ADDRESSING HEALTH DISPARITIES AMONG OKLAHOMA MINORITY AND RURAL COMMUNITIES THROUGH CLINICAL RESEARCH EDUCATION AND CAREER DEVELOPMENT

NIMHD - 1R25MD011564-01

CO-PI: Julie Stoner, PhD and
Courtney Houchen, MD

Program Summary

October 2017

This education and career development program is supported by the National Institute on Minority Health and Health Disparities and National Institute of General Medical Sciences of the National Institutes of Health under Award Numbers R25MD011564 and 1 U54GM104938. The content is solely the responsibility of the program directors and does not necessarily represent the official views of the National Institutes of Health.

EXECUTIVE SUMMARY

A critical mass of clinical researchers is needed to reduce health disparities affecting minority and underserved communities. The health status of Oklahomans is far below the United States average for many metrics, consistently ranking as one of the five states with the worst overall health. Furthermore, chronic health conditions disproportionately affect minority and underserved communities in the state. Clinical researchers require training, and practical research experiences, in population health, epidemiology, quantitative and qualitative research methods, cultural sensitivity, and community-based participatory research methods in order to form effective partnerships with communities to address health needs.

Our overall goal is to *facilitate the education of participants from **diverse backgrounds underrepresented in biomedical research** to pursue clinical research, translational and/or patient-oriented research, or population health research particularly on diseases that disproportionately impact **minority, rural, and health disparity populations**.*

Training in the **Clinical Research Education and Career Development** (CRECD) program includes two phases:

Phase I

- Didactic program courses for skill development in clinical and population health research
- Complete a thesis research project focused on health issues in underserved populations
- Earn a Master of Science degree in Clinical and Translational Science
- Funding for up to two years
- Application deadline: May 1, 11:59 PM, for Fall program matriculation

Phase II

- Mentored research experience
- Funding for up to three years
- Application deadline: January 31, 11:59 PM, for March 1 start date

The training programs will undergo ongoing program evaluation and revision to address the skill development needs of the researchers. The impact of this proposed project will be broadened through the dissemination of the resulting training and educational programs.

Application links can be found at: (beginning 11/15/17)
http://osctr.ouhsc.edu/training-and-education-opportunities

PROGRAM GOAL AND TARGET AUDIENCE

Program Goal

Facilitate the education of participants from diverse backgrounds underrepresented in biomedical research to pursue clinical research, translational and/or patient-oriented research, or population health research particularly on diseases that disproportionately impact minority, rural, and health disparity populations.

Eligible Program Participants

- Post-doctoral fellows and junior faculty, within seven years of their first faculty appointment, who aim to become productive, independent clinical or population health research investigators in the areas of minority health, rural health and health disparities research
- Member of diverse background underrepresented in biomedical research
    - Racial and ethnic groups that have been shown by the National Science Foundation to be underrepresented
        - Blacks or African Americans, Hispanics or Latinos, American Indians or Alaska Natives, and Native Hawaiians and other Pacific Islanders.
    - Individuals with disabilities
- Must be U.S. citizens or permanent residents
- Preference given to applicants with a clinical doctoral degree, including, but not limited to, an M.D., D.D.S., D.O., O.D., N.D., Pharm.D., Doctorate of Nursing, Doctorate of Physical Therapy, Doctorate of Occupational Therapy, Doctorate of Rehabilitation, or D.V.M.
    - Individuals with a Ph.D. may also apply
        - Ph.D. with clinical responsibilities
        - Ph.D. with a focus on clinical or population health research
- Phase II applicants must have completed Phase I or equivalent training and must meet the NIH definition of Early Stage Investigator
    - Early Stage Investigator: An Early Stage Investigator (ESI) is a new investigator who has completed his or her terminal research degree or medical residency—whichever date is later—within the past 10 years and has not yet competed successfully for a substantial, competing NIH research grant.

CURRICULUM – PHASE I

Phase I trainees will receive partial salary support to complete the MS in Clinical and Translational Science (CTS) degree program, including completion of a thesis research project. Trainees will be mentored by an interdisciplinary team of faculty researchers. Trainees are expected to remain in good academic standing throughout the duration of the program (maintaining a 3.0 cumulative GPA), participate in program evaluation activities, and submit their thesis research for publication.

