Scientist Development K01 Award. As Director of the Research and Evaluation Division (RED) within the Department of Family and Preventive Medicine (DFPM), I have mentored Dr. Swindle for five years. As senior faculty, I have served as her mentor on her current KL2 award. As a colleague, I have supported and collaborated with her to advance her research agenda as she is quickly becoming a leader of obesity research in RED. I am fully committed to supporting Dr. Swindle's career goal of becoming a leading researcher in the implementation of obesity prevention programs for at-risk children.

For over 20 years, my research program has focused broadly on the family and environmental links with poor psychosocial and physical development for young children in families living in poverty. Most recently I have focused on the link between educators/home visitors and parents in the effort to improve the quality of family engagement and reduce adverse childhood experiences. I have more than 90 publications related to child development in at-risk populations. I have published in top journals in my field including *Child Development* and *Pediatrics*. I have served on the editorial board of the *Journal of Marriage and Family* and provided reviews to a wide range of professional journals.

I have been fully research-funded since 1995 in projects funded by the PLH, the USDA, the State of AR, the Office of Head Start, and the Center for Substance Abuse Treatment. Currenly, I am funded as an investigator for research by the USDA to develop a preschool obesity prevention intervention. the NIH to develop a SIDS risk assessment and intervention, and the State of AR to evaluate multiple preschool educator interventions. My past research projects have included the Early Head Start Research and Evaluation Study, Starting Early, Starting Smart (a project that targeted Head Start families), two Safe Schools, Healthy Students studies (a school based project to improve school safety and the health and emotional well-being of students), and the Community Mental Health Centers Partnership with Early Childhood Programs project funded by the State of Arkansas (a project to integrate mental health services into childcare).

As part of this work, I have partnered with nonerous community-based programs in AR serving families with children atrisk for poor developmental outcomes. I have extensive experience in conducting studies with preschool childcare providers serving low-income families including assessment of preschool children growth and development. I have also worked extensively with the Arkansa. State Division of Childcare and the Arkansas Head Start Association. For example, I have collaborated on a state-wide evaluation of the early childcare programs that serve low-income families funded by the State of AR. As a result, our team in DFPM has conducted student evaluations in over 400 childcare classrooms. I believe this experience will be helpful for Dr. Swindle as she connects to programs and interprets findings.

In addition to my research experience, I have a strong history of mentorship and supervision. I was awarded the Department of Pediatrics Mentor of the Year in 2005, nominated by two junior faculty in my unit. Both have successfully achieved research independence in less than 6 years. Since 2011, I have directed RED, a dynamic research team of four full-time faculty and over 40 professional staff with the goal of improving the home and childcare environment for at-risk families. I serve on multiple dissertation committees each year and mentor RED faculty and clinical residents in DFPM.

I am pleased to bring my expertise in early intervention, evaluation research, child development in poverty, and community engagement to contribute to the success of Dr. Swindle in the proposed project and her long-term career. I have been extremely impressed with Dr. Swindle remarkable commitment to research and academic success. She has a foundation of knowledge in the areas of early childhood obesity, at-risk environments, research methods, and advanced statistical procedures. She has shown in her work and interactions that she is a logical and clear thinker. She is able to take a complex situation and propose novel solutions or hypotheses related to the mechanisms. Her research questions around the role of the early childcare environment in obesity prevention are under-studied, and her methods are likely to provide important contributions to improvements that can be made in the field. In my work with Dr. Swindle, I feel I

have been helpful in mentoring her in the complex issues of running a study and delegating effectively to professional research staff while monitoring the integrity of the research protocol. Dr. Swindle has been impressive in her ability to be self-reflective and address areas in which she needs additional support, education, or experience.

Dr. Swindle has proven her determination, expertise, and motivation to be an active part of the academic community with 14 peer-reviewed publications, 4 in-press manuscripts, and 2 papers under review. Further, Dr. Swindle has taken advantage of many opportunities to enhance her knowledge to better prepare for advancement in academics and as a high-quality, independent researcher. For example, she has been strategic in her networking opportunities at conferences resulting in personal relationships with leaders in the field. She has purposefully sought coursework that will fill gaps in her knowledge and begun collaborations with colleagues that can serve as strong partners in research proposals. She has a well-conceived research plan that is enmeshed in a long-term research agenda.

Dr. Swindle and I have extensive overlap in our interests – particularly around childhood obesity, the risk to children living in poverty, and the potential for the early childcare setting as a productive setting for intervention. Dr. Swindle's research agenda has grown out of – at least in part – our recent work on an externally funded project to develop a classroom intervention for preschool children (WISE). The intervention is intended to increase the exposure of children to healthy food. The execution of the proposed research plan by Dr. Swindle is a natural extension of our current work and will situate Dr. Swindle in a position to be competitive for additional external funding. Dr. Swindle has transitioned into a role of co-PI on the currently funded project. We are currently applying for additional funding to complete a full randomized-controlled trial of the intervention. Dr. Swindle will serve as co-PI on this project. Her initiative and creativity was demonstrated in the translation of an observational research tool she loc in developing for our WISE project into a unique observational tool generalized for the assessment of quality hutilion classroom environments. The proposed project and training plan bring together a coherent package to support her innovative research agenda.

Based on over 20 years' experience working with early childcare providers in AR, I will provide Dr. Swindle with advice, support, and mentorship in the recruitment and partnership with the target population. I will also mentor Dr. Swindle in applications for external funding as I have been funded for over 20 years with external research funding. Additionally, all 4 full-time faculty and over 40 professional staff in KED are fully funded by external research projects. We can provide the support needed to advance Dr. Swindle to research independence. I will protect 5% time to dedicate to the mentorship for this project. Dr. Swindle and I will cominue our weekly meetings and meet informally as needed during the week. I also expect to participate in monthly meetings with other mentors and quarterly meetings involving advisors and consultants on the project to provide joint feedback on her progress. I will be pleased to participate in formal semi-annual evaluation efforts to assess Dr. Swindle's attainment of proposed milestones.

RED and DFPM join me in fully supporting Dr. Swindle's career. All resources and support services will be made available to support her project. Dr. Swindle has access to computer equipment and statistical software, standard office equipment, and administrative support. KED has a comprehensive infrastructure to support research such as data entry support, electronic data capture software and expertise, and master's level statistical support. She will continue to receive an annual fund of \$1,500 which she can use for professional development, conference travel, or equipment needs. I have found UAMS and the DFPM to be strong institutional environments for my own research career. I believe this will be true for Dr. Swindle as well with the added benefit of the resources we have built for RED investigators.

With the current project, Dr. Swindle has proposed clear career development objectives and research activities that will prepare her to be competitive for future applications. The combination of skills and expertise she proposes to attain will make her an attractive investigator to a variety of funding agencies and a valuable collaborator to a diverse group of scientists and disciplines. Dr. Swindle is truly positioning herself to be a transdisciplinary researcher who, I believe, will effect real change for obesity prevention in children.

Sincerely,

Leanne Whiteside-Mansell, Ed.D. Professor and Director of the Research and Evaluation Division Department of Family & Preventive Medicine University of Arkansas for Medical Sciences



School of Medicine

Department of Pediatrics Section of Nutrition

12700 East 19th Avenue Box C225 Aurora, CO 80045 Office: 303-724-2923 Fax: 303-724-6012

September 21, 2015

Dear Committee Members:

It is my pleasure to write a letter in full support of Dr. Taren Swindle's proposed Mentored Research Scientist Development Award. I met Dr. Swindle at her presentation at Experimental Biology in March of 2015. I was impressed by her passion, her openness to alternative points of view and opinions as well as her drive and passion to continue in her chosen area of work. Dr. Swindle was recognized as an Emerging Leader in Nutrition Education by the American Society for Nutrition based on this research. Since that time, Dr. Swindle and I have been in communication regarding our shared research interests and her career development. Although we have known one another for this limited time, I have quickly come to appreciate the unique skill set that Dr. Swindle brings to the field of obesity prevention, especially that of early childhood development and an interest working with children and providers in the child care arena. I most enthusiastically offer my full support as comentor to her application.

Dr. Swindle's training and experience are both unique and invaluable to the field of obesity prevention and child nutrition. Typically, an investigator in child nutrition does not fu'iy appreciate the developmental and societal factors that contribute to poor nutrition and obesity. However, Dr. Swindle's training in child development and educational research have provided her an optimal background to design appropriate evidence-based programs to prepare early childhood educators to be obesity prevention agents in the community—a sorely needed perspective. Dr. Swindle also has an excellent track record of developing, conducting, and disseminating multiple studies including receipt of a KL2 award from her institution's CTSA. With this background and the additional skills she will gain in Implementation Science, child nutrition, and community engagement, she will be uniquely positioned to excel in designing and implementing effective obesity prevention programs for at-risk children.

Dr. Swindle's research and training plan are both innovative and relevant for the field of obesity prevention. I have researched child nutrition and feeding in childcare settings for more than 15 years. I am intimately aware of the strategies currently in place and the approaches that have been undertaken to improve child nutrition and to contribute to obesity prevention efforts. Dr. Swindle's work builds on the lessons we have learned and extends this work logically. Her explicit focus on implementation strategies to support adoption and sustainability of best practices among childcare providers has a high probability of translating to positive impacts on children's weight and nutrition. This approach has not been well-developed or tested by other investigators. Further, her involvement of both educator and parent stakeholders will assure that her work is relevant and well-received by the target audiences. The proposed work is complementary to that of mine and her other mentors but represents an original line of research that she can carry forward to independence.

I have expertise in the development of children's eating behaviors (as related to typical growth as well as childhood obesity) in the context of the environments in which they learn about eating (the home, school and child care environments). I have been PI or Co-PI on federal and foundation grants which have provided more than \$16 million in external funding support, 4 of which are currently active grants. These projects have produced numerous publications (>80 peer-reviewed publications) as well as nutrition and physical activity curricula for child care environments that are currently implemented nationally and internationally.

I have a strong history of mentoring junior investigators. As director of The Children's Eating Laboratory, and through my affiliate appointments (Colorado State University, CU College of Nursing, University of Illinois and University of Idaho) I have had the privilege of mentoring many junior faculty (7 Assistant Professors at 3

institutions; 2 K awardees) and graduate and undergraduate students (10 Ph.D. students, 4 PsyD students, 5 MPH students, 12 Masters students, 3 MD/PhD fellows, and over 60 undergraduate interns). I have established an accredited internship for students that is recognized by 4 universities in the Denver metropolitan area. I am the Associate Director of the Section of Nutrition T32 NIH training grant and work with a number of fellows associated with this grant. I have a very "hands on" approach to mentoring that includes the ongoing development of a research plan, frequent (biweekly or more) interaction with candidates and taking care to introduce the candidates to opportunities and individuals who will further their careers. These interactions with students and trainees have resulted in numerous abstract presentations and publications and several of the student mentees have moved forward in the path to independence and have undertaken faculty positions in other institutions. Consistent with this strategy, I have already been able to link Dr. Swindle with leading researchers in child nutrition in my own and other universities.

