Assessing and Enhancing Cancer Prevention, Treatment, and Survivorship In Rural Populations

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PRESENTATION OVERVIEW

• Vanderbilt Ingram Cancer Center (VICC)
• Rural Cancer Needs Assessment
  – Key Findings
• Rural Health Provider Network

1. Rural Cancer Needs Assessment

2. Expanding Rural Health Cancer Control Capacity: Focus on Cancer Survivorship

3. Enhancing Cancer Care of Rural Dwellers Through Telehealth and Engagement (ENCORE)
VICC MISSION

To alleviate cancer death and suffering through pioneering research; innovative patient-centered care; and evidence-based prevention, education and community initiatives

• Only NCI Comprehensive Cancer Center Serving Adults and Children in TN
• NCI-Designated Cancer Center for 23 Years
• #1 in US in Stem Cell Transplant Outcomes (2017 & 2018)
• >28,000 Unique Patients/Year from 44 States
WHAT DOES IT MEAN TO BE NCI DESIGNATED?

Development of more effective approaches to prevention, diagnosis, and treatment of cancer

Lab science, clinical, & population-based research

Critical mass of excellent cancer research

Community engagement & outreach

Highly interactive/collaborative

Trans-disciplinary & translational

Latest treatment & access to clinical trials

Education & training
INNOVATIVE RESEARCH & PATIENT CARE

Using patient’s immune system to fight cancer

Protecting the heart during cancer treatment

Using ultrasound to treat prostate cancer

Developing new drug therapies
VICC CATCHMENT AREA

123 Counties
57% Rural Counties
7.9 Million Population
25%

Rural-Urban Continuum Codes (RUCC) Classification
- RUCC Classification 1, 2 and 3
- RUCC Classification 4, 5 and 6
- RUCC Classification 7, 8 and 9

Network Partnership Categories
- Vanderbilt Health Affiliate Network Hospital
- Cumberland Pediatric Foundation Practice
- Tennessee Primary Care Association Organizational Member
- Tennessee Health Department Clinics

Map of Tennessee showing counties and network partnership categories.
VICC COMMUNITY OUTREACH & ENGAGEMENT

Assess

Prioritize

Organize

Community Stakeholders

Evaluate

Align

Act

Research
- Basic Clinical Population

Control Activities
- Outreach Guidelines Policy

Impact in Catchment Area & Beyond: Reduced Cancer Burden & Disparities
Our Team

**Principal Investigators**
Debra Friedman, MD  
Leader, Cancer Health Outcomes and Control Program

Tuya Pal, MD  
Associate Director, Cancer Health Disparities

**Co-Investigators**
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Associate Director, Precision Medicine  
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Baptist Health Care

Rebecca Selove, PhD, MPH  
TSU, Implementation Scientist

Cynthia Powell, MD  
Vanderbilt Health Affiliated Network  
Medical Director

Tatsuki Koyama, PhD  
Biostatistician

Jaleesa Moore, PhD  
Cancer Epidemiologist

**Tumor Board Oncology Panel**
Nancy Davis, MD: Genitourinary  
Christine Lovly, MD, PhD: Lung  
Kristen Ciombor, MD: Gastrointestinal  
Marta Ann Crispens, MD: Gynecological  
Ben Ho Park, MD, PhD: Breast
RURAL CANCER NEEDS ASSESSMENT
Expanding Opportunities and Building Capacity to Bring Cancer Prevention and Control Efforts to Rural Dwellers

• Multi-level cancer care needs assessment in 70 rural counties of the VICC catchment area

• Establish network of rural healthcare providers

- Cancer Prevention
- Cancer Screening
- Cancer Treatment, Care Delivery, and Follow-up
- Quality of Life: Survivorship Through End of Life
RURAL CANCER PROVIDER NETWORK

Goal: To develop a network of primary care and oncology providers to foster collaborative research and practice initiatives to improve cancer prevention, early detection and care delivery

- Inaugural Meeting February 2020 (with Zoom access)
- Email and listserv blasts
- Identify cancer health priorities
- Identify services for telehealth
- Identify topics for CME
MULTI-PRONGED NEEDS ASSESSMENT

Geographic Disparities

Racial/Ethnic Disparities

Economic and Other Disparities

Overall Cancer Burden
Preventive Behaviors
Risk Factors

Community Perceptions & Input
Stakeholder Interests
Existing Assets & Programs

Existing data:
Cancer burden
Risk factors
Prevention
Disparities

Gather Information:
Focus Groups, Surveys
Key Informant Interviews
CHNAs
Rural Health Councils

