

## Sigma Theta Tau International's 29th International Nursing Research Congress

### Interprofessional Collaborative Practice for Cardiovascular Risk Reduction in Chronic Disease

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#### **Purpose**

The purpose of this study was to evaluate the effectiveness of an ongoing Inter-professional Collaborative Practice (IPCP) program for the reduction of cardiovascular risk among economically and medically vulnerable individuals. To improve the access to quality primary health care services and reduce cardiovascular risk for vulnerable individuals, an IPCP program has been implemented into The Larry Combest Community Health and Wellness Center (LCCHWC), a federally-qualified nurse managed health center in west Texas, since 2014. All IPCP team members including advanced practice nurses, clinical pharmacists/pharmacy residents, psychologists, registered dietitians, community health workers, and licensed social workers received evidence-based TeamSTEPPS and Motivational Interview trainings. Team based care is provided to patients who have cardiovascular diseases (CVDs), or are at high risk of CVDs.

#### **Method**

##### *Study Sample*

Patients who receive medical care at Larry Combest Community Health and Wellness Center and have cardiovascular diseases (CVDs), or are at high risk of CVDs, which has at least one of the following chronic conditions: Hypertension, Diabetes, Dyslipidemia, Insulin Resistance, Prehypertension, Tobacco Use, Metabolic Syndrome, Overt Coronary Artery Disease and Established Cardiovascular Disease, defined as documented history of PAD, abnormal ABI, TIA, or stroke, and CHF are recruited to participate in this study.

From March, 2014 to April 2017, 257 eligible patients have been enrolled in this evaluation study, and 114 patients received at least 60 minutes additional health services provided by the IPCP team than regular primary care services.

##### *Measurements*

Patients' clinical and psychosocial/behavioral outcomes were measured at baseline, and are tracked throughout the program until the end of the intervention period, or until the patient is dismissed from the program.

- Clinical outcomes: e.g., HbA1c, blood pressure, ER visits
- Psychosocial /behavioral outcomes: e.g., depression, self-efficacy of chronic diseases management

- Behavioral outcomes: e.g., medication adherence
- Services outcomes: e.g. type of services, acceptance of enabling service

## Results

Baseline data show that 65% of patients enrolled ( $N = 168$ ) have two or more chronic conditions, 49% are on five or more prescription drugs, over 64% are unfunded, and over 25% are Medicaid/Medicare participants. Hypertension is the leading chronic condition (89.7%), followed by diabetes (68%), obesity (80.6%), dyslipidemia (22.2%), existing coronary artery disease (13.6%), asthma/COPD (7.8%) and other chronic conditions (33.5%). 14.8 percent of the patients had mild depression, and over 15.2% had moderate to severe depression (measured by PHQ-9) at baseline.

The collection of post-intervention data is ongoing, some of the behavioral outcomes collected at baseline (<45 days of enrollment), half-year (45 days-180 days), and one year ( $\geq 180$  days) are listed in the table below.

	Baseline	Half-Year	One year
SF-12 v2 PCS	43.9±12.9	41.7±10.9	37.2±10.7
MCS	48.9±19.0	50.6±9.7	47.9±14.7
PHQ-9	7.0±6.5	10.5±6.9	7.3±6.6
SEMCD	8.4±1.6	7.4±2.1	7.6±1.6
SED	7.3±1.7	7.8±1.8	8.0±2.0

In year 2016, 70.7% of the HTN participants had controlled blood pressure and 45.4% of Diabetes participants had HbA1c<8%.

## Conclusion

The IPCP services meet the physical, social and psychological needs for the economically and medically vulnerable populations. Improvements in patients' clinical and behavioral outcomes are observed through this program.

### Title:

Interprofessional Collaborative Practice for Cardiovascular Risk Reduction in Chronic Disease

### Keywords:

cardiovascular risk reduction, chronic disease management and interprofessional collaborative practice

### References:

Irons, B., Evans, L., Bogschutz, R., Panasci, K., & Sun, G. (2016). Utilising Medicare annual wellness visits to implement interprofessional education in the primary care setting. *Journal of interprofessional care*, 30(4), 529-531.

Snella, K. A., Canales, A. E., Irons, B. K., Sleeper-Irons, R. B., Villarreal, M. C., Levi-Derrick, V. E., ... & Nelson, A. A. (2006). Pharmacy-and community-based screenings for diabetes and cardiovascular conditions in high-risk individuals. *Journal of the American Pharmacists Association*, 46(3), 370-377.

Irons, B. K., & Minze, M. G. (2014). Drug treatment of type 2 diabetes mellitus in patients for whom metformin is contraindicated. *Diabetes, metabolic syndrome and obesity: targets and therapy*, 7, 15.