Credit Hours

Core Course Requirements: 7 courses (18 credit hours)

(3 credit hours)	CTS 5143 Foundations of Clinical Research
(3 credit hours)	CTS 5133 Foundations of Translational Research
(3 credit hours)	BSE 5113 Principles of Epidemiology
(3 credit hours)	BSE 5163 Biostatistics Methods I
(1 credit hour)	CTS 5231 Practicum in Cross-cultural Research
(2 credit hour)	CTS 5112 Grants Management

Tracks – 9 additional credit hours

Below is a listing of suggested courses for each track. There is flexibility in the research methods/computing course (3 credit hours) and elective courses that may be taken (6 credit hours) depending on the interest areas of the trainee.

1. **Quantitative Methods**
    a. BSE 5013 Application of Microcomputers to Data Analysis (SAS) (3 credit hours)
    b. BSE 5193 Intermediate Epidemiology (3 credit hours)
    c. One of the following
        i. BSE 5173 Biostatistics Methods II
        ii. BSE 5663 Analysis of Frequency Data
        iii. BSE 6643 Survival Data Analysis

2. **Qualitative Methods**
    a. HPS 6933 Qualitative Research Methods in Public Health (3 credit hours)
    b. HPS 5463 Community Assessment, Organization and Interventions (3 credit hours)
    c. HPS 5553 Community-based Participatory Research in Public Health (3 credit hours)

Research Hours: (9 credit hours)

Total Degree Hours: 33 credit hours

Course	Summary	Course Schedule
BSE 5113 Principles of Epidemiology Directors: Jean Williams, MPH; Laura Beebe, PhD	Introduction to epidemiology covering principles and methods of epidemiology, calculation and interpretation of measures of frequency and risk, study design, bias, confounding and screening.	Core Fall (online) Spring (in-person) 3 credits
BSE 5163 Biostatistics Methods I Directors: Sara Vesely, PhD; Ying Zhang, PhD	Topics include types of data, descriptive summaries, probability distributions and calculations, estimation and confidence intervals, hypothesis testing, interpretation and reporting. Students use JMP software for data analysis.	Core Fall (hybrid) Spring (hybrid) 3 credits
CTS 5143 Foundations of Clinical Research Director: Julie Stoner, PhD	Topics include qualitative research paradigms, design, data collection, data analysis and rigor; observational clinical research design; and clinical trials design, sample size justification, conduct, analysis, data and safety monitoring, and reporting.	Core Fall (hybrid) 3 credits
CTS 5133 Foundations of Translational Research Director: Doris Benbrook, PhD	Includes an overview of how research discoveries impact healthcare and how to design research strategies that address pertinent clinical questions and translational research questions. Strategies to overcome barriers and gaps in research that impede this translational process are discussed and debated by panels of experienced translational researchers. Translation includes dissemination and implementation of treatment and screening guidelines in practice.	Core Spring (hybrid) 3 credits
CTS 5112 Grants Management Director: Julie Stoner, PhD	Includes an overview of basic elements of grants management including development of a research question, components of a grant application, budget preparation and management, managing human subjects and animal research, regulatory and intellectual property issues, selecting and managing staff, professional etiquette, assembling a project operations manual, and grant review criteria and process. Students write a seed grant application and participate in peer review.	Core Summer (hybrid) 2 credits

Course	Summary Competency	Existing MS in CTS
CTS 5231 Practicum in Cross-cultural Research Director: Lancer Stephens, PhD	Community engagement topics include historical perspectives, health status, cultural competence, health behavior and community outreach. Historic information will include forced migration, loss of lands, and effect on health and trust that continue today. Health status information including major diseases and their etiology to diabetes, cardiovascular disease, cancer, and mental health conditions. Cultural competence including race vs. ethnicity and cultural differences among American Indian tribes. Health behaviors including what motivates good health behavior and research/prevention strategy and program development. Community outreach including how to approach communities, utilizing community resources already in place, developing personal relationships into larger communitywide relationships, and community-based participatory research.	Core Fall (in-person) 1 credit
Research Methods or Computing	Students may choose a 3-credit methods course that compliments their focus area, either quantitative data analysis or qualitative research design and analysis.	BSE 5013 Application of Microcomptuers to Data Analysis (SAS) Fall/Spring (in-person), 3 credits HPS 6933 Qualitative Research Methods in Public Health Spring (in-person), 3 credits
Elective Courses	Through the selection of two elective courses, students can tailor their program to their interest areas and areas of needed competence for successful completion of the thesis project.	Elective courses (6 credits total)
Thesis Research	Students are required to write a research prospectus in a research grant proposal format that serves as a guide for their thesis research project. After the prospectus is approved, students complete the thesis research over a period of three semesters. The thesis format includes a manuscript as the main body, accompanied by a critical review of existing literature (introduction) and integrative discussion relating thesis project findings to prior findings in the field and a summary of next steps.	Fall/Spring/ Summer 9 credits

