

“Transforming Healthcare in the US Virgin Islands: SDOH Insights for Education and Work force Development”

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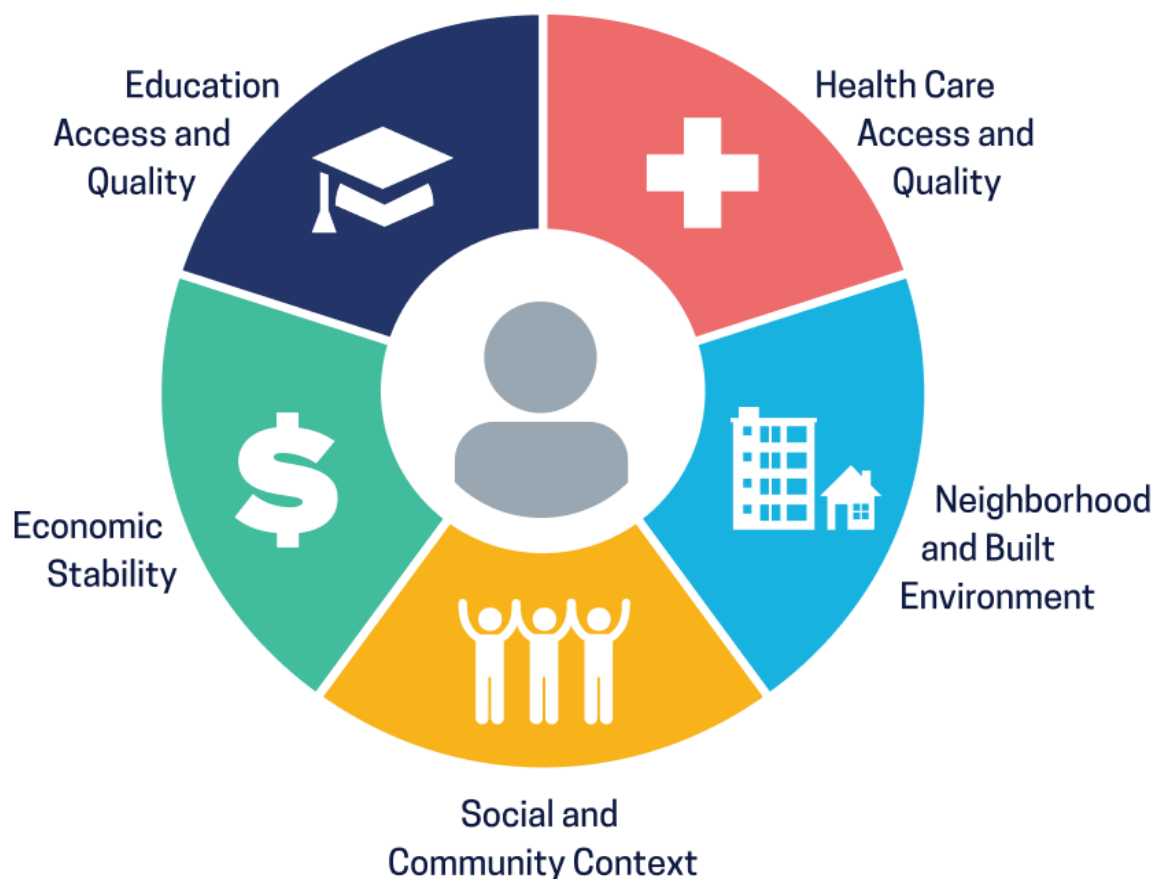
Abstract

This abstract presents an initiative focused on enhancing healthcare in the US Virgin Islands by considering Social Determinants of Health (SDOH) and their influence on education and workforce development.

Introduction

Social determinants of health (SDOH) refer to the various factors in our surroundings-where we live, work, study, play, and grow older-that impact our health, wellbeing, and the chances of facing health-related challenges or improvements.

