AHNS Cancer Prevention Service Community Service Award

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To the AHNS Cancer Prevention Community Service Award Review Committee,

Thank you for the opportunity to share our proposed research for award consideration. The U.S. has approximately 2.1 million incarcerated individuals, a disproportionate number of whom are persons of color and those of low socioeconomic status. These individuals are at high risk for head and neck cancer due to a multi-fold increase in tobacco and alcohol abuse pre-incarceration compared to the general population, as well carrying other comorbidities that are related to both poor health and risk of incarceration. Due to this constellation of risk factors, prisoners present at later stages of disease and experience worse outcomes for many conditions including head and neck cancer when compared to those who are not incarcerated. This results in substantial negative impacts among affected patients, further contributes to health disparities, and adds additional costs to the correctional system. Thus, there is an urgent need for the development of a screening and treatment pathway for head and neck cancer for incarcerated individuals.

The goal of our proposal is to identify and create pathways through the existing barriers to head and neck cancer care for prisoners. To accomplish this, we will complete three key tasks that lay the foundation for future large-scale interventions: first we will interview stakeholders within the correctional system to identify screening and treatment pathways; second, we will develop a pilot education intervention to increase awareness and screening capabilities amongst providers who work with prisoners; and third, we will test the applicability of current head and neck cancer screening protocols to the correctional facility setting. These efforts build upon the established health infrastructure of the correctional system, which for many prisoners represents their first reliable access to healthcare and represents a novel and important step towards improving otolaryngologic care in this underserved, vulnerable and high-risk population of US citizens.

**Methods and Expected Outcomes:**

This proposal seeks to identify and address inequities in head and neck cancer (HNC) care in the U.S incarcerated population. In 2021, there were nearly 1.8 million incarcerated individuals in the United States, (Kang-Brown et al., n.d.). Thirty percent of illness-related deaths in US state prisons have been attributed to cancer, and incarcerated individuals present at a more advanced cancer stage than non-incarcerated individuals (Sunthankar et. al). While outcome data in the incarcerated population is limited, it is well established that early diagnosis is the most important long-term prognostic indicator for HNC, (El Assal et al., 2021). Beyond survival, treatment intensity and quality of life outcomes are also associated with tumor stage at presentation, (Christopher R Jackson et al., 2011). The most powerful tools in early detection for HNC are medical history, risk factors, and clinical examination, (Assal et al., 2021).

Because individuals within the criminal justice system are already at risk for poor health outcomes, (Binswanger et al., 2005) early HNC screening provided by prisons could have an important impact on health care disparities. We have chosen to work with the Tennessee Department of Correction (TDOC) due to their long commitment to providing disease-specific screening and accessible treatment, as well as their dedication to continuous quality improvement.

**AIM 1: Assess HNC healthcare delivery within the Tennessee correctional system.** We will conduct qualitative interviews with key stakeholders to determine potential knowledge gaps, barriers, and pathways for HNC screening as well as rapid referral for treatment. *The primary outcome of this Aim will be a value stream map for head and neck cancer care delivery to the inmate population*.

**AIM 2: Develop a curriculum to improve early HNC diagnosis in practitioners who work with incarcerated individuals.** TDOC provides its healthcare through Centurion, a third-party vendor that provides healthcare to state correctional agencies. Centurion does not have contracted otolaryngologists within their network. We will develop a low-cost training program for HNC screening in collaboration with providers that deliver care to inmates. *The primary outcome will be a pilot program to increase competency in head and neck physical examination and recognition of signs and symptoms of possible HNC*.

**AIM 3: Validate the effectiveness of an HNC screening for practitioners in the incarcerated population.** In partnership with the Head and Neck Cancer Alliance (HNCA), we will conduct pilot HNC screening events at three Tennessee prisons. *The primary outcome of this Aim will be an assessment of the HNC screening protocol measured by the number of new suspected HNC cases identified after protocol deployment.*

This proposal will result in an HNC screening system specific to incarcerated individuals and produce a roadmap for improving access to care for this underserved population. We will develop and deploy the training resources to enable widespread implementation of head and neck cancer screening as well as identify feasible pathways for timely referral for otolaryngologic assessment and treatment.

**Develop & Implement Intervention (Month 6-12)**

**Identify Barriers and Gaps (Month 0-6)**

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| **Understand Healthcare Delivery in Prisons** | **Understand Gaps Amongst Practitioners** | **Implement Training Curriculum** | **Pilot Test Intervention** |
| Preliminary Data: Community referral patterns, prior authorizations, clinic appointments, intake process  | Research Aim 1: Identify potential barriers to care. Determine potential gaps in current referral process and clinician knowledge.  | Research Aim 2: Develop tools and resources to increase early recognition of HNC | Research Aim 3: Pilot screening program and initiate referral protocol |
| Methods: Stakeholder Interviews, Facility Visits | Methods: Stakeholder Interview Analysis, Process Review, Value Stream Mapping | Methods: Curriculum Development based on stakeholder interview analysis | Methods: Pilot implementation with evaluation of implementation outcomes |

*Figure 1.* Describes the proposal overview including methods and the two-phase approach. Identifies the steps to identify barriers and gaps in providing healthcare to prisoners in Tennessee. Describes the plan and timeline for implementation and intervention.

**Impact on Community Health and HNC Early Detection:**Prisoners suffer from delayed cancer screenings when compared to non-incarcerated individuals, (Kouyoumdjian et al., 2017). There is an opportunity to improve the HNC care delivered to the incarcerated population. This proposal serves as a pilot program to be implemented in a small group of Tennessee prisons and associated providers. The insights and experiences gained from this one-year proposal will serve as the foundation for more widespread efforts in future years. By harnessing institutions within the network of Centurion which delivers healthcare to 18 state correctional facilities, our project has the potential to expand to other states. Phase 2 of this proposal will investigate the incidence of detection, stage of detections, and costs of subsequent treatment before and after the implementation of screenings. The insights we gain in addressing HNC care in the incarcerated population would serve as the foundation for addressing additional otolaryngologic diseases that might be prevalent in this population, and we would make our methods freely available to other scholars via meeting presentations, publications, and online postings. Most importantly, this proposal will provide a broad framework to screen and deliver care to vulnerable populations and sets the stage for multiple future interventions to improve the care of patients with otolaryngologic conditions.

**Total Costs**:
The total cost requested for this award is $1,000 to cover stakeholder interviews and publication materials for the educational curriculum. We have also applied for the CORE grant (total costs $10,000) from the AAO-HNS. Regardless of the outcome of the CORE application, we have a commitment to support this project from our Department and will have access to additional institutional support through the Vanderbilt Institute for Clinical and Translational Research.

Thank you again for this opportunity to apply.

Sincerely,

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April Peterson, MD