Example Plan of Study: Quantitative Track

	Semester					
	Fall		Spring		Summer	
	Course	Credit	Course	Credit	Course	Credit
Year 1	Foundations of Clinical Research	3	App of Computers in Analysis	3	Grants Management	2
	Biostat Methods I	3	Foundations of Translational Research	3	Research (complete research prospectus)	3
	Principles of Epi	3	Intermediate Epidemiology	3		
Year 2	Analysis of Frequency Data	3	Research	2	Research	2
	Cultural Practicum	1				
	Research	2				

Example Plan of Study: Qualitative Track

	Semester					
	Fall		Spring		Summer	
	Course	Credit	Course	Credit	Course	Credit
Year 1	Foundations of Clinical Research	3	Qualitative Research Methods in Public Health	3	Grants Management	2
	Biostat Methods I	3	Foundations of Translational Research	3	Research (complete research prospectus)	3
	Principles of Epi	3	Program Evaluation	3		
Year 2	Community-Based Participatory Research in Public Health	3	Research	2	Research	2
	Cultural Practicum	1				
	Research	2				

FUNDING – PHASE I

Funding (annual funding for two years)

- 50% protected time (salary+fringe)
- Tuition and fees (up to 33 credit hours over the 2-year program)
- $1250 travel funds
- $5000 research funds
- $2500 mentor's research expenses

Up to two trainees will be funded at any one time in the program.

PROGRAM APPLICATION – PHASE I

Program applications are due May 1 at 11:59 PM for a Fall semester matriculation. The application will include an official transcript from all prior universities attended, a completed OUHSC Graduate College application, three letters of recommendation, one-page statement of career goals indicating how the MS in CTS will advance the career of the applicant, a two-page research proposal for the thesis project, the primary mentor's NIH biosketch, and a current CV for the applicant. The statement of career goals must include a statement regarding the **applicant's interest in the CRECD program** and pursuing clinical research, translational and/or patient-oriented research, or population health research particularly on diseases that disproportionately impact minority, rural, and health disparity populations.

REVIEW CRITERIA – PHASE I

Applicants will be reviewed by members of the CTS Advisory Committee and will be evaluated based on program eligibility criteria; the potential of the applicant to become a productive, independent clinical or population health research investigator in the areas of minority health, rural health and health disparities research; scientific rigor, significance, and feasibility of the proposed thesis project; track record of the mentor in related research field and research mentoring; and scientific contributions of the applicant including publications and presentations.

CAREER DEVELOPMENT – PHASE II

Phase II of the proposed program will provide salary support (75% FTE) for up to two CRECD Scholars at any one time. Research Scholars will have funding for up to three years, pending satisfactory annual review, or up to the point of receiving a K- or R series, or equivalent, award. Applicants will undergo a competitive selection process reflecting the alignment of the applicant's proposed research activities with the goals of the proposed CRECD program, the research productivity of the applicant, and the research and mentoring accomplishments of the mentor. The Scholar will identify a primary mentor at the time of application and once accepted, a mentoring committee will be developed. The program will include formal mentoring guidelines, tools for professional development planning, and tools for monitoring scholar productivity.

Scholars will commit at least 75% effort to the planned research project. A three-year plan will be developed that will include training in scientific writing and grant writing, at an advanced level, building on the foundation gained through the MS in CTS degree program, or equivalent graduate training. Scholars will also complete training in Responsible Conduct of Research. The development plan will include a series of research projects that will result in research products necessary to support a career development award or R series award application in the second or third year of the appointment. The first year will involve secondary data analysis or systematic review and meta-analysis and application for seed grant funding from intramural or professional organization sources. A pilot project will be completed during the first two years of funding. The second and third years will involve manuscript writing and publication from the pilot project and generation of a career development award application. Applicants who have recently completed pilot studies will accelerate their program and focus their first year on manuscript writing and publication and their second year on submitting a career development award application. The program will build on recommended best practices from other established NIH-funded minority training programs, including one-on-one individualized mentoring plans and meetings by experienced health disparities researchers, skill-building seminars in group settings, and availability of research support funds.