Social Determinants of Health

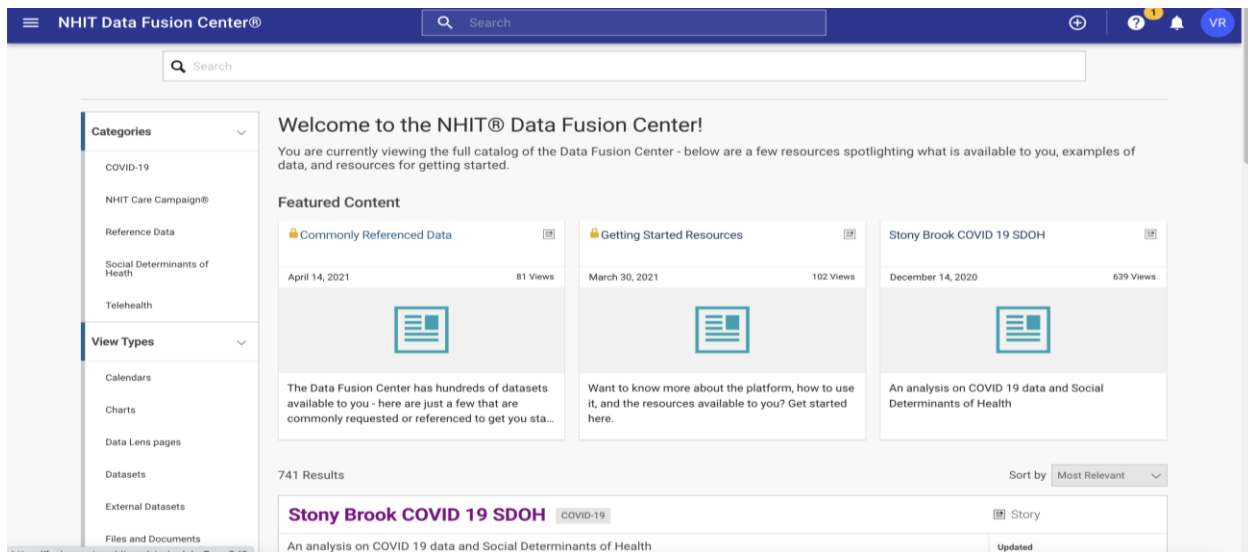


National Health IT Collaborative for Underserved (NHIT)

NHIT is a non-profit organization on a mission to provide equitable access to health technologies and to make sure that these technologies address the needs of underserved communities and communities of color. Since its founding in 2008, NHIT has worked to advance health equity and economic viability on issues such as broadband access, electronic health records, precision medicine, consumer health applications and disaster resiliency.

NHIT Data Fusion Center

NHIT has collaborated with Amazon Web Services (AWS), and Tyler Technologies to launch the NHIT Data Fusion Center, to tackle and translate social determinants of health (SDOH) data into actionable insights.



Literature Review

USVI Cha 2020 final draft 06.02 - USVI department of health report mentioned that a person's education is a major determinant of future health. Most residents had a high school education or more (70.2%) in 2015 compared to 87.1% of U.S. adults (Figure 3.12). Some USVI adults have pursued higher education and 20.0% have obtained a degree: 5.2% earned an Associate's degree, 11.3% earned a Bachelor's degree, and 3.4% earned a graduate or professional degree.

Social Determinants of Health. Social Determinants of Health - Healthy People 2030 Social determinants of health (SDOH) are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.

Chowdhury MAB;Fiore AJ;Cohen SA;Wheatley C;Wheatley B;Balakrishnan MP;Chami M;Scieszka L;Drabin M;Roberts KA;Toben AC;Tyndall JA;Grattan LM;Morris JG; (n.d.). *Health impact of Hurricanes Irma and Maria on St Thomas and St John, US Virgin Islands, 2017-2018.* American journal of public health conducted a study on health impact due to hurricanes in 2017-2018. Informants described damaged hospital infrastructure, including flooding, structural damage, and lost staff. This study concluded that Hurricanes Irma and Maria caused major disruptions to health care on St Thomas. Emphasis should be given to building a resilient health care system that will optimally respond to future hurricanes.

Objectives

- Conducting a comprehensive analysis of SDOH in the US Virgin Islands.
- Identifying key areas where education and workforce development can be enhanced to address SDOH-related challenges (Economic Stability, Life Expectancy).
- Implementing evidence-based strategies to integrate SDOH insights into educational and workforce programs.
- Evaluating the impact of these interventions on healthcare outcomes and workforce capabilities

Methodology

Data Collection:

The employment dataset utilized in this project was acquired from publicly available data provided by the "Virgin Islands Department of Labor - Labor Statistics." Educational attainment dataset has been obtained from "Annie E. Casey Foundation - Kids Count Data Center."