Nigro, S. C., Garwood, C. L., Berlie, H., Irons, B., Longyhore, D., McFarland, M. S., ... & Trewet, C. B. (2014). Clinical Pharmacists as Key Members of the Patient-Centered Medical Home: An Opinion Statement of the Ambulatory Care Practice and Research Network of the American College of Clinical Pharmacy. *Pharmacotherapy: The Journal of Human Pharmacology and Drug Therapy*, 34(1), 96-108.

Rodriguez, A. I., Zupancic, S., Song, M. M., Cordero, J., Nguyen, T. Q., & Seifert, C. (2017). Importance of an Interprofessional Team Approach in Achieving Improved Management of the Dizzy Patient. *Journal of the American Academy of Audiology*, 28(3), 177-186.

Feng, D., Song, H., Esperat, M. C., & Black, I. (2016). A Multicomponent Intervention Helped Reduce Sugar-Sweetened Beverage Intake in Economically Disadvantaged Hispanic Children. *American Journal of Health Promotion*, 30(8), 594-603.

Feng, D., Esperat, M. C., Doneen, A. L., Bale, B., Song, H., & Green, A. E. (2015). Eight-Year Outcomes of a Program for Early Prevention of Cardiovascular Events: A Growth-Curve Analysis. *Journal of Cardiovascular Nursing*, 30(4), 281-291.

#### **Abstract Summary:**

To reduce cardiovascular risk for vulnerable individuals, an Inter-professional Collaborative Practice(IPCP) program has been implemented into a federally-qualified health center in west Texas. All IPCP team members including NPs, RNs, clinical pharmacists/pharmacy residents, psychologists, registered dietitians, community health workers, and licensed social workers received evidence-based TeamSTEPPS training.

#### **Content Outline:**

##### **Background**

Cardiovascular risk reduction is emphasized in the repertory of Inter-professional Collaborative Practice (IPCP) competencies because of the significant risk among people with chronic illnesses. To improve the access to quality primary health care services and reduce cardiovascular risk for vulnerable individuals, an IPCP program has been implemented into The Larry Combest Community Health and Wellness Center (LCCHWC), a federally-qualified nurse managed health center in west Texas, since 2014. All IPCP team members including advanced practice nurses, clinical pharmacists/pharmacy residents, psychologists, registered dietitians, community health workers, and licensed social workers received evidence-based TeamSTEPPS and Motivational Interview trainings. Team based care is provided to patients who have cardiovascular diseases (CVDs), or are at high risk of CVDs.

##### **TeamSTEPPS training and program outcomes**

All IPCP team members received TeamSTEPPS interprofessional collaborative practice training. The training significantly improved teamwork perceptions (T-TPQ) and teamwork attitude (T-TAQ).

From March, 2014 to April 2017, 257 eligible patients have been enrolled in this evaluation study, and 114 patients received at least 60 minutes additional health services provided by the IPCP team than regular primary care services. Patients' clinical and psychosocial/behavioral outcomes were measured at baseline, and are tracked throughout the program until the end of the intervention period, or until the patient is dismissed from the program.

Baseline data show that 65% of patients enrolled ( $N = 168$ ) have two or more chronic conditions, 49% are on five or more prescription drugs, over 64% are unfunded, and over 25% are Medicaid/Medicare

participants. Hypertension is the leading chronic condition (89.7%), followed by diabetes (68%), obesity (80.6%), dyslipidemia (22.2%), existing coronary artery disease (13.6%), asthma/COPD (7.8%) and other chronic conditions (33.5%). 14.8 percent of the patients had mild depression, and over 15.2% had moderate to severe depression (measured by PHQ-9) at baseline.

In year 2016, 70.7% of the HTN participants had controlled blood pressure and 45.4% of Diabetes participants had HbA1c<8%.

First Primary Presenting Author

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**Professional Experience:** 2000- Professor, Texas Tech University Health Sciences Center (TTUHSC), School of Nursing, Lubbock, Texas 2000- Associate Dean for Clinical Services and Community Engagement, TTUHSC, School of Nursing, Lubbock, Texas 1997-2000 Associate Professor and Director of Graduate Program, Lamar University College of Arts and Sciences, Beaumont, Texas 1996-2000 Family Nurse Practitioner, UTMB-Lamar University Nursing Department Telehealth Clinic, Beaumont, Texas Selected Honors and Recognition • Phi Kappa Phi Honor Society, Lamar University Chapter, Member 1986-present • Selected Participant, Scientists as Subjects: The Poynter Center for the Study of Ethics and American Institutions. Indiana University. March, 2001 • Kappa Kappa Chapter, President, 1988-1990; Member, 1990-present; Chair, 1995-2001 • Recipient, The 2000 Julie and Ben Rogers Award for Community Service, Lamar University. • Primary Health Care Fellow, HRSA Bureau of Primary Health Care, 2005 • Robert Wood Johnson Executive Nurse Fellow, 2005

**Author Summary:** As the previous Associate Dean of Clinical Services and Community Engagement, I have extensive experience in interprofessional collaborative practice for over decades and have published work in chronic diseases management, transformation for health and Interdisciplinary Diabetes Workshop for Healthcare Professionals. As the Project Director of all three programs, I'm knowledgeable for programs and framework.