I am pleased to act as a co-mentor on Dr. Swindle's career development award. I understand that this will involve monthly one-on-one teleconferences, quarterly meetings with other mentors and advisors, and semiannual contribution to structured evaluations of Dr. Swindle's progress. I will offer mentorship to Dr. Swindle in several key areas. I can offer guidance in the execution of research protocols in childcare settings including measurement of child outcomes. I have extensive knowledge and understanding of policies impacting nutrition and feeding in childcares. I will also be able to help to interpret results in light of my content expertise in obesity prevention. Finally, I look forward to providing guidance about career development plans, preparing future funding applications, and building her collaborative network.

In addition to my ongoing mentorship, I am happy to offer the resources and expertise of the Children's Eating Laboratory (CEL), at the University of Colorado School of Medicine for additional training and development for Dr. Swindle. The CEL is a 9-person unit (faculty & staff) with 4 faculty dedicated to obesity prevention and understanding the development of children's food preferences. I will coordinate yearly field experiences at the CEL for Dr. Swindle. These visits will allow Dr. Swindle to becrease her exposure to protocols to study children's eating behaviors, clinical experiences in obesity prevention in Colorado communities, premier implementation scientists on the CU Anschutz campus and to provide occasions for us continue to build our collaborative interests. We have a host of shared recearch interests related to child nutrition and child feeding, particularly in childcare, and there is a great deal of opportunity for synergy in our future work.

It is my belief that Dr. Swindle's application for this career award is the next logical and timely step in her dedication to improving health and nor thon outcomes for children impacted by poverty. Her work marks an important phase in systematically studying and improving the process of our approaches to obesity prevention in a real world setting that serves many at-risk children. Dr. Swindle understands the complexity of the obesity issue for children in poverty and the challenges to implementing successful approaches to prevent it. Her work will ultimately result in more effective prevention of obesity for children that need it the most. I believe Dr. Swindle to be among the most promising early career investigators in our field, and I have no reservations in stating that Dr. Swindle is destined to become a leading and successful independent investigator.

Sincerely,

Ausen & Jukason

Susan L. Johnson, Ph.D. Associate Professor Department of Pediatrics Director, The Children's Eating Laboratory



UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

September 11, 2015

NIDDK Mentored Research Scientist Development K01 Award Re: Commitment to partner in research

Dear Review Committee:

HEAD START / EARLY HEAD START PROGRAM

7415 Colonel Glenn Road Little Rock, AR 72204

501-570-5000 501-570-5011 (fax)

The University of Arkansas for Medical Sciences Head Start program is pleased to have the opportunity to continue our partnership with Dr. Swindle through her K01 application. Since the start of our collaboration with Dr. Swindle in 2012, we have been continually pleased with the result of our partnership. We are excited to expand this relationship to address childhood obesity in AR more widely. This proposed project will build upon our recent joint effort to pilot and evaluate the *Together, We Inspire Smart Eating* (WISE) curriculum and training program in 10 of our Head Start classrooms. We have heard positive feedback from teachers and families about the WISE program and look forward to expanding into more of our sites. We feel that WISE makes a difference in the quality of our food experiences and mealtime interactions.

UAMS Head Start includes 12 centers with a total of 42 classrooms serving 840 children in Head Start (ages 3 to 5 years) in the Pulaski County area. There are two educators per classroom – a lead and assistant teacher for a total of 90 educators. We have talked with the UAMS team in detail and agree to the following  $\mathcal{P}_1$ 

- Participation of selected educators and directors from our agency in interviews and stakeholder input panels.
- Training of an additional 20 classrooms in the WISE program.
- Observations in participating classrooms up to 3 times a year.
- Use of current food funds to provide the food for the WISE curriculum food experience at least once a week.
- Allowing additional implementation support for 10 classrooms through strategies selected by stakeholders.
- Addition of a consent or consent-to-contact form to our enrollment package that allows parents to agree to have the project staff access agency records and collect RRS hand scan assessments from children. We understand that all of these activities will be monitored by the appropriate IRB.

In return,

- All educators will receive state continuing education credit for this training.
- Each classroom will be provided the materials to implement the curriculum including basic cooking equipment such as cutting boards, child friendly knifes, mixing bowls, and blenders.

In anticipation of this project, we have delayed full implementation of WISE to accommodate the research plan. Our agency understands the value of evaluation to improve and determine the benefit of new programs. We are excited to join efforts with the project team to leverage the early childhood environment to promote healthy habits for children. Please consider this letter as our strong support.

Sincerely,

2 Juli NO

Charles Feild, MD MPH FRSPH FAAP Executive Director, UAMS Head Start/ Early Head Start Program

Tyra Larkin Director of UAMS Head Start

## -ESTABLISHED 1879-

Arkansas Children's Hospital (ACH) and the Central Arkansas Veterans' Healthcare System (CAVHS) are comprehensive clinical, teaching and research affiliates of the College of Medicine at the University of Arkansas for Medical Sciences. UAMS faculty physicians and surgeons are on staff at ACH and CAVHS.



September 9, 2015

National Institutes for Health Center for Scientific Review

Re: Commitment to research partnership with Taren Swindle, PhD

Dear Review Panel:

On behalf of the Arkansas Save the Children Head Start West, I am pleased to provide a letter of support for Dr. Taren Swindle's NIDDK Mentored Research Scientist Development K01 Application. Over the last 5 years, we have worked closely with Dr. Swindle and her team to develop and evaluate the *Together, We Inspire Smart Eating* (WISE) curriculum and training program. We were pleased to expand WISE to all classrooms in our agency in the 2015-2016 school year. The WISE program has thus far had measurable impact on our families and teachers. The quality of our food experiences and mealtime environments have improved has a direct result of our collaboration with the UAMS team. We have also been encouraged by your continual solicitation and incorporation of our input to make WISE the best possible program for the Head Start setting.

Arkansas Save the Children Head Start West currently serves 766 low-income children in 9 AR counties and 16 centers. We employee 28 Head Start, 8 Head Start Home Visitors, and 15 Early Head Start teachers who serve children age three prive years old. Our agency will be glad to extend invitations to teachers who have implemented WISE in previous evaluations to participate in openended interviews about their experiences. We understand that you will use this information to design improvements to the WISE program and to develop strategies that help teachers implement the WISE program as it is designed. We will also be glad to encourage service on your stakeholder panel to educators and directors who have used WISE. Our staff will have expertise related to what support strategies may be feasible for integration with the WISE curriculum and in the Head Start setting. Finally, we will be glad to help you identify invested parents to serve on the stakeholder panel to provide input on WISE improvements from their perspective and inventive strategies for data collection with families.

Please consider this letter as our strong support for Dr. Swindle's K01 application. She is a wonderful partner who has and continues to seek to meet the needs of our families, educators, and agency. We are happy to support the growth of her career, and we look forward to working on this project when funded!

Sincerely,

ana Days

Jana Bays Program Director

> P.O. Box 11480, Russellville, AR 72812 2707 East H Street, Russellville, AR 72802 (479) 567-5701 phone \* (479) 567-5705 fax

Creating real and lasting change

Translational Research Institute

Mail Slot 577, JTS Spine Institute Building 4301 W. Markham St. Little Rock, AR 72205 501-614-2287 501-526-7808 - fax www.uams.edu/tri

September 28, 2015

RE: Taren Swindle, PhD K01 Proposal

Dear Review Committee:



UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

It is with enthusiasm that we write to recommend Dr. Taren Swindle for the NIDDK Mentored Research Scientist Development K01 Award. Dr. Swindle is a current KL2 scholar with the UAMS Translational Research Institute (TRI). As leadership for the KL2 program (Aitken and Delgado) and TRI (James), we believe Dr. Swindle would be an ideal candidate for NIH support for further research training. We are committed to continued support and contribution to the success of her career.

Dr. Swindle has exhibited tremendous dedication and quality in her work as a KL2 scholar. Dr. Swindle entered the KL2 program with a strong set of research and analytic skills and solid knowledge base in contexts of child development, the impacts of poverty on children, and the impact of the interplay of these factors on child obesity and nutrition. She has focused her training in the KL2 on building her knowledge in nutrition, increasing her understanding and application of theory to intervention design, and advancing her leadership and grantsmanship skills. She has made remarkable progress in these areas over the last year. Further, she has demonstrated that she is adaptable and willing to use the advice of mentors in her research endeavors. She has also taken input from community stakeholders to continually improve her research design. Further, she has already presented her KL2 work at a scholarly conference and is in the process of moving this toward publication. This is reflective of her persistence, dedication to productivity, and passion for improving the health of children through her research.

Dr. Swindle has demonstrated that the investment of the KL2 program in har career is well spent. She has attended and engaged in every training opportunity offered to her. Her progress reports are timely, detailed, and aligned with her proposed work plan. In fact, her activities are consistently ahead of schedule and beyond her initial plan. Further, she has eagerly identified TRI resources and used them effectively towards the success of her project. She has sought consultation from TRI experts in qualitative research design and biostatistics, solicited assistance in organizing and executing a community review board, and accessed our equipment library to meet her project needs. Most importantly, Dr Soundle has continually sought feedback from the KL2 leadership and been eager to incorporate our suggestions. Her engagement with the program and dedication to her research professional development are unparalleled.

Dr. Swindle has developed a strong proposal for program gresearch using Implementation Science (IS) approaches and undertaking the mentorship of a strong team led by Dr. Geoff Curran, a leader in IS methodology. She has developed a sound and detailed ongoing training plan and has demonstrated her ability to commit and perform well under an ambitious set of goals. With the additional training and research experience proposed in her K01 application, we are confident that she will become a productive and independent scientist with the skills needed to conduct research in the complicated and challenging area of childhood obesity.

Dr. Swindle will continue to have access to TRI resources including training programs, mentorship, equipment, and individualized feedback sessions for forthcoming grant applications. We are in full support of Dr. Swindle's continued advancement, and we have full confidence that she will succeed in achieving research independence. We look forward to continuing to work with her and see her progress in her promising career.

Sincerely,

mE. aus

Mary E. Aitken, MD MPH Section Chief Center for Applied Research and Evaluation Department of Psychiatry UAMS **Director, Injury Prevention Center** Arkansas Children's Hospital

Pedro L. Delgado, MD Marie Wilson Howells Professor & Chairman Director, Psychiatric Research Institute (PRI) UAMS

Laura James, MD Director, Translational Research Institute Professor, Department of Pediatrics UAMS Section Chief, Pharmacology and Toxicology

Arkansas Children's Hospital



UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES



Arkansas Children's Hospital

1 Children's Way, Slot 512-21 Little Rock, AR 72202-3591

Telephone: 501-364-1021 Fax: 501-364-1095

September, 8 2015

To the NIDDK K01 Review Committee:

I write to enthusiastically indicate my intention to serve on Dr. Swindle's advisory committee upon funding of her Mentored Research Scientist Development K01 Award.

