A burgeoning area of cross systems research focuses on the social determinants of health (SDOH): “the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life.” Despite a known relationship between housing and physical/mental health and the importance of health care accessibility, the geographic context of this link is less explored.

Using statewide data at the census-tract level, this collaborative study employed Geographic Information Systems (GIS) and multivariate analysis to investigate the spatial relationships between asthma, mental health and other health issues as compared to affordability of housing and other SDOH in Colorado. In addition, this study developed two indices to measure the spatial overlap of population vulnerability to multiple health issues. In this poster we discuss preliminary results, mainly a series of maps that can potentially assist the state and other governmental partners to more effectively implement affordable housing strategies that better address disparities in public health and SDOH.

INTRODUCTION

Housing affordability is a major concern for many Coloradans. For example, 50% of renters households (income of 50,000 or less) are cost burdened. Furthermore, it appears that there is a supply issue in terms of affordable housing meaning there are not enough units available (Shift Research Lab 2018). The importance of housing as a social determinant of health has become increasingly known, particularly with regards to physical and mental health outcomes affecting vulnerable subpopulations such as minority and lower socioeconomic groups. Some health issues of importance include children’s exposure to lead, asthma prevalence and hospitalization for both adults and children, psychological distress, suicide, and substance use related problems (Colorado Health Institute 2015; National Center for Health Housing). Housing and health disparities illustrate the importance of not only housing conditions, but also neighborhood-level conditions and vulnerability faced by communities, particularly geographic differences, which is the focus of this pilot study. It appears that at the institutional level many states such as Colorado and New York, for example, recognize the need for integrating population health and other health issues as compared to availability of affordable housing and other SDOH in Colorado. In addition, this study developed two indices to measure the spatial overlap of population vulnerability to multiple health issues. In this poster we discuss preliminary results, mainly a series of maps that can potentially assist the state and other governmental partners to more effectively implement affordable housing strategies that better address disparities in public health and SDOH.

RESULTS: PUBLIC HEALTH CONTEXT

Although Asthma and Mental Health-related outcomes (Drug Overdose and Suicide Mortality) are the focus of this pilot study, we also highlighted other related issues that may overlap, such as Diabetes, Obesity, and Influenza, in terms of health disparities.

Table 1 shows the top 21 most vulnerable census tracts (by counts – red is highest) and relative health issue burdens (Asthma and Diabetes hospitalizations, Drug Overdose and Suicide Mortality, Mental Health and Obesity Prevalence) and severe housing cost burden (ratios [above state average]).

CONCLUDING THOUGHTS

The preliminary results of this ongoing work suggest that housing in-affordability (i.e. housing cost burdened) appears to be linked with places that also have overlapping health problems, implying that severely cost-burdened areas face greater public health burdens. In particular, within the urban corridor, Central and South Colorado (e.g., Pueblo) warrants attention for its concentration of spatial health clusters, including suicide mortality, which extends beyond the urban periphery to rural areas in Colorado.