Second Author

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**Professional Experience:** 2014-current Sr. Research Associate/Statistician, TTUHSC, SON, Lubbock, TX 2011-2013 Lead Analyst, TTUHSC, SON, Lubbock, TX 2010-2011 Analyst II, TTUHSC, School of Nursing, Lubbock, TX 2003-2008 Research Assistant, University of Illinois at Urbana-Champaign, Urbana, IL 1999-2001 Project Associate/Pharmacist, Livzon Pharmaceutical Group, Guangdong, China

**Author Summary:** I have my MS degree in statistics and PhD in food sciences and human nutrition. My research is focused on quality improvement programs for healthcare and service delivery. I'm also interested in chronic disease self-management program development and evaluation.

Third Author

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**Professional Experience:** 2016- Associate Dean for Clinical Services and Community Engagement, Texas Tech University Health Sciences Center, School of Nursing 2006- Executive Director, Larry Combest Community Health and Wellness Center, Lubbock, TX 2006- Assistant Professor, Texas Tech University Health Science Center, School of Nursing (TTUHSC SON), Lubbock, TX 1998- Weekend supervisor, Lubbock Hospitality Nursing and Rehabilitation, Lubbock, TX 2004 -2006 Senior Consultant, Foundation Management Services, Lubbock, TX 2002-2004 Regional Director, Foundation Management Services, Lubbock, TX 1996 -2002 Executive Director, Hospice of Lubbock, Inc., Lubbock, TX

**Author Summary:** I'm the Associate Dean for Clinical Services and Community Engagement and have been the Executive Director of the LCCHWC, which is a FQHC located in a medically underserved area, for over 11 years. I have been the program coordinator for all the patient navigation programs presented in this presentation.

Fourth Author  
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**Professional Experience:** 1985-1991 Assistant Professor of Pharmacy Practice, College of Pharmacy, University of Oklahoma Health Sciences Center, Oklahoma City, OK. 1991-1994 Associate Professor of Pharmacy Practice with Tenure, College of Pharmacy, University of Oklahoma Health Sciences Center, Oklahoma City, OK. 1994-1998 Director of Clinical Pharmacy Services, Rapid City Regional Hospital, Rapid City, SD. 1994-1998 Adjunct Professor of Clinical Pharmacy, College of Pharmacy, South Dakota State University, Brookings, SD. 1998- Professor of Pharmacy Practice with Tenure & Regional Dean for Lubbock Programs, School of Pharmacy (SOP), Texas Tech University Health Sciences Center (TTUHSC), Lubbock, TX. 1998- Member of the Specified Professional Personnel, University Medical Center (UMC), Lubbock, TX. 2010- TTUHSC Quality Enhancement Plan (Interprofessional Teamwork) Faculty Champion 2013- TTUHSC Interprofessional Education Ambassador

**Author Summary:** I have extensive experience in interprofessional collaborative practice for over 30 years and have published work in cardiovascular risk reduction with primary care physicians and cardiologists demonstrating the role of a pharmacist in improving outcomes particularly in the patient with cardiovascular disease.

Fifth Author  
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**Professional Experience:** Positions and Employment 1999-2006 Assistant Professor, Texas Tech University Health Sciences Center, School of Pharmacy 2005- Division Head – Ambulatory Care, Texas Tech University Health Sciences Center, School of Pharmacy 2006-2016 Associate Professor, Texas Tech University Health Sciences Center, School of Pharmacy 2016- Professor, Texas Tech University Health Sciences Center, School of Pharmacy Other Experience and Professional Memberships 2008-2009 Chair Endocrine and Metabolism Practice and Research Network (American College of Clinical Pharmacy [ACCP]) 2011- Secretary Ambulatory Care Practice and Research Network (ACCP) Honors 2011 Elected Fellow American College of Clinical Pharmacy

**Author Summary:** The goal of this project is to improve the collaborative care to vulnerable patients in the effort to reduce cardiovascular risk. I have a broad background in translational research, pharmacy practice, and chronic disease management.