Dr. Swindle is without question embarking on a long and productive research career. Specifically, she is already well-prepared for a successful research career with extensive statistical analysis background and several years of participation on an active and diverse research team. In addition, she has excellent manuscript and grant writing skills, an extensive knowledge of ethical conduct of research and the IRB process, and already an emerging history of funding as an investigator of large projects. I would predict she will be successful not only during the time period of this award, but in a long-term sense by contributing to our understanding of implementing effective obesity prevention programs.

I am confident in her abilities as I have worked directly with her on a variety of grant and manuscript projects and participated with her on a research team. Her significant experience and enthusiasm for esearch at this point in her career is remarkable. Most importantly, I have seen her present to a large clinical audience and eloquently translate her own research and that of others to an audience working in a clinical/intervention environment, demonstrating the translational nature of her research. Her insight and awareness of har current abilities, and the need for continued growth in important areas, is commend the and illustrative of her personality as one who is friendly, honest, and thoughtfulls garding research program planning but also her own career development.

I incerctand that my service on Dr. Swindle's advisory committee will include participation in quarterly meetings and semi-annual evaluations to review and give feedback on her progress. I believe my 20 years of clinical and research experience in the field of childhood obesity will provide valuable experience from which to guide Dr. Swindle's efforts. Furthermore, I believe my extensive experience in mentoring junior faculty and developing faculty development curricula provides me with insight into the qualities Dr. Swindle will need to develop as a successful independent investigator. I look forward to applying this knowledge to Dr. Swindle's career development.

Sincerel L. Ward, Ph.D.

Full Professor with Tenure, Department of Pediatrics Assistant Director of Faculty Affairs University of Arkansas for Medical Sciences College of Medicine



#### -ESTABLISHED 1879-

Arkansas Children's Hospital is the comprehensive clinical, research, & teaching affiliate of the College of Medicine at the University of Arkansas for Medical Sciences. UAMS pediatric faculty physicians and surgeons are on the staff at Arkansas Children's Hospital.

SECTION OF PEDIATRIC PSYCHOLOGY

Nicholas Long, Ph.D. Director and Professor

Jayne Bellando, Ph.D. Associate Professor

Andrew Cohen, Ph.D. Assistant Professor

Mark Edwards, Ph.D. Professor

Larry Evans, Psy.D. Associate Professor

Shari Gaudette, Ph.D. Assistant Professor

Kelly Jarratt, Ph.D. Assistant Professor

Elizabeth Pulliam, Psy.D. Assistant Professor

Jeffrey Snow, Ph.D. Associate Professor

Wendy Ward, Ph.D. Associate Director Associate Professor

Janine Watson, Ph.D. Associate Professor

**Brandi Whitaker, Ph.D.** Assistant Professor

Psychological Examiners: Debra Butler, M.S. Ericka Mays, M.S.

Heeral Patel, M.B.A. Office Manager

Shynnon Greer, B.A. Administrative Specialist III



September 26, 2015

Dear Review Committee:

THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

1700 MARTIN LUTHER KING JR. BLVD. CAMPUS BOX 7426 CHAPEL HILL, NC 27599-7426

T 919.966.6080 F 919.966.6264 www.hpdp.unc.edu

I am pleased to provide a letter of support for Dr. Swindle's NIDDK Mentored Research Scientist Development K01 Application and to assert my commitment to serving as an external advisor for this project.

I first became familiar with Dr. Swindle's work while serving as a pre-submission, external reviewer for a center grant application on which she was a junior investigator. Although the grant was not funded ultimately, I was impressed with the quality and innovation of her research plan given her very early career stage. Subsequently, Dr. Swindle completed a one-week practicum at the Prevention Research Center and the Center for Training and Research Translation for which I am Co-PI. Dr. Swindle completed this practicum as part of her KL2 training plan to increase her exposure to nutrition and obesity-related interventions in community settings. Prior to her visit, she completed 8 hours of online modules to become familiar with our projects and approaches. In her time here, she met with 6 of our research investigators ar 0 their teams to learn about their research, ask questions about D&I research, and participate with some relevant hands-on activity. I received feedback from each of the team leaders that Dr. Swindle came well-research to each visit with prepared questions tailored to each of the teams' work. I was impressed by the initiative she took in organizing this practicum and the effort she took to capitalize on every interaction with our teams. My experience with her persistence and dedication, combined with my exposure to her research, leads me to have confidence that she will develop into a productive, independent investigator.

Dr. Swindle's background places her in a unique position to address the childhood obesity problem. Her training and research experiences have provided her with a firm understanding of the impact of poverty on the health of children and families and strong research methodology skills to design and evaluate programs designed to address childhood obesity. Her proposed training in Implementation Science, child nutrition, and community engagement will make important contributions to child health. Dr. Swindle's research record reflects a high level of quality and commitme of to research. In the 2 years since the completion of her PhD, she has taken impressive initiative to establish a track record of grant funding during a time when this has become increasingly challenging.

In my role as advisor, I expect to citend quarterly advisory committee meetings via webcam and to participate in semi-annual evaluations of Dr. Swindle's progress. I have had substantial experience mentoring doctoral students, post docs, and junior faculty and many years of experience in child nutrition and obesity prevention. In more recent years, I have been very engaged in D&I research, including serving on the Dissemination and Implementation Research in Health NIH review panel and hosting the first NIH Training Institute for Dissemination and Implementation Research. I look forward to contributing to Dr. Swindle's training plan upon funding of this exciting project.

Sincerely,

alice Ammerman

Alice Ammerman DrPH Director, Center for Health Promotion and Disease Prevention Professor, Department of Nutrition Gillings School of Global Public Health and School of Medicine University of North Carolina at Chapel Hill E-Mail: <u>alice\_ammerman@unc.edu</u> Website: <u>http://www.hpdp.unc.edu</u>

#### BIOSTATISTICS

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James P. Selig, Ph.D. Associate Professor

Felfei Wei, Ph.D. Associate Professor

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Stephen W. Erickson, Ph.D. Assistant Professor

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Amy M. Schrader, M.S. Biostatistician

Eric R. Siegel, M.S. Research Associate

Trey Spencer, M.S. Research Associate

Jeff D. Thostenson, M.S. Research Associate September 10, 2015

National Institute for Health Center for Scientific Review 6701 Rockledge Drive MSC 7768 Bethesda MD 20892-7768

Dear Members of the Review Panel,

I am pleased to provide a letter of support for Dr. Taren Swindle's application for a Mentored Research Scientist Development Award, and I am writing to indicate my intention to serve as a statistical consultant for her project. My research focuses on the application of quantitative methods to address questions in the social sciences. My quantitative areas of experise include: structural equation modeling, multilevel modeling, multilevel structural equation modeling, interdependent data analysis, longitudinal data analysis, and mediation models.

My role in this project will be o dvise in the use of the analysis techniques. Working with nested data structures and complex cross-level interactions can be challenging. I believe my expertise in these areas will make a valuable contribution both to the success of the current project and to Dr. Swindle's long-term success as a knowledgeable and talened researcher. Specifically, I will work with Dr. Swindle to conduct and interpret multilevel analyses of data collected in Aim 3 of the proposed research project. Dr. Swindle has already sought my advice on the research design and power analysis for this project. I will also consult with Dr. Swindle in the development of the subsequent R01 application to ensure sound methodology and appropriate power.

I believe my ability to contribute to the proposed work will be enhanced by my existing working relationship with Dr. Swindle. I first met Dr. Swindle at the Multilevel Analysis workshop I taught at the 2012 University of Kansas Summer Statistics Institute. She exhibited a persistence in learning the material and reached out to me for clarification both during the course and subsequently. Since that time, I accepted an appointment at the University of Arkansas for Medical Sciences where Dr. Swindle is on faculty. This has facilitated our further collaboration. I have had the pleasure of consulting with Dr. Swindle on her KL2 project and I am currently collaborating with her on analyses related to the USDA-funded WISE evaluation. She is an eager learner and excellent collaborator. I am pleased to further develop our collaborative efforts and look forward to working with her upon funding of this exciting project.

Sincerely,

in

James P. Selig, Ph.D. Associate Professor, Department of Biostatistics University of Arkansas for Medical Sciences



# **DESCRIPTION OF INSTITUTIONAL ENVIRONMENT**

The University of Arkansas for Medical Sciences (UAMS) is the state's only institution of professional and graduate education devoted solely to the health and biological sciences. The University of Arkansas for Medical Sciences, with its five Colleges, six Institutes and six research centers, provides a rich context for the conduct of this research. UAMS researchers are currently working with the American Heart/Stroke Association, Centers for Disease Control, Department of Defense, Environmental Protection Agency, Food and Drug Administration, National Institutes of Health, and National Science Foundation, along with other national/international agencies and foundations to better the health of Arkansans. UAMS has a successful history of research funding, ranking in the top 20% of all US colleges and universities and the largest in the state with more than \$107 million in annual research funding.

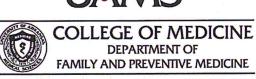
The NIH CTSA program, along with a significant UAMS commitment, enabled the creation of the **Translational Research Institute (TRI)** in 2009. As a TRI/KL2 scholar, I have taken advantage of a number of TRI resources including support from the Community Engagement core to hold a stakeholder review board, biostatistics and qualitative methods consultation, equipment leasing/borrowing, workshops in grant writing and individualized professional development, and budget monitoring. Upon completion of my KL2, I will be a permanent member of the "K-club" and continue to have access to TRI resources. Further, I will be eligible to submit applications for pilot awards from both the TRI and College of Medicine.

In addition to the TRI, several aspects of the UAMS environment will be critical to my success. First, the **Center for Implementation Research (CIR)** directed by mentor Dr. Geoffrey Curran will provide a setting in which I can enhance my skills and build collaborative relationships. CIR investigators have over 15 years of experience in leading implementation research efforts including adaptive an Chybrid effectiveness-implementation designs in many large NIH- and VA-funded research studies. Second, UAMS-affiliated research centers are conducting leading research in childhood obesity and nutrition. The **AR Center for Health Improvement (ACHI)** collects BMI data from AR children in alternate years through the 12<sup>th</sup> grade. We have collaborated on cross-sectional projects in the past, and this group provides a promising collaborator for future longitudinal evaluation of obesity prevention programs. Apathonally, the **Arkansas Children's Nutrition Center** (ACNC) is one of the nation's two pediatric centers and has a 21 year history of cutting edge basic science to improve child health. In future research, collaborations with ACNC investigators could include efforts to estimate community intervention effects on biological outcomes.