FUNDING – PHASE II

Funding (annual funding for up to three years)

- 75% protected time (salary+fringe)
- $1250 travel funds
- $5000 research funds
- $2500 mentor's research expenses

Up to two Phase II trainees will be funded at any one time in the program.

PROGRAM APPLICATION – PHASE II

Eligible applicants must meet the NIH definition of Early Stage Investigator. Applicants must have completed the MS in CTS degree program or hold a graduate degree with equivalent training. The application will include a summary of career goals and research interests along with a research proposal and planned timeline for a career development or R-series award application. The research proposal will include the Specific Aims, Background & Significance, Preliminary Data, and Research Design and Methods of a proposed pilot research project. In addition, a letter of support must be included from the proposed primary mentor and the department chair or section chief agreeing to the time commitment required for the CRECD program.

The applications will be reviewed by the CRECD Advisory Committee. The top four applicants will be invited to deliver a 30-minute oral presentation of their research goals, interests, and career development plans. Applicants will present a summary of their proposed research project and will answer questions regarding the proposed project as well as the alignment of the CRECD goals with the applicant's career goals. The proposed mentor will also be invited to attend the interview.

REVIEW CRITERIA – PHASE II

Applicants will be reviewed by members of the CTS Advisory Committee and will be evaluated based on program eligibility criteria; prior training in clinical or population health research, specifically in minority health, rural health and health disparities; the potential of the applicant to become a productive, independent clinical or population health research investigator in the areas of minority health, rural health and health disparities research; scientific rigor, significance, and feasibility of the proposed pilot project; track record of the mentor in the related research field and success in research mentoring; scientific contributions of the applicant including publications and presentations; strength of the 3-year career development plan; and commitment from the applicant's department or section for the applicant to complete the program.

PROGRAM MENTORS

Briefly, Phase I mentors must hold OUHSC Graduate Faculty appointments, or temporary Graduate Faculty appointments for external mentoring committee members. Mentors in both phases will be selected based on the following criteria: 1) active involvement in the career of the trainee; 2) a record of successful trainees; 3) personal record of clinical or translational research publication in health disparities research in the community or area of interest to the trainee; and 4) national research funding in health disparities, clinical research or population health research. Applicants will be encouraged to discuss their research interests with the program directors Drs. Stoner and Houchen, or their college's representative on the Advisory Committee, to identify potential mentors with research programs in the interest area of the applicant.

Phase I Mentoring Committee: Each student will have a thesis research committee consisting of at least four Graduate Faculty members. Three of the faculty members on each committee will be Graduate Faculty members in the Clinical and Translational Science program. The remaining member of the graduate committee will be chosen by the student with concurrence by those faculty members and the approval of the Program Director and should have expertise in the student's chosen area of specialty. The Chair of the thesis research committee must be a Graduate Faculty member of the Clinical and Translational Science program and will be the primary mentor for the research project. The Chair must be identified prior to program admission. The remaining three members of the thesis research committee must be identified by the end of the second semester. At least two of the members must have had prior experience serving on or chairing a graduate MS thesis or PhD dissertation committee and at least two of the members must be from departments outside the home department of the Chair. In addition, thesis committees of students who are engaged in community-based participatory research may include a community member as an additional thesis committee member. Additional guidelines regarding the committee structure are as follows:

- Mentor 1: The Committee Chair is the content mentor. This person is the expert in the specific health disparities area of the research project and with experience in the community of interest to the trainee. This person provides the guidance for the research, including discussion of specific studies, anticipated outcomes, interpretation of data, and plans for future research.

- Mentor 2: Co-content mentor. This person is from the alternative discipline to complement the content mentor. For example, if the content mentor is a clinician with health disparities research experience, the co-content mentor may have expertise in dissemination/implementation science or health promotion science. These two mentors work as a team to not only teach but to illustrate the actual practice of CTS.