Input from CABs and Partners

Internal Review of Research Capacity
Age-Adjusted Incidence, 2011-2015

BREAST CANCER

Incidence Rate
- 89.50 - 97.00
- 97.01 - 107.80
- 107.81 - 116.30
- 116.31 - 126.60
- 126.61 - 142.70

Age-Adjusted Mortality, 2011-2015

Non-Rural County
Rural County

Mortality Rate
- Suppressed
- 0.01 - 16.90
- 16.91 - 22.70
- 22.71 - 27.20
- 27.21 - 48.40
Age-Adjusted Incidence, 2011-2015

Age-Adjusted Mortality, 2011-2015

Non-Rural County
Rural County
COMMUNITY HEALTH NEEDS ASSESSMENTS REVIEW

Rural compared with urban hospital priorities:

- Less likely to identify breast, colorectal, and lung cancer(s), social determinants of health, and HPV vaccine uptake

- More likely to identify access to care, smoking, obesity and physical activity
Telehealth Services Interest Survey

Give feedback on cancer related services needed in your area

Telehealth offers a way to provide services remotely

Complete 5 minute survey:

1. Online: http://j.mp/2Rvxudf or scan QR code
2. Or fill out paper survey
TELEHEALTH SERVICES DEFINITIONS

• **HPV vaccination Information**: Provide trainings and educational tools to healthcare providers and staff in our rural provider network via web-based resources, telehealth, and educational opportunities.

• **VICC Molecular Tumor Board (MTB)**: A multi-disciplinary team provides guidance on treatment and other issues, including potential germline implications of result. The multidisciplinary team consists of medical oncologists, geneticists, molecular pathologists, and bioinformatics researchers.

• **Smoking Cessation Clinic**: Through self and provider referrals, outpatient counseling and other evidence-based strategies for smoking cessation are provided to patients, and a tobacco cessation care plan is formulated.
TELEHEALTH SERVICES DEFINITIONS

- **Pre-Screening for Lung Cancer Screening:** Patients may be screened for eligibility and consented through telehealth.

- **Cancer Survivor Follow-up Care Program:** Offers physical, emotional or practical, of post-therapy cancer survivors. Each survivor receives a personalized Cancer Survivorship Care Plan that serves as a roadmap for future health and wellbeing.

- **VICC Hereditary Cancer Clinic:** Offers genetic risk assessment, counseling and testing to individuals with or without cancer interested in learning about their inherited cancer risk. This information may be used to guide screening and treatment.
High/Very High Interest in Telehealth Services by Rural Classification

- Pre-Screening for Lung Cancer Screening
- Hereditary Cancer Assessment
- Cancer Survivor Follow up Care
- HPV Vaccination Information
- Smoking Cessation Clinic
- Molecular Tumor Board

Overall vs Rural interest comparison.
Assessment and Analysis of New Data

Community Advisory Board:
22 members/2 meetings
• Access to care, education and prevention, social determinants of health, care coordination between oncology and primary care

Focus Groups (N = 10, 4 in rural counties)
• Education: nutrition, & behavioral changes to decrease cancer risk & enhance health post cancer care
• Barriers to care: fear of screening, education, distance, transportation & insurance
• Support for patients and caregivers> navigation

Key Informant Interviews (N = 26)
• Echoed CAB and focus groups
EXPANDING RURAL HEALTH CANCER CONTROL CAPACITY: FOCUS ON CANCER SURVIVORSHIP

Debra Friedman, MD and Dr. Tuya Pal, MD
To improve long-term health outcomes for underserved rural cancer survivors by building capacity to deliver risk-adapted guideline-based care focused on the unique needs of cancer survivors

**Aim 1**
Pilot test the implementation of guideline-based survivorship care planning in a rural setting using patient navigation plus telehealth

**Aim 2**
Identify the facilitators & barriers to future larger scale implementation of guideline-based survivorship care planning in rural settings
CANCER SURVIVORSHIP STUDY
POPULATION AND PARTNERS

Study Population

- Vanderbilt Health Affiliated Network (two sites)
- Age >18 year with Stage 0-III cancer successfully treated with curative intent
- Completion of cancer therapy within the previous 12 months

Partners

[Logos for Vanderbilt Health Affiliated Network, Department of Health, TPCA, and Community Members]
Approach and Timeline

**Patient Navigation (Lay Navigators/Nurses)**
- Delivery of Survivorship Care Plan
- Identification of local resources for oncology and primary care
- Assistance with care coordination across providers

**VICC Survivorship**
- Oversight and Review of Survivorship Care Plan
- Telehealth visit with patient
- Survivorship Board to review progress post telehealth visit