**The Department of Family and Preventive Medicine** within the UAMS College of Medicine (COM) is highly committed to improving health for Arkansas crizens. Within the DFPM, the **Research and Evaluation Division (RED)** directed by co-mentor Leanne Writteside-Mansell is a unique group of researchers with over 20 years of experience in conducting community-based research across the state of AR. RED faculty partner with community organizations to translate evidence-based interventions and theoretically driven models into community settings. Currently, RED includes five faculty members carrying out 17 funded federally and state-funded research projects with over 40 employees. RED also maintains contracts with the Arkansas Department of Education to train and support teachers in improving outcomes for young children. All faculty and staff in RED are 98% research funded. Gap salary is protected for faculty should gaps in funding occur.

The DFPM provides support to investigators in managing their grant funding and DFPM provides office space, computer equipment, and facilities to process and store data. RED has data processing systems that include scanners and scanning software to process paper data forms, web-based software to process secure web based survey data (e.g., REMARK, Teleform), research software to link research tracking with data collection (e.g, REDCap and LimeSurvey), and standard software to organize data in data systems (e.g., Excel, Access).

I have been a UAMS employee with RED for over 5 years. In that time, UAMS has supported my development through provision of resources and support of training and development opportunities. I will have on-going access to internal training to establish skills to run, manage, and apply for external funds to supplement this award. I will also continue to receive support for yearly external training and conference attendance (\$1500). RED provides a collegial and supportive research environment including a monthly gathering of researchers to discuss and review manuscripts in preparation. This group will support me in efforts to disseminate the findings from this award. See the Facilities and Equipment sections for additional detail.



UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES

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501-686-6560 501-686-8421 (fax)

NIDDK K01 Review Committee

Re: Taren Swindle, PhD; Mentored Research Scientist Development Award (K01)

Dear Review Committee:

As chair of the Department of Family and Preventive Medicine (DFPM), I am writing to provide my enthusiastic support for Dr. Taren Swindle's K01 application and to document UAMS' continued commitment to her career development as an investigator in obesity prevention. Dr. Swindle's research program is integral to the mission of our department to improve the health of Arkansans and fits ideally with our departmental vision to prevent disease for vulnerable populations. It is an area that we have identified as one we will emphasize in clinical and community research as a department.

Dr. Swindle was appointed as an Instructor in the DFPM in July, 2013. She earned a promotion quickly and became an Assistant Professor in July, 2014. Her work is outstanding and a model for our junior faculty. We have a shared vision for her research career and are committed to supporting her. We provide her with office space and supplies, computing equipment, yearly funding for professional development, matched salary support, mentorship, and administrative support. She will receive this support independent of this award.

We understand Dr. Swindle will devote 75% of her time to the K01 award for a period of 4 years. During the award period, her professional responsibilities will be divided between research (91%), education (7%), and service (2%) for a full-time appointment. We are committed to protecting the time for the implementation of the training and research objectives of this project. Dr Swindle is one of four faculty members in our Research and Evaluation Division (RED). Like other RED faculty, she has a history of funding 90% or greater of her effort through grants and contracts. Thus, the K01 award will require no change in staffing. However, we are committed to ensuring that service and to aching responsibilities are in line with the stated allocation and do not interfere with her research time. Further, UAMS provides salary coverage to faculty when gaps in funding occur. Therefore, her appointment with continue regardless of this award.

Dr. Swindle will also have experienced research faculty within the department to collaborate and provide advice and support. RED faculty meet routinely and have offices close to each other to facilitate collaboration. A co-mentor on this project, Dr. Leanne Whiteside-Mansell, is the director of RED. She will provide invaluable mentorship to Dr. Swindle as an expert in the field of early intervention. As director, Dr. Whiteside-Mansell has protected time to provide this mentorship to RED faculty.

In summary, I believe that the Dr. Swindle is a strong position to succeed as an independent investigator. She is a talented, motivated scientist with a commitment to advancing the approaches to obesity intervention. Dr. Swindle has earned my full confidence in her ability to succeed, and I am pleased to pledge continued support of her career.

Sincerely. un Mm Daniel Knight, M

Garnett Chairman and Associate Professor Department of Family and Preventive Medicine University of Arkansas for Medical Sciences

#### SPECIFIC AIMS

Overweight and obese children are at 5 times greater risk for developing diabetes and at 3 times greater risk for hypertension and high triglycerides in adulthood.<sup>4</sup> Concurrent health issues include asthma, metabolic risks, depression, and attention deficit hyperactivity disorder.<sup>5,6</sup> In spite of some recent progress, the prevalence of childhood obesity is still alarming, particularly for children of lower socioeconomic status.<sup>7</sup> For example, 14.2% of 2 to 4 year olds in low-income families in Arkansas (AR) are obese which is higher than the national average for this age range.<sup>8</sup> Further, recent data show that Arkansas has the highest adult obesity rate in the nation (35.9%).<sup>9</sup> Prevention efforts in this high-risk area are clearly warranted.

Given that families impacted by poverty often access subsidized childcare, childcare provides a critical setting to address socioeconomic disparities in obesity. Children may eat over half of their dietary intake in this setting, up to 540 meals and snacks per school year.<sup>10</sup> This is notable because young children's eating habits are more attributable to environmental factors than genetics.<sup>11</sup> The overarching goal of this application is to apply principles of Implementation Science (e.g., formative evaluation, enhanced facilitation) to support the uptake and sustainability of an EBI for obesity prevention and nutrition promotion in childcare.

Previous investigators have recognized the potential for educational settings to impact children's diets and prevent obesity. A recent study by AR Co-Investigators found that regular exposure to fruits and vegetables during school snacks was associated with a 3% reduction in obesity among children in low-income school districts.<sup>12</sup> Additionally, nutrition interventions in childcare have been associated with increased willingness to try and liking of new foods.<sup>13</sup> These types of early interventions are key as food habits and preferences established in early childhood persist across the lifespan.<sup>14</sup> However, **evider cc-based interventions are not being used widely in childcare programs to address obesity.**<sup>15</sup>

Recent data suggest that evidence-based interventions (EBIs) can have enhanced impact by applying principles of Implementation Science.<sup>16,17</sup> To accomplish this goal, we will develop and test novel implementation support strategies using stakeholder input (i.e., enceators, directors, parents). This project will provide critical information to understand feasibility, acceptability, and potential impact of specific implementation strategies to support implementation, fidelity, and sustainability of an obesity prevention EBI in childcare. In addition, we will gain preliminary data on how obesity and nutrition outcomes are impacted by level of implementation and fidelity to the EBI.

To date, I have been actively involved in research to design, evaluate, and explore implementation of WISE (Together, We Inspire Smart Eating), an EBI which combines a package of evidence-based practices and has shown positive impacts on children's diets (see **or suminary data**). WISE is the EBI to be supported by implementation strategies developed and piloted in this research plan. I have also lead research to 1) develop a measurement tool for WISE implementation, idelity, and 2) identify barriers for early childhood educators (ECEs) to adopt best nutritional practice. For the current project, I have assembled an expert multidisciplinary team of mentors, advisors, and consumants to draw on knowledge from nutritional science, developmental science, and implementation science. This will uniquely position me to address the complex issue of child obesity and prepare me to be successful as an investigator in this field.

Specific Aim 1. Identify factors associated with degree of fidelity in a previously developed and tested basic implementation strategy of WISE. An explanatory mixed methods approach will use secondary data to identify positive deviance and implementation failures among ECEs in a previous WISE implementation study that observed notable variability in fidelity to best practices for obesity prevention. ECEs from the prior study will be identified from quantitative fidelity observations and invited to participate in qualitative interviews to determine contextual and individual barriers and facilitators to effective implementation.

Specific Aim 2. Develop an *enhanced implementation strategy* to support uptake of the WISE intervention using stakeholder input. Based on results from Aim 1, an Evidence-Based Quality Improvement (EBQI) process<sup>18</sup> will be used to engage stakeholders to develop implementation support strategies consistent with an implementation framework (i-PARiHS) and matched to identified barriers/ facilitators.

**Specific Aim 3. Pilot test the impact of the enhanced implementation strategy on implementation and child health outcomes using continuous formative evaluation.** We will determine whether the enhanced strategy is feasible, acceptable, and demonstrates improved implementation, fidelity, and sustainability using a Hybrid Type 3 implementation design.<sup>1</sup> Further, we will test the hypothesis that better WISE fidelity is positively related to child outcomes (e.g., child fruit and vegetable intake, BMI).

#### **RESEARCH STRATEGY**

#### Significance

Socioeconomic disparities in childhood obesity<sup>7</sup> suggest that efforts to prevent excess weight should target contexts serving children at the highest risk. Family-based interventions have shown significant impacts but have suffered from high dropout rates ( $\geq 30\%$ ).<sup>6,19</sup> Given that a typical child will spend 33 hours in childcare each week,<sup>20</sup> these settings may be more effective at impacting at-risk children.

**Despite the potential to reach at-risk children in childcare, current practices are not consistent with evidence-based obesity prevention.** A review of 18 studies in childcare settings found that Early Childhood Educators (ECEs) often do not follow evidence-based practices, including signaling hunger cues, avoiding the use of foods for celebration/reward, and allowing children to decide how much to each without pressure.<sup>15</sup> Personal characteristics of ECEs may be associated with negative practices. For example, education level and/or race/ethnicity have been associated with pressuring children to finish their food before leaving the table,<sup>21</sup> eating less with children, and restrictive feeding practices (e.g., offer food for good behavior).<sup>22</sup> At the organizational level, a review of state childcare regulations found that agencies vary considerably in their efforts to prevent childhood obesity.<sup>23</sup> AR had policy standards related to only 1 of 8 known best practices. Programs without supportive policy are less likely to use best practices.<sup>22,24</sup> This evidence suggests that ECEs and childcare centers need additional implementation support for evidence-based obesity prevention.