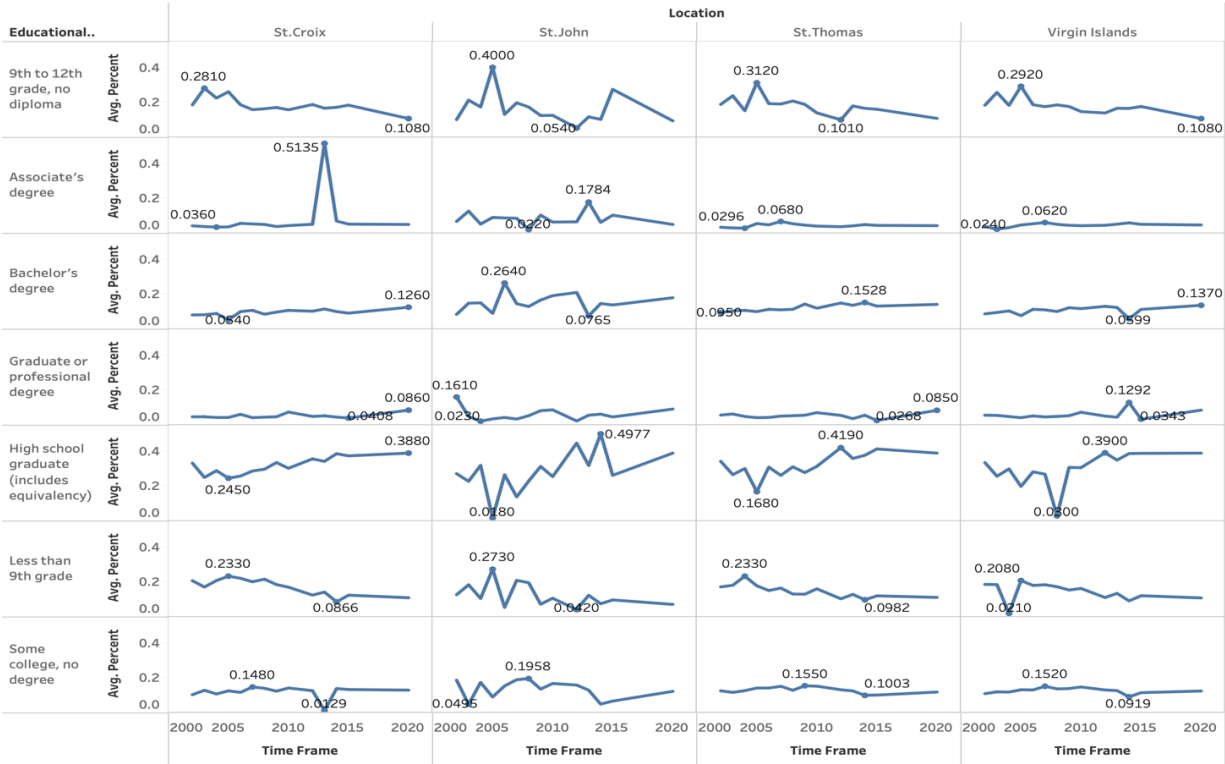
Data Pre-processing:

Removed any nulls, duplicated entries, and irrelevant data from the dataset.

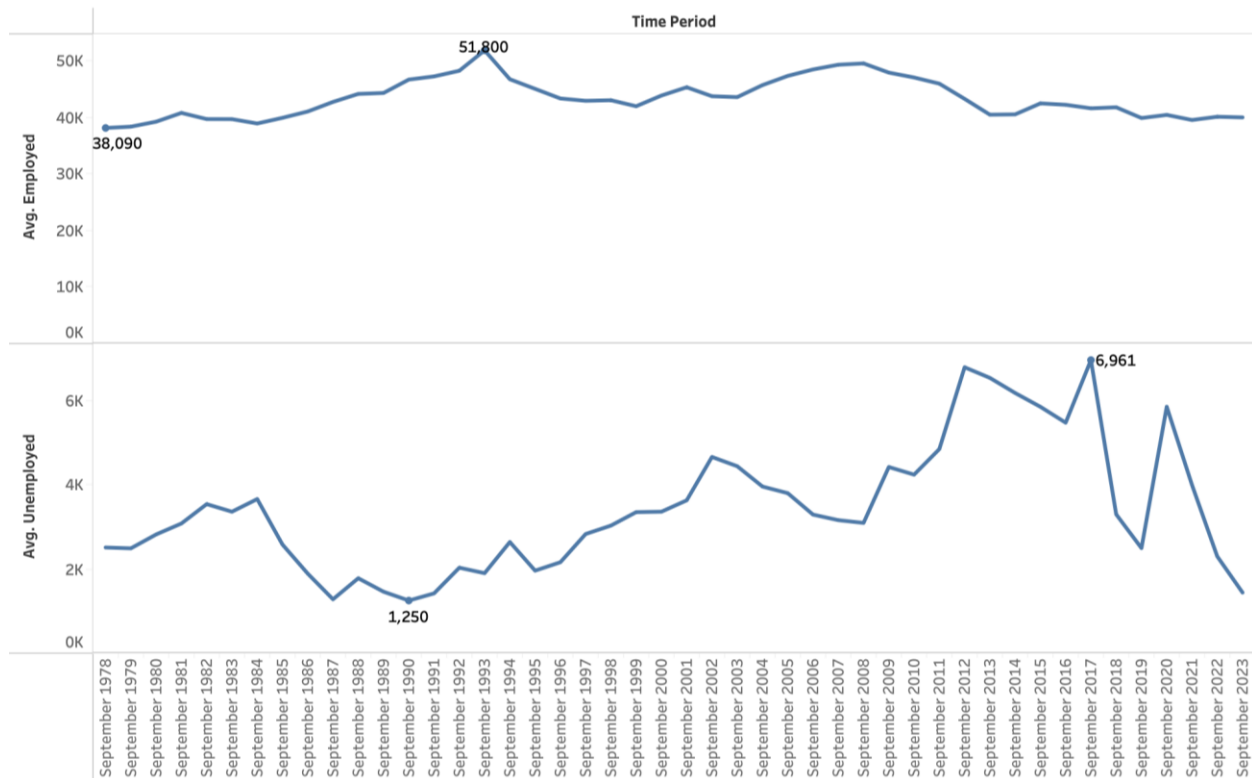
Data Analysis (Visualization):