- Mentor 3: Methodology mentor. Regardless of the background and expertise of Mentors 1 and 2, a mentor with career focus on qualitative research methods, program evaluation, epidemiology or biostatistics is appointed. This person is the expert in research design, with emphasis that initial concept and design are more important than subsequent analysis of results. The goal of this relationship is that the student appreciates team research, and the requirement for collaboration with a methodologist at the initial point when an idea is being discussed.

- Mentor 4: Career mentor. Although Mentors 1 and 2 may be knowledgeable about the student's career aspirations, we have found that it is essential for one mentor to have primary responsibility for assisting the student with the next steps in their career. This focus is not specifically on research funding but on academic position. This focus is on the critical issues of location, clinical/teaching responsibilities, opportunities for continued mentoring and career advancement. It is this mentor's responsibility that the student not only completes the current project, but applies the success to achieve the next career step, either in our institution or in another institution.

Phase II Mentoring Committee: The mentoring committee for Phase II trainees will be similar in composition to that for Phase I trainees. Each Phase II trainee will have a mentoring committee consisting of at least four members. The Primary Mentor must be identified prior to program admission. The remaining three members of the committee must be identified within two months of program admission. At least two of the members must be from departments outside the home department of the Primary Mentor. Trainees focused on community-based participatory research may include a community member as an additional mentoring committee member. Additional guidelines regarding the committee structure are as follows:

- Mentor 1: The Primary Mentor is the content mentor. This person is the expert in the specific health disparities area of the research project and with experience in the community of interest to the trainee. This person provides the guidance for the research, including discussion of specific studies, anticipated outcomes, interpretation of data, and plans for future research. The Primary Mentor must have a track record of funded research and experience mentoring postdoctoral fellows and junior faculty in research career development.

- Mentor 2: Co-content mentor. This person is from an alternative discipline to complement the content mentor. For example, if the content mentor is a clinician with health disparities research experience, the co-content mentor may have expertise in dissemination/implementation science or health promotion science. These two mentors work as a team to not only teach but to illustrate the actual practice of CTS and team-based research.

- Mentor 3: Methodology mentor. Regardless of the background and expertise of Mentors 1 and 2, a mentor with career focus on qualitative research methods,

program evaluation, epidemiology or biostatistics is appointed. This person is the expert in research design, with emphasis that initial concept and design are more important than subsequent analysis of results. The goal of this relationship is that the student appreciates team research, and the requirement for collaboration with a methodologist at the initial point when an idea is being discussed.

- Mentor 4: Career mentor. Although Mentors 1 and 2 may be knowledgeable about the student's career aspirations, we have found that it is essential for one mentor to have primary responsibility for assisting the trainee with the next steps in their career. This focus is not specifically on research funding but on academic position. This focus is on the critical issues of location, clinical/teaching responsibilities, opportunities for continued mentoring and career advancement. It is this mentor's responsibility that the trainee not only completes the current project, but applies the success to achieve the next career step, either in our institution or in another institution.

PROGRAM EVALUATION

A primary assessment method is the end-of-course student evaluations (Phase I), and student productivity including published manuscripts, grant submissions, and awarded grants (Phase I and Phase II). In addition, all lead faculty complete a course review form following the completion of the semester (Phase I). The form includes items related to changes in course competencies, goals, curriculum and delivery modality, as well as sections for faculty reflection regarding what aspects of the course went well and what aspects of the course should be improved. Finally, the form includes a summary statement regarding the student evaluations. A series of focus groups and interviews will be completed to evaluate the experiences of graduates from the MS in CTS program (Phase I) and the mentored research experience (Phase II). Participants will be asked to provide feedback about their experience as a whole, including completing coursework, completing the thesis project, interactions with the director of the program and Graduate College, as well as the experience students had with their mentors and practicum committees. A similar set of focus group sessions will be held with Phase II participants, where the questions will focus on the participant's and mentor's experience in the mentored training program. Focus groups will also be conducted with department chairs, program directors and deans to evaluate their experience with the program. Strengths and areas for improvement will be discussed. The MS in CTS program (Phase I) will be reviewed in conjunction with the MS in CTS degree program every seven years through the internal and external program review of the OUHSC Graduate College.

We will continue to use the REDCap reporting system that has been developed through the OSCTR Evaluation key component activity to track student accomplishments. All manuscript submissions, publications, presentations, grant submissions and grant

awards will be tracked. Carla Shackelford, the Program Coordinator, will send students regular reminders to complete the REDCap tracking forms. We will track submissions in addition to publications to determine if papers are being submitted but are not acceptable for publication. This additional information will be informative to identify necessary changes in the curriculum to improve the quality of the research project, if we find that papers are submitted but not worthy of publication, or process changes that are needed to increase submissions.