Implementation Science provides a needed lens to address the gap between the evidence base and actual practice of obesity prevention in childcare. Implementation Science is the study of how best to

support uptake and sustainability evidence-based best practices.<sup>1</sup> See Table 1 for a table of terms that are common to Implementation Science and used throughout this application. Return on investment for implementation research is much greater than that for basic science<sup>27</sup> and allows for increased reach and adoption of scientific knowledge.<sup>28</sup> For example, improvements in fidelity were associated with greater gains in indicators of emotional well-being in an implementation trial of a curriculum for 7 to 8year- old children in disadvantaged schools.<sup>29</sup> Implementation, performance feedback, and coaching have been linked with improved outcomes <sup>31-32</sup>

However, Implementation Science around obesity prevention in childcare is limited. A 2010

Term	Definition			
Implementation	Tools activities to facilitate adoption of and			
strategies	inclaimy to evidence-based interventions <sup>25</sup>			
Fidelity	Cegree to which an intervention is implemented			
X	as intended; program delivery quality <sup>26</sup>			
Feasibility	Extent to which implementation can be			
	completed given available resources <sup>26</sup>			
Acceptobility	The degree to with the implementation is			
	agreeable to stakeholders <sup>26</sup>			
For native	Assessment previous to or concurrent with			
evaluation	implementation that is used to provide data for			
	immediate use to improve the implementation			
	process during the study <sup>1</sup>			
Hybrid Design	Study approach that assesses both clinical and			
	implementation effectiveness (i.e., how well			
	study arms impacted participant outcomes AND			
	use of best practice among practitioners) <sup>1</sup>			

**Table 1. Implementation Science Terms** 

systematic review identified no tric's investigating implementation strategies' impact on the uptake of evidencebased obesity prevention in childcare.<sup>33</sup> A recent review identified one Australian trial which found implementation strategies (i.e., incentives, training, monitoring and feedback) to positively impact organizationlevel measures of dietary best practices, e.g., increasing offerings of water and fruit/vegetables.<sup>34</sup> Another Australian study is underway testing the impact of executive support, consensus processes, training, and monitoring/feedback on the adoption of nutrition policies.<sup>35</sup>

A primary goal of this study is to improve use of evidence-based obesity prevention in childcare through development of effective implementation strategies. We will enhance knowledge of how to improve implementation, fidelity, and sustainability in these under-studied locations. Childcare shares some contextual similarities with other locations where implementation research has taken place (e.g., schools and other contexts where "paraprofessionals" provide health-related services); however, we don't know whether lessons learned apply to childcare. Ultimately, improvements in evidence-based obesity prevention in childcare have the ability to impact 11 million children under age 5 in the US annually.<sup>36</sup> It is therefore imperative that we develop and test strategies to maximize implementation and sustainability of these practices.

The proposed research is innovative because it will be one of the first studies in the US to examine the impact of implementation strategies on outcomes of an evidence-based intervention (EBI) for obesity prevention in childcare. In the field of Implementation Science, Proctor and colleagues<sup>37</sup> call for moving beyond studies of implementation barriers to build and test implementation strategies. My study answers this call by using a systematic stakeholder-driven process to develop and pilot test a customized

"enhanced" implementation strategy compared to an "implementation as usual" strategy. Further, if the enhanced strategy outperforms the "basic" strategy for the adoption of best practice and impacts on children as hypothesized, this will provide evidence that the additional resources required to support implementation of EBIs are warranted. By using an innovative Hybrid Design (see Table 1 and a full description below), we will add to the literature on the preventive effectiveness of our EBI (WISE) while exploring how obesity/nutrition outcomes vary by implementation fidelity.

The proposed research is highly consistent with the emphasis of the NIDDK Obesity Prevention and Treatment Research Area on preventing obesity development in high-risk populations. It also directly connects to the NIH Obesity Research Strategic Plan<sup>38</sup> to evaluate prevention strategies in real-world settings with diverse samples and then to integrate results into community programs. Information gained will contribute to future uptake and sustainability of environmental interventions to improve diet and activity levels of children.

#### **Preliminary Studies**

My preliminary work has focused on (a) developing and testing WISE and (b) assessing barriers of ECEs to implementing obesity prevention best practices. We Inspire Smart Eating (WISE) is an evidence-based obesity prevention intervention to improve ECE feeding practices and children's dietary behaviors. **WISE Core components and their evidence base are presented in Table 2. WISE has shown also efficacy as a total program in time series and non-randomized comparisons.**<sup>39</sup> WISE provides educators with (a) training in best practices (b) a curriculum to implement weekly WISE food experiences which involve hands-on experiences with target foods, and (c) materials to engage parents. The curriculum mascot, Windy Wise, is a barn owl puppet that delivers letters and photos to the classroom about the farm and healthy eating habits.

WISE was developed in three phases through USDA funding from 2011-15. In phase 1, our team gathered stakeholder input through focus groups and interviews regarding ways to implement evidence-based obesity prevention practices. We used input to structure the WISE curriculum and training. Pilot tests of each unit were completed in 3 Head Start classrooms, and revisions were made to increase feasibility and acceptability based on ECE feedback. In phase 2, we piloted WISE in 10 classrooms, developed and refined our fidelity tool, and completed a time series evaluation. Parents completed Food Frequency Questionnaires (FFQ) which indicated significant increases in intake of fruits and vegetables by children (t =3.95, p <0.01). Parents reported improvements in serving vegetables (t = 2.65, p = 0.01), asking children to select fruits and vegetables (t = 3.51, p =0.01).<sup>40</sup>

Table 2. Core components of the WISE intervention						
Component	Outcomes	References	Type of Evidence			
Positive ECE feeding practices (e.g., no pressure to eat, cues children to hunger, allows food exploration)	Children learn to self-regulate and listen to their body's thes of satiety. Children are less like, a develop food aversions and more likely to taste new foods.	41-47	RCTs, Quasi-Experimental Trials; American Dietetic Assoc. (ADA) Guidelines; Head Start guidelines			
Appropriate role modeling by ECE (e.g., eats healthy foods, talks positively about new foods)	Childron are more likely to try new foods and eat nealthy foods served.	46-50	Quasi-Experimental Trials, Systematic review; ADA guidelines; Head Start guidelines			
Multiple, hands-on exposures to fruits and vegetables (FV)	Repeat exposure results in increased intake and liking of FV for children.	13,47,51-56	RCTs, Quasi-Experimental Trials, Systematic review; Head Start guidelines			
Use of mascot puppet to promote FV to children	Children are more likely to select and prefer foods associated with familiar characters.	57-62	RCT, Quasi-Experimental Trials, Systematic review			

In phase 3, we tested the WISE curriculum in 12 Head Start classrooms and compared child outcomes to a group of control children not receiving WISE. Parents in WISE classrooms reported seeing their child eat WISE foods significantly more often than parents in non-WISE classrooms (F (1,330) = 6.12, p = .01). In both phase 2 and 3, implementation support included a 6-hour training based on adult learning theories, practice of WISE-related skills (e.g., role modeling language), and email newsletters with positive/negative feedback. We have trained an additional 95 ECEs and a total of 139 classrooms are using WISE. Despite measured impacts and demonstrated feasibility, monthly assessment showed that ECE fidelity to WISE components was relatively low (Table 3). This study aims to improve implementation and fidelity of WISE. In turn, we predict greater effect sizes on children's nutrition and obesity outcomes.

In addition to developing and testing WISE, my research as a KL2 scholar builds on the extant literature to highlight characteristics of ECEs that act as barriers for obesity prevention implementation. Using a novel application of Belsky's model of parenting to ECEs, I used surveys and open-ended interviews with ECEs to understand their personal nutrition experiences and beliefs, their perceptions of their work context related to

child nutrition, and their self-reported practices for nutrition promotion for children. We found that 34.5% of ECEs reported experiencing inadequate access to food in the last year.<sup>63</sup> This coincides with our work documenting that ECEs are 10 times more likely to pressure a child to eat than cue them to hunger and fullness.<sup>64</sup> Further, an emergent theme in qualitative interviews was the inadequacy of center policy or disagreement with center's policy around nutrition.<sup>65</sup> Through this work I gained valuable experience with WISE and an expanded understanding of the childcare context and educator perspectives on nutrition.

# Approach

# **Overall Strategy and Rationale**

The integrated Promoting Action on Research Implementation (i-PARiHS) framework guides development of implementation interventions.<sup>66</sup> i-PARiHS posits that core components of successful implementation are innovation (the EB practice), recipients (individual and collective), context (inner and outer), and facilitation. Optimal implementation takes place when facilitation (i.e., implementation strategies) promotes the acceptance and use of an innovation based on recipients' needs and on the nature of the implementation context. We will use concepts from this framework to identify barriers to implementation of WISE related to ECE characteristics and their childcare settings (Aim 1) and to develop a package of implementation strategies to address barriers (Aim 2). We will then assess the impact of facilitation-based implementation strategies on the success of implementation and subsequent impacts on children and families (Aim 3). Figure 1 summarizes the research aims and design.

#### Specific Aim 1. Identify factors associated with degree of fidelity, in a previously developed and tested basic implementation strategy of WISE.

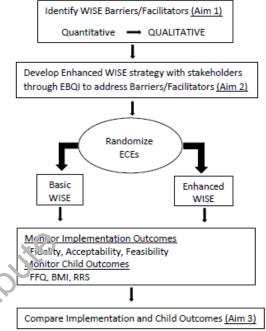


Figure 1. Research Design

Rationale. While WISE evaluation demonstrated significant impacts. fidelity to the components among ECEs was relatively low Table 3 illustrates the variability in fidelity observed in phase 3 of the previous WISE study. These data suggest that the basic implementation strategy, while successful for some, was not able to achieve the desired level of fidelity. We do not yet fully understand why some ECEs were able to achieve fidelity and others were not. In this aim, we seek to determine the barriers and facilitators to implementation from the prior study. This will inform the design of the enhanced strategy. For this aim we will use an approach informed by 'positive deviance' methodology. Positive deviants provide insights into facilitators of success and can inform improvements in subsequent interventions. In health care, for example, study of positive deviance has been used to increase the implementation of best practices like hand washing.<sup>67</sup> In our case, we will book at both high and low implementation cases, following the examples of Gabby and colleagues<sup>68</sup> and Rose and colleagues.<sup>69</sup> While some using this approach look only at the positive cases,<sup>70</sup> we will look at both high and low cases because fidelity in our prior implementation had wide variability. We expect that positive deviants in previous WISE implementations will be able to identify facilitators that can improve future WISE implementations across contexts. Similarly, we expect that individuals that have been unable to implement WISE with success (i.e., implementation "failures"), will be able to identify previously unknown barriers to implementation of WISE that can be addressed in the enhanced strategies.

## Table 3. Observed WISE Implementation Fidelity by Core Component Across a School Year (N= 44)

WISE Component	Fall (Month 1)	Winter (Month 5)	Spring (Month 8)
Role Modeling <sup>1</sup>	35.0%	43.4%	46.7%
Use of Mascot <sup>1</sup>	15.8%	26.0%	26.6%
Hand-on exposures <sup>1</sup>	57.0%	30.3%	43.3%
Positive Feeding Practices <sup>2</sup>	30.0%	38.2%	20.5%

<sup>1</sup> Achieving an average score of 3 or better on 1 (Not at All) – 4 (Very Much) scale on relevant observed items. <sup>2</sup> On a 1 (Never) – 4 (4+ times) scale, average supportive feeding practices above 2.5 AND unsupportive feeding practices below 1.5 based on observations of lead teachers.