**Data Collection**
- Baseline and Post Intervention Surveys
- Key Informant Interviews
- Process Evaluation

**Timeline**
- Months 1-3: Hire and train navigators
- Months 4-12: Enroll 40 patients into intervention
ENHANCING CANCER CARE OF RURAL DWELLERS THROUGH TELEHEALTH AND ENGAGEMENT (ENCORE)

Debra Friedman, MD and Dr. Tuya Pal, MD
Aims

Aim 1
Test a multi-level telehealth-based intervention for rural hospitals

Provider level:
Molecular tumor board

Patient level:
Supportive care intervention

Cancer: Thriving and Surviving

Aim 2
Study facilitators & barriers to large-scale dissemination & implementation
Study Population

Target Population:

Rural communities, including those with persistent poverty

Oncology providers at selected practices

Patients of those providers:
- Newly diagnosed or relapsed disease
  - Ages 21 years and older
  - Breast, lung, colorectal, prostate, cervical cancer
Study Sites Under Consideration

Participating Hospitals:
1. Mountain States Health Alliance
2. Baptist Memorial Hospital North Mississippi
3. Baptist Memorial Hospital Golden Triangle
4. Anderson Regional Cancer Center
5. Milan General Hospital
6. North Hospital & Alice and Carl Kirkland Cancer Center
7. Volunteer Hospital
8. Bolivar General Hospital
9. Camden General Hospital
10. Dyersburg Hospital

Outlined counties = rural counties with persistent poverty

- Rural Counties
- Non-Rural Counties
Aim 1

Outcomes

Provider

Use of and adherence to Molecular Tumor Board Recommendations

Patient

Primary:
- Adherence to oncology treatment plan

Secondary:
- Psychosocial and functional wellbeing
- Patient-provider communication
- Progression-free survival
Aim 1

Outcome Measurement

- Molecular Tumor Board provider and patient questionnaires for treatment decision
- Medical records/self report for treatment adherence
- Communication Assessment Tool for patient-provider communication
- Distress thermometer, Functional Assessment of Cancer Therapy, MD Anderson Symptom Inventory for psychosocial and functional outcome data
Aim 2

Implementation Questions

Potential barriers/ facilitators to “real-world” implementation in rural areas?

Potential modifications to maximize implementation?

Problems associated with intervention delivery and translation to real-world implementation in other rural settings?

Evaluation of process evaluation data to explain or provide context for outcome findings?

Promising potential implementation strategies?
Aim 2

Outcome Measurement

- Key informant interviews
- Needs assessment surveys
- Pre-post intervention surveys
- Implementation penetration, recruitment rate intervention fidelity
Current Status

- Final study site determinations
- Study personnel
- Study logistics
KEY POINTS

- Differences exist in cancer incidence and mortality among rural counties.
- Rural communities are eager for increased services for their population of at risk and cancer patients.
- Partnerships must be bidirectional and take time to cultivate.
- New initiatives must be thoughtful and provide clear benefit for the community.
Cancer is the Competition!
Thank you for your attention!

Questions?
BACKGROUND: RURAL HEALTH

20% of Americans live in rural areas

Elevated cancer incidence and/or mortality in rural compared to urban communities

Rural counties have amongst the highest rates of poverty

Challenges: Cancer treatment, supportive care services, transportation, and finances

Providers have limited access to comprehensive care
Multi-level Environmental Scan: Assessment and Analysis of Existing Data

- Incidence and Mortality Data
- Focus Groups
- Key Informant Interviews
- Community Health Needs Assessment
DEVELOPMENT OF RURAL HEALTH PROVIDER NETWORK

Establish a Provider Network

Collaboration with rural health offices in Departments of Health, state hospital and primary care associations.

Telehealth

Pilot underway for hereditary cancer and survivorship
Aim 1
Identify eligible cancer cases from each site (weekly)

- Contact treating Oncologist to determine if case will be presented at GAITWAY
  - No
  - Yes
    - Study nurse arranges for GAITWAY presentation

- Contact patient for enrollment with Oncologist’s permission
  - No Enrollment
  - Enrollment
    - Baseline questionnaire and randomization
      - Control
      - CTS X 6 weeks
        - Follow-up questionnaire and EMR abstraction

Case presented at GAITWAY and recommendations conveyed

- Oncologist and patient complete questionnaires
- Oncologist consults VICC as needed for ongoing input

Patient followed for outcome
- Assess individual and combined intervention effects

Aim 2
Identify barriers and facilitators for future dissemination and implementation using data from Aim 1, additional surveys, and key informant interviews