Program Evaluators:

Natasha M. Mickel, Ph.D.
Assistant Director for Faculty Development & Adjunct Assistant Professor
Office of the Vice Provost for Academic Affairs and Faculty Development
Program Coordinator, Center for Telemedicine
University of Oklahoma Health Sciences Center
Robert M. Bird Library
1105 N Stonewall Avenue, Suite 164
Oklahoma City, OK 73117
Phone: 405-271-5557 | Campus: 405-271-8001, Ext: 30671 | Fax: 405-271-3053
Email: natasha-mickel@ouhsc.edu

Brandt Wiskur, Ph.D.
Director of Institutional Research
Office of the Vice Provost for Academic Affairs and Faculty Development
University of Oklahoma Health Sciences Center
Robert M Bird Library Room 121
Oklahoma City, OK 73117
Phone: 405-271-2347 Ext. 48913
Email: brandt-wiskur@ouhsc.edu

PROGRAM OVERSIGHT AND ADMINISTRATION

Advisory Committee

The Advisory Committee meets every six months to review applications and make recommendations for program admission.

Members of this committee include:

- Carol Dionne, PT, PhD, OCS, Cert MDT, Assistant Professor, College of Allied Health
- Doug Drevets, MD, D.T.M.&H; Professor and Chief, College of Medicine
- Sharukh S. Khajotia, BDS, MS, PhD; Assistant Dean for Research and Advanced Programs, College of Dentistry
- Kathleen Dwyer, Ph.D., R.N., Professor, College of Nursing
- Courtney Houchen, M.D., Professor, College of Medicine
- Nathan Shankar, PhD; Professor and Vice Chair, College of Pharmacy
- Julie Stoner, Ph.D., Professor, College of Public Health, College of Medicine
- Sara Vesely, Ph.D., Professor, College of Public Health

Executive Committee

The Executive Committee meets monthly to review progress on implementation and conduct of the curriculum, to address any problems or issues that arise, to review the progress of all participants, and to determine annual program admission.

Members of this committee include:

- H. Anne Pereira, Ph.D., Professor and Dean of Research, College of Pharmacy; Dean of the Graduate School
- Darrin Akins, Ph.D., Professor, Associate Dean for Research, College of Medicine
- Doris Benbrook, Ph.D., Professor, College of Medicine
- Carol Dionne, PT, PhD, OCS, Cert MDT, Assistant Professor, College of Allied Health
- Doug Drevets, MD, D.T.M.&H; Professor and Chief, College of Medicine
- Sharukh S. Khajotia, BDS, MS, PhD; Assistant Dean for Research and Advanced Programs, College of Dentistry
- Kathleen Dwyer, Ph.D., R.N., Professor, College of Nursing
- James George, M.D., Professor, College of Medicine, College of Public Health
- Gene Hallford, M.A., Ph.D., College of Medicine
- Courtney Houchen, M.D., Professor, College of Medicine
- Nathan Shankar, PhD; Professor and Vice Chair, College of Pharmacy
- Stavros Stavrakis, MD, PhD, MS; Assistant Professor, College of Medicine
- Lancer Stephens, PhD; Assistant Professor, College of Public Health
- Julie Stoner, Ph.D., Professor, College of Public Health, College of Medicine
- Tim VanWagoner, PhD; Administrative Director, Oklahoma Shared Clinical and Translational Resources
- Sara Vesely, Ph.D., Professor, College of Public Health

INFORMATION

For additional information, please contact:

Julie Stoner, PhD
Program Director
Department of Biostatistics and Epidemiology
College of Public Health
University of Oklahoma Health Sciences Center
801 NE 13th Street, CHB 309
Oklahoma City, OK 73104
Phone: (405) 271-2229 x 49480
Fax: (405) 271-2068
Email: julie-stoner@ouhsc.edu

Carla Shackelford
Graduate College/OUHSC
1105 N. Stonewall Rm. 258
Oklahoma City, OK 73117
405-271-2085 (Main Line)
405-271-8001 Ext. 48833 (Direct Line)
Fax: 405-271-1155
Email: carla-shackelford@ouhsc.edu