**Methodology.** We will use an explanatory sequential mixed methods design to understand barriers and facilitators specific to WISE implementation (quant $\rightarrow$ QUAL).<sup>71</sup> Quantitative data gathered from monthly fidelity observations in previous implementations of WISE (i.e., quant) will be used to identify positive deviants and

implementation failures for semi-structured interviews (i.e. QUAL). Concepts from the i-PARiHS framework will inform the interview guide. For example, we will ask educators about perceptions of the evidence-based practices that comprise WISE that impede or promote use of the innovation. We will also ask about contextual elements (e.g., values, organizational culture) that made the implementation of WISE easier or more difficult. Previous WISE educators (N = 44) with complete observational data will constitute the sample pool for semi-structured interviews. We will also interview directors from each of the 7 sites in previous WISE implementation to provide a multi-stakeholder perspective and expose potential organizational barriers and facilitators.

**Analyses.** We will create a total fidelity score for teachers who participated in WISE development. This score will be a sum of the number of WISE components where fidelity was observed across observations (Possible range = 0 - 32; 4 components \* 8 observations). These scores will be used to inform purposive sampling for semi-structured interviews. ECEs with the highest fidelity and lowest fidelity scores will be interviewed. We expect to interview 7 directors and 15 ECEs from each group (N=37). Interviews will last 30-60 minutes and be transcribed verbatim. Nvivo software will facilitate a shared workspace for the team and aid in organization of coded text. Transcripts will be coded using directed content analysis.<sup>72</sup> The i-PARiHS framework will provide sensitizing concepts to build initial codes. Codes will be used to succinctly label significant, recurrent ideas across participants. Primary and secondary coders will code the same 2 manuscripts. At weekly meetings, the coding pairs will resolve disagreements and expand the codebook. Consistent with standards in team coding, Kappa of .8 will be required for coders to code independently with ongoing collaboration to refine codes.<sup>73</sup>

**Expected Results and Benchmarks for Success.** Qualitative interviews with targeted sub-groups will provide information on the barriers and facilitators that are specific to the implementation of WISE. Themes identified will provide a foundational understanding of aspects of the ECE (i.e., individual) and early childhood context (i.e., organization) to address with implementation support strategies in Aim 2. We will summarize our findings of the themes identified in the qualitative interviews in a manuscrip for peer-reviewed publication. This manuscript will illustrate the use of the i-PARIHS framework to guide identification of barriers and facilitators for use of an EBI. This will be of interest to both implementation and obesity prevention scholars.

**Potential Problems and Alternative Strategies.** To accommodate the demanding nature of this aim, interviews and analyses will be the sole activities of this project or 6 months. Either I or a research assistant with qualitative expertise will complete all interviews to ensure consistency and quality. I will apply skills learned through doctoral work in qualitative methods and additional trainings at both the Odum Institute and Center for Lifelong Learning at the University of North Carolina in qualitative coding and mixed methods research to lead a successful analytic effort. Interpretation of qualitative interviews can suffer from researcher subjectivity and threaten the validity of findings. However, experienced mentors will act as ongoing auditors by examining memos, transcripts, and meeting minutes documenting analytic processes. This audit trail<sup>74</sup> will be compared to the inferences and the resulting codes. Additionally, mentors will do a summative assessment at the completion of this aim wherein we will map out themes against the theoretical constructs. This will inform initial selection of the implementation strategies and prepare data for the EBQI process in Aim 2. In this way, the mentors will act to validate apelytic decisions and bring out any biases of the coders.

# Specific Aim 2. Develop an *enhanced implementation strategy* to support uptake of the WISE intervention using stakeholder input.

**Rationale.** Evidence-Based Quality Improvement (EBQI) is a process used to incorporate stakeholders' advice to inform implementation improvements for evidence-based practices.<sup>75,76</sup> In EBQI, researchers present evidence for the intervention to be implemented, data on barriers/facilitators to implementation gathered from the specific context (in our case, from Aim 1), and suggest tools for implementation. Local stakeholders act as a "development panel"<sup>18</sup> to guide "bottom-up, problem solving...to promote evidence-enriched local innovation".<sup>76</sup> Through EBQI, interventions are locally customized while retaining their evidence base and are matched with supportive implementation strategies. For example, this strategy has been used to improve depression care practices in HIV clinics<sup>77</sup> and is associated with improved adoption and fidelity.<sup>78</sup>

**Methodology.** We will use EBQI to (1) match barriers and facilitators to WISE implementation with potential strategies, (2) tailor strategies to the early childhood context, and (3) finalize the enhanced implementation strategy for WISE. The EBQI Panel will include teachers and directors from representative sites that will implement the enhanced strategy in Aim 3. We will include at least one teacher from previous WISE implementation to have an expert advisor role, providing feedback on feasibility and acceptability of potential enhanced implementation interventions based on prior experiences. We will also recruit parents to inform (a) potential improvements to enhance the link between the classroom and home and (b) strategies to improve assessment of impacts on WISE for future studies (e.g., parent recruitment strategies, collection of genetic/ biological data for possible future moderator/mediator analyses). We expect to recruit an EBQI panel of 10

stakeholders. The EBQI panel will review the data on the evidence-based practices, examine the data collected in Aim 1, and outline suggested implementation strategies. The group will work until we have a mutually agreed-upon, locally-adapted (if necessary) WISE intervention and a set of implementation interventions/tools (our "enhanced" implementation strategy) with accompanying steps on how to deploy them. Powell and colleagues<sup>79</sup> have outlined approaches to engaging stakeholders in the tailoring of implementation strategies. We will employ these strategies to provide structure to the EBQI process. For example, a concept mapping approach invites stakeholders to rate proposed strategies in regards to their importance and feasibility on a Likert scale (1=not important/feasible, 5 = extremely important/feasible). This approach provides quantifiable information, promotes efficient collection of input, and provides a basis from which to probe the EBQI panel. Meetings are anticipated to last 1-2 hours. We will audio record the meetings to facilitate later review. Participants will receive \$200 for service on the 6-8 sessions of the panel.

**Analyses.** After each EBQI meeting, the research team will work to assimilate the input from the EBQI panel, translate it to actionable plans, and develop the next iteration of materials for which we seek to receive panel input. We will enter quantitative data (e.g., Likert scale ratings) into SPSS to allow for descriptive statistics across participants. We will also use this information to plot potential strategies on their rated importance (x-axis) and feasibility (y-axis). Strategies above the mean on both importance and feasibility will be key targets for consideration of the enhanced strategy.<sup>80</sup> For the qualitative information collected from notes and audio recordings, we will employ rapid qualitative coding<sup>81</sup> relative to the main goals of this EBQI process (e.g., matching barriers/facilitators with implementation strategies, tailoring strategies to ECE context). We will write memos for each EBQI meeting to inform the development of the enhanced strategy.

**Expected Results and Benchmarks for Success.** As a result of this aim we will have tailored implementation strategies for WISE fitting for the context and informed by theory and previous implementation research. Thus, the enhanced strategy to be tested in Aim 3 will be reflective of needs and desires of ECEs. This aligns with the i-PARiHS goal to have stakeholders who 'own' the innovation.<sup>66</sup> Further, we believe this will be the first study to employ the EBQI process to inform community, rather than clinical, implementation interventions. The lessons learned will be prepared for publication in *Implementation Science*.

**Potential Problems and Alternative Strategies.** A recent softnesis delineated 73 distinct implementation strategies for consideration (with varying evidentiary support).<sup>79</sup> To narrow this list, the barriers and facilitators to WISE implementation identified in Aim 1 will be matched to implementation strategies based on priorities defined by the i-PARiHS framework, expert advice from mentors, and evidence from implementation trials. For example, i-PARiHS emphasizes (and data also support) implementation strategies that either (a) provide recipients with technical skills to do the evidence based practices (e.g., monitor and feedback) or (b) enable recipients to change their culture or develop their value system (e.g., critical reflection).<sup>82</sup> This narrowed list will promote efficient selection of strategies. It can be challenging to engage stakeholders and to ensure continued engagement. When this period of the project begins, I will have completed both didactic and hands-on learning in community engagement through the activities of my career development plan. I will be receiving ongoing mentorship in this area as well. Further, we will engage the leadership at each site by inviting them to be on the EBQI Panel. This has been associated with increased buy-in in previous EBQI efforts.<sup>77</sup>

# Specific Aim 3. Pilot test the impact of the enhanced implementation strategy on implementation and child health outcomes using formative evaluation.

**Rationale.** Curran et al<sup>1</sup> conceived of Hybrid Designs to provide systematic approaches to blending effectiveness and implementation trials. An effectiveness trial is a test of a clinical/prevention intervention on health outcomes for recipients; an implementation trial is a test of an implementation intervention (i.e., facilitation) on the adoption of an evidence-based practice/intervention among professionals and/or organizations. Combining elements of these designs using hybrid trials has the potential to improve both the speed of translation from research to practice and the development of strategies for effective implementation. Curran et al. described 3 Hybrid "types"—Type 1 with a primary focus on clinical/prevention effectiveness but gathering data on implementation potential and barriers/facilitators of implementation; Type 2 with a dual focus of clinical/prevention effectiveness and implementation outcomes; and Type 3 with primary focus on implementation outcomes but collecting data on clinical/prevention outcomes.

Using a pilot Type 3 Hybrid Design, we will gather preliminary evidence on: (1) the feasibility and acceptability of the enhanced strategy to stakeholders (2) the comparative impact of the enhanced WISE strategy on initial and sustained use of evidenced-based best practices (i.e., fidelity) and (3) the relationship between WISE fidelity and child outcomes. Further, we will use formative evaluation principles to assess the feasibility, acceptability, and fidelity of the enhanced WISE strategies during real-time implementation.<sup>83</sup>

Gathering implementation-focused formative data will allow us to see trends in this new implementation mode and to make further refinements to the enhanced strategy to arrive at an optimal, fully-developed strategy.

While we will not be able to conduct a fully-powered trial within the K01 budget, we will have more than sufficient data on feasibility, acceptability, and preliminary impact to specify the enhanced implementation strategy for a subsequent fully-powered trial (e.g., approximately 80 classrooms). Our ability to refine the implementation strategies using formative evaluation during Aim 3 will also maximize our opportunity to test well-specified, feasible, and sustainable implementation strategies in the subsequent R01.

**Methodology.** We will use a Type 3 Hybrid Design to test the effectiveness of the enhanced implementation strategy (i.e., facilitation) on uptake while also assessing impacts of the intervention on child outcomes. This approach is warranted when evidence for the intervention is strong but additional effectiveness data are warranted; when expert guidelines represent a consensus on the use of practice; when there is implementation momentum toward the adoption of the practice; and when the intervention has demonstrated feasibility and support in similar contexts.<sup>1</sup> WISE meets all of these criteria. In terms of evidence, there is strong RCT evidence on the individual components of WISE, but less evidence on the WISE package itself. The American Dietetic Association and federal Head Start Office have issued recommendations related to 3 of the 4 core WISE components. Five agencies are implementing WISE as a matter of policy (using the basic implementation strategies only). Additionally, we expect that the effectiveness of WISE on child outcomes will vary by the level of implementation fidelity, and a Hybrid 3 design allows for us to explore this hypothesis (in a preliminary fashion in the proposed pilot study, but

in a definitive fashion in the subsequent R01).