Utilized Tableau, a data visualization tool, to examine the dataset. Generated multiple charts like bar graphs and line charts to detect patterns in Employment and Unemployment rates in the US Virgin Islands spanning from 1978 to 2023. Additionally, assessed the average percentage of Education attainment in St. Croix, St. John, St. Thomas, and the overall US Virgin Islands. Examined the count of job openings and green job openings across various educational levels and occupational fields.

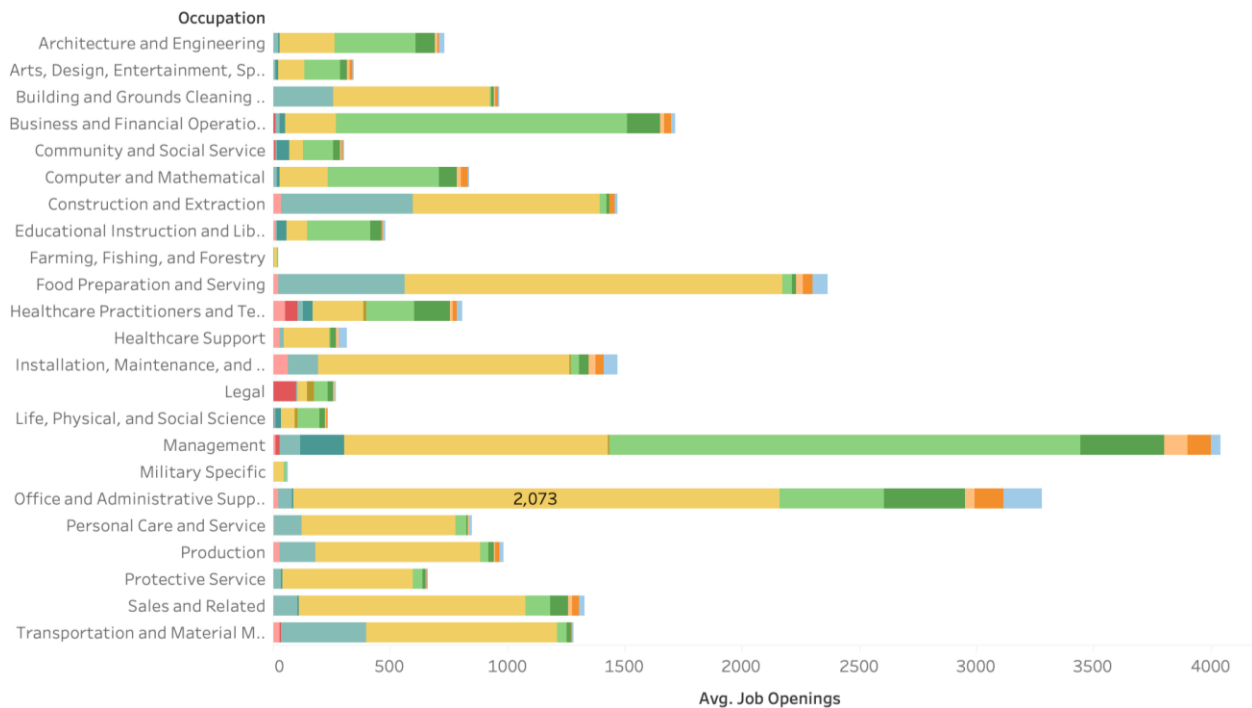
Results