RE-AIM provides an evaluation framework to assess key aspects of intervention programs implemented in real-word settings.<sup>84</sup> See Table 4 for a summary of outcome measures that align with RE-AIM. <u>Reach</u> will be reflected by teacher report of the number of realized opportunities for WISE lessons divided by the number of possible opportunities (target = 4 opportunities per child per

Table 4. Outcome Measures for Hybrid Trial					
Construct	Measures				
Reach	Number of ECEs/students impacted				
<b>E</b> ffectiveness	Child FFQ; Child BMI; Child RRS scan				
Adoption .	Food purchase records reflecting the				
	number of WISE lessons completed; ORCA				
Implementation					
Maintenance	Number of teacher maintaining/ increasing in fidelity after 6 months				

month). <u>Adoption</u> will be measured using teacher reports of the number of WISE handouts distributed (target = 2 per child per month), teacher report of the number of WiSE lessons and activities presented each month, and assessment of food purchase records to assess frequency of purchase of WISE foods. Further, we will modify and use The Organizational Readiness to Change Assessment (ORCA)<sup>85</sup> as developed for use with the i-PARiHS framework to assesses change commitment (e.g., We value this change) and change efficacy (e.g., We can keep the momentum going) both prior to and during implementation. For Implementation, our WISE fidelity measure will be used across the school year.<sup>64</sup> The WISE fidelity instrument is rated on a 1 to 4 scale with 4 representing the highest level of fidelity. Each core component is assessed with 2 items. Average fidelity scores above 3 are considered to reflect adequate fidelity on a component. Additionally, overall scores on the fidelity form are created by summing scores across items (range = 0 - 32). Inter-rater reliability of 85% will be ensured. Finally, acceptability and feasibility<sup>26</sup> will be assessed through semi-structured interviews at two time points: (1) between the Fall and Winter and (2) Winter and Spring fidelity assessments. <u>Maintenance</u> will be assessed by determining the proportion of teachers that increase or remain the same in adoption and fidelity from the initial assessment (Fall) across the school year (Winter and Spring).

Secondary outcomes will include those related to impacts of the program on children (i.e., <u>Effectiveness</u>). All families complete a Family Map Inventory (FMI)<sup>86</sup> for fall and spring assessment of family strengths and needs. For this study, the FMI will include a Food Frequency Questionnaire<sup>40</sup> to assess consumption of WISE foods. BMI is a required twice-yearly, federal assessment for Head Start children. An anonymous record review of these data will provide a comparison of impacts on child diet between the basic and enhanced implementation conditions. Further, we will collect Resonance Raman Spectroscopy (RRS) scans from children with equipment leased from NuSkin. RRS is a promising alternative for measuring biomarkers where carotenoid levels are measured by an optical scan of the palm.<sup>87,88</sup> Carotenoids (i.e., plant pigments) are phytochemicals that provide the bright colorings to vegetables.<sup>89</sup> When ingested, carotenoids become biomarkers for dietary habits, evident in the makeup of cell tissues including the skin.<sup>90</sup> RRS measurements are reflective of dietary intake over the previous four weeks. RSS scans are sensitive to detecting individual differences of carotenoid levels<sup>91,92</sup> and experimentally initiated changes.<sup>93,94</sup>

Our partnering Head Start agency has 18 sites with 57 classrooms. Due to resource availability, 20 classrooms will be randomized to participate in either the basic (i.e., control) or enhanced implementation of

WISE. Sites are all within Pulaski County and have a similar demographic make-up of ECEs and families. All families served meet the federal guideline for poverty (e.g., an annual income of \$24,250 for a family of 4). All ECEs will receive basic implementation supports (6-hour training at beginning of school year and monthly newsletter). Those randomized to the enhanced condition will receive the additional package of implementation support strategies developed in Aim 2 on a schedule agreed upon by the EBQI panel (e.g., monthly). These will be delivered by the PI or the research assistant. For both groups, we will collect child data before and after implementation. This will provide us with a matched design to assess comparative effectiveness.

We will complete fidelity observations three times per year: Fall (Sept – Oct), Winter (Jan – Feb), and Spring (March- April). We will train contract staff to conduct fidelity assessments using videos of previous WISE lessons and ensure 85% reliability is achieved. After the Fall and Winter assessments, we will determine which teachers are achieving fidelity. We will randomly select 5 ECEs to complete semi-structured interviews with study staff on aspects of feasibility and acceptability of the implementation. We will restrict our interviews to ECEs that are not achieving fidelity if 5 are in that category. After analysis of these interviews at each of the two iteration points, we will hold EBQI meetings to review the themes that emerged and the observed fidelity in the classrooms up to that point. With feedback from the EBQI panel, we will use this information to determine shifts needed to improve the enhanced strategy for the remainder of the school year.

**Analyses.** We will complete rapid coding of the semi-structured interviews with the selected ECEs at each iteration.<sup>81</sup> This coding will focus on identifying aspects of the implementation feasibility and acceptability. Two coders will complete initial content analysis independently and come together to resolve any differences. These data will be combined with the fidelity data collected and presented to the EBQI panel. Changes or improvements to the enhanced strategy will be driven be these findings and the feedback from the EBQI panel.

At the completion of the study, analyses of Implementation and Effective. Less data will examine the descriptive statistics and examine outliers. Multi-level models (MLM) will be used to account for the dependence among repeated observations of the same teachers in the same classroom as well as children nested within classrooms. MLM refers to a class of statistical techniques developed to analyze multi-level data structures and appropriately model clustered designs. The models will include a fixed term for intervention (basic versus enhanced) and time. Random effects will be included for the correlation of children within classrooms and the correlation of observations within teacher. This analysis will allow for estimation of variance in child outcomes accounted for by implementation (i.e., level 2) effects. Assuming 10% of variance in the child outcomes is at the classroom level and that contaites (e.g. ethnicity, gender) account for 10% of variance in the outcomes, this design will provide us with 80% power to detect and effect of .52 (a half standard deviation) given a two-tailed test with appea set at .05. A fully-powered trial would require 80 classrooms and would provide 80% power to detect an effect size of .25 (a quarter of a standard deviation) given the same assumptions. We will examine potential site-level moderators in the R01 study.

**Expected Results and Benchmarks fc Success.** The Hybrid 3 design will allow us to determine if the enhanced implementation strategy improves uptake of best practices and outcomes for children. Aim 3 will result in manuscripts and presentations related to (a) the study protocol of this Hybrid 3 trial in a community setting, (b) the combined use of i-<sup>17</sup>ARiHS and RE-AIM to drive evaluation of implementation strategies, and (c) preliminary evidence of the effectiveness of stakeholder driven enhancements to WISE implementation. These data will lay the foundation for an R01 application to complete a fully-powered Hybrid Type 3 implementation trial of the enhanced WISE intervention.

**Potential Problems and Alternative Strategies.** Participant expectancy could threaten validity of classroom observations, but practices learned in previous study will counteract this. Arriving 15 minutes prior to an observation allows for blending in with the classroom environment, and children and teachers then tend to cease reactions to the observer's presence. Inclusion of 3 separate observations per classroom will further decrease this effect. The combination of child data collection/record review, classroom observations, implementation support visits, and semi-structured interviews will require a high level of coordination among data collectors. We meet this demand with the employment of a part-time project coordinator who will ensure the appropriate progress of data collection in the field; conduct observations with the data collectors to obtain measures of reliability; and coordinate the storage, entry, and cleaning of incoming data. We also recognize that a traditional randomized trial would not include iterative changes to intervention/implementation components. The two iteration points included here will ultimately save time in achieving the best possible enhanced strategy and result in a fully-specified packaged ready for a full test in the subsequent R01. Further, we recognize our proposed sample size is limited. We plan to apply for internal UAMS pilot funds to increase our sample and improve power. Regardless, we will obtain critical information on the feasibility and acceptability, of the enhanced strategy and proposed data collection plan that will inform the design of the R01.

# **Protection of Human Subjects**

# **Risks to Human Subjects**

# a. Human Subjects Involvement, Characteristics, and Design

In Aim 1, 37 Head Start educators and directors will complete one-on-one, open-ended interviews. The educators will be selected based on secondary data from WISE fidelity observations collected in a previous study. These data were collected with consent of the educators. Based on total fidelity scores, the top and bottom 15 educators will be invited to provide input on the barriers and facilitators to their success. Directors from participating agency will be invited to provide their input on the same topic. Once selected, educators will be contacted via their center's phone number and invited to participate. We will provide information about the study over the phone, and educators will have the opportunity to schedule an interview. Teachers will be provided an incentive of \$25 for participation in the interviews.

In Aim 2, we will engage key community stakeholders to serve on our Evidence-Based Quality Improvement (EBQI) panel and provide input on development of an enhanced implementation strategy for WISE. This process will review the existing scientific evidence and data from Aim 1 with the EBQI panel to solicit stakeholder input on how best to support WISE implementation. We will recruit stakeholders from (a) sites that will implement WISE in Aim 3, (b) sites that have previously implemented WISE, and (c) parents served by Head Start. EBQI sections will be audio recorded to allow for review of content covered in each session and to allow for vapid coding of the reactions of the EBQI panel. These data will be collected anonymously. Pane'members may also be asked to complete survey instruments to provide quantitative input on proposed strategies. The identity of EBQI members will not be included in reports or manuscripts. Each panel member will receive \$200 for service on the panel. We expect to engage approximately 10 stakeholders in the panel and to meet in person 6-8 times.

In Aim 3, 20 classrooms from our partnering Head Start agency will be randomized to implement the basic WISE strategy used in previous studies or the enhanced WISE strategy developed in Aim 2. All educators in these classrooms will be asked to provide consent for classroom observations on three occasions during the school year to asked to provide consent for classroom observations on three occasions during the school year to asked to provide consent for classroom observations on three occasions during the school year to asked to provide consent for classroom observations on three occasions during the school year to asked to provide consent for classroom observations on three occasions during the school year to asked to provide teedback on feasibility and acceptability through semi-structured, open-ended interviews twice during the school year. Teachers will be paid \$25 for the interviews as they will take place outside of center hours. Additionally, to assess comparative impacts on children, we will record review Body Mass Index (BMI) and Food Frequency Questionnaire (FFQ) data from the agency records at the beginning and end of the school year. We will collect a Resonance Raman Spectroscopy (Ri<sup>1</sup>S) assessment from children at the beginning and end of the school year as well. RRS is an optical scan of the hand to assess carotenoid intake from fruits and vegetables. It has been used safely in prior studies with children aged 3 and older. We expect to collect this information from up to 400 children between the ages of 3 and 5.

# b. Sources of Materials

Open-ended interviews in Aim 1 will cover aspects of the innovation (WISE), the recipients (individual and organizational), and implementation that made previous use of the WISE components easy or hard. These constructs are consistent with the informing conceptual framework for the study (i-PARIHS). Interviews will result in audio files and transcribed copies of the interview without identifying information.

Materials in Aim 2 will be obtained from the audio recordings of EBQI sessions, notes of the research team taken during EBQI meetings, and survey instruments collected from the EBQI panel. No identifying information will be kept with these data.

Aim 3 will involve collection of data from teachers and children. Data collectors will observe teachers in the classroom to complete ratings of fidelity. These data will be entered into SPSS, a statistical processing software. Feasibility and acceptably interviews will be audio-recorded and transcribed. BMI data will be downloaded from program records, and RRS scores will be downloaded from the RRS equipment after collection for children. All data will be paired with a neutral identification number. A key file linking ID numbers with participant names will only be kept between pre and post assessments to be

able to link participants across time. This information will only be accessible to the PI and research assistant. Names will be removed from all files after the follow up data collection.

# c. **Potential Risks**

1. Discomfort: The open-ended interviews may include questions that some teachers may experience discomfort in answering.

2. Confidentiality: Classroom observations will record behaviors specific to each teacher. Disclosure of this information could be damaging to the teachers, both personally and professionally.

3. Parents may prefer to keep their child's records private and wish that their child not participate in the RRS assessment.

# Adequacy of Protection Against Risks

## a. Recruitment and Informed Consent

All teachers participating in interviews and classroom observations will be consented into the study by trained data collectors with human subjects certification. Consent will take place at the interview site. All participants will be provided with their own copy of the consent describing the nature of the study, the extent of their commitment, their rights as a participant, and any anticipated benefits or risks. The data collectors will read the consent with the participants, allowing time to answer questions and address concerns.

Parents will be sent a flier informing them of study activities. Consent will be collected from parents in accordance with approved IRB protocol. In a similar protocol we conducted, the IRB agreed with us that the written consent of parents could be waived. Instead we used information sheets to inform parents of the study activities, and parents could indicate and return the form if that they did not want their child to participate.

## b. Protections Against Risk

1. Discomfort: Teachers may choose not to answer a d stop the interview at any time. The interview will be specific to their experiences with WISE and will not be personal in nature. We do not expect the questions to elicit a strong emotional response.

2. Confidentiality: Each center will be informed of the private nature of the teacher interviews and classroom observations and that these records will not be accessible by their agency. The audio and transcription files will be deidentified and stored electronically on a secured server. Physical copies of the interviews and interview notes will be stored in locked filing cabinets in a office suite. Interviews and observations will be tracked with neutral identification numbers, never including teacher names, addresses, or birthdates.

In a study using similar data conjection procedures the IRB agreed that our protocol described normal educational activities and approved the passive consent process described above. We will not collect data on children whose parents indicate that they do on want their child to participate. Record review data of children's BMI and Food Frequency Questionnaire (FFQ) will be collected with neutral identification numbers that will be retained only by the agency. RRS scores are collected using neutral identification numbers, never being entered into the RRS system. Only the PI and research assistant will have access to this key.

# Potential Benefits of the Proposed Research to Human Subjects and Others

There may be some indirect benefit to participants taking part in this study. As Head Start programs learn more about effective practices for obesity prevention through the findings of this project, they may provide better training opportunities and support for teachers. It is also possible that participants will experience no direct benefit as a result of participation.

However, the potential benefit to others outside the research study is great. Development and evaluation of implementation strategies to support obesity prevention will provide critical knowledge on the value of investments in adding implementation support strategies to existing obesity prevention interventions. If the enhanced strategy outperforms a basic implementation strategy for the adoption of best practice and impacts on children as expected, this will provide evidence that the additional resources required to support

implementation of EBIs are warranted. Further, we believe that information gained will contribute to future uptake and sustainability of environmental interventions to improve diet and activity levels of children.

# Importance of the Knowledge to be Gained

The proposed research will contribute to improved knowledge of how best to improve implementation, fidelity, and sustainability of evidence-based obesity interventions (EBIs) in childcare settings. Ultimately, improvements in obesity prevention and nutrition promotion practices in childcare have the ability to effect 11 million children under age 5 in the US annually. Given the extent of the use of childcare in the US and other parts of the world, and given the impact successful implementation of obesity prevention could have on the health and well-being of children in these settings, it is imperative that we develop and test strategies to maximize the implementation of other evidence-based practices in these settings. The minimal risk of discomfort to participants will be reasonable to obtain this knowledge. Further, every effort will be made to protect their privacy and confidentiality.

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#### Inclusion of Women and Minorities.

This study focuses on developing and studying potential improvements for implementation of obesity prevention practices in childcare settings serving low-income children. Although there are no inclusion/exclusion criteria based on gender, early childhood teachers are most often female. Of the educators, directors, and parents involved in this study, it is estimated that over 90% will be women. There are no inclusion or exclusion criteria based on race. However, we expect the ethnic and racial makeup of both educators, directors, stakeholders and children in this study to reflect that served by the partnering Head Start agency: 20.26% Hispanic; 71.92% African American, 4.21% White, 23.87% Multi-racial or Other race. See the expected enrollment table for numbers reflecting the ethnic makeup of the families served by the agency.

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# INCLUSION OF CHILDREN

This study focuses on childcare as a context for obesity intervention. As such, impacts of the strategies to improve implementation of obesity prevention on children's health outcomes are of interest. The age range of children in this study (Aim 3) will be consistent with those served by early childhood programs (age 3- 5 years). Children in intervention (i.e., enhanced strategy) and control (i.e., basic strategy) classrooms will (1) have their BMI and Food Frequency Questionnaires (FFQ; as reported by parents) collected from agency records without identifying information and (2) participate in a Resonance Raman Spectroscopy (RRS) assessment at the beginning and end of the school year. RRS is an optical scan of the hand to assess carotenoid intake from fruits and vegetables. It has been used safely in prior studies with children aged 3 and older, including in our own previous work. For both groups, we will collect child data before and after implementation of the WISE intervention. This will provide us with a matched design to assess comparative effectiveness. These data will be collected using appropriate parent consent procedures as outlined in the Protection of Human Subjects section.

The Principal Investigator and the co-mentors (Dr. Susan Johnson and Leanne Whiteside-Mansell) have extensive experience in conducting research with children in educational settings. In particular, these investigators have a wealth of experience in collecting data from children and families in Head Start and other childcare settings. In this study, the record review collection of BMI and FFQ data will require no interaction with children. In the last year, we have completed RRS assessments with 333 preschool children. Our experience with these scans indicated that they were feasible with children in this age range and required less than 5 minutes per child to complete. The child (a) cleans their hand with sanitizer, (b) places their hand on the RRS light for 30 seconds, and (c) selects a sticker as a thank you for their participation. Any child wishing to decline may do so. These scans will take place in a corner of the classroom that does not interfere with other activities. That is, children will not have to leave the comfort of their teacher and classmates to participate.

We believe this protocol will pose no more than minimal risk to children. The only foreseeable risk is uneasiness about participation. In a study using similar data collection procedures, the IRB agreed that our protocol descriped normal educational activities. The inclusion of up to 400 children with an anticipated minimum participation of 300 children will provide adequate power to detect a medium effect of the enhanced implementation strategy compared to the basic strategy.

## Protections Against Risk

- 1. Consent. No child will be included in the study without appropriate documentation of consent as approved by the IRB.
- 2. Assent. Each child with parent consent will be invited to participate in the RRS scan. If the child does not want to participate, their wishes will be granted.

# **RESOURCE SHARING PLAN(S)**

#### **Data Sharing Plan:**

In compliance with NIH's requirement for data sharing, final research data for this project will be made as available as possible while safeguarding the privacy of participants and protecting all confidential and proprietary data. We recognize that the public dissemination of our scientific results facilitates the creation of collaborative efforts and expedites the translation of research results into knowledge that will improve the health of children. As studies are completed, findings generated as a result of funding from this K01 award will be published in peer- reviewed journals. Publication in peer reviewed journals will serve as the primary mechanism for data dissemination. Data will be shared with the scientific community through presentations at national meetings. It is anticipated that approximately 8 presentations at national meetings will result from data collected during the project years. These meetings may include the Society of Nutrition Education and Behavior, the International Society for Behavioral Nutrition and Physical Activity, the Science of Dissemination and Implementation, and the Society for Research in Child Development.

#### Sharing Model Organisms: Not Applicable

#### Genome Data Sharing: Not Applicable

please do not distribute

# This report format should NOT be used for collecting data from study participants.

 Study Title:
 Aim 1 - Developing & Testing Implementation Strategies for Evidence-Based Obesity

**Domestic/Foreign:** Domestic

Comments

	Ethnic Categories				
Racial Categories	Not Hispanic or Latino		Hispanic or Latino		Tatal
	Female	Male	Female	Male	Total
American Indian/ Alaska Native	0		0	0	0
Asian	0		0	0	0
Native Hawaiian or Other Pacific Islander	0	0	0	0	0
Black or African American	67 19	1	4	1	25
White	9	1	2	0	12
More than One Race	0	0	0	0	0
Total	28	2	6	1	37

Study 1 of 3

# This report format should NOT be used for collecting data from study participants.

 Study Title:
 Aim 2 - Developing and Testing Implementation Strategies for Evidence-Based

 Obesity
 Obesity

**Domestic/Foreign:** Domestic

Comments

	Ethnic Categories				
<b>Racial Categories</b>	Not Hispanic or Latino		Hispanic or Latino		Tatal
	Female	Male	Fumale	Male	Total
American Indian/ Alaska Native	0		0	0	0
Asian	0	<b>100</b>	0	0	0
Native Hawaiian or Other Pacific Islander	0	0	0	0	0
Black or African American	5	1	1	0	7
White	3	0	0	0	3
More than One Race	0	0	0	0	0
Total	8	1	1	0	10

Study 2 of 3

# This report format should NOT be used for collecting data from study participants.

 Study Title:
 Aim 3 - Developing and Testing Implementation Strategies for Evidence-Based

 Obesity
 Obesity

**Domestic/Foreign:** Domestic

Comments

	Ethnic Categories				
Racial Categories	Not Hispanic or Latino		Hispanic or Latino		Total
	Female	Male	Female	Male	Total
American Indian/ Alaska Native	0		0	0	0
Asian	1		0	0	1
Native Hawaiian or Other Pacific Islander	0	0	0	0	0
Black or African American	118	112	29	28	287
White	12	12	50	48	122
More than One Race	0	0	0	0	0
Total	131	124	79	76	410

Study 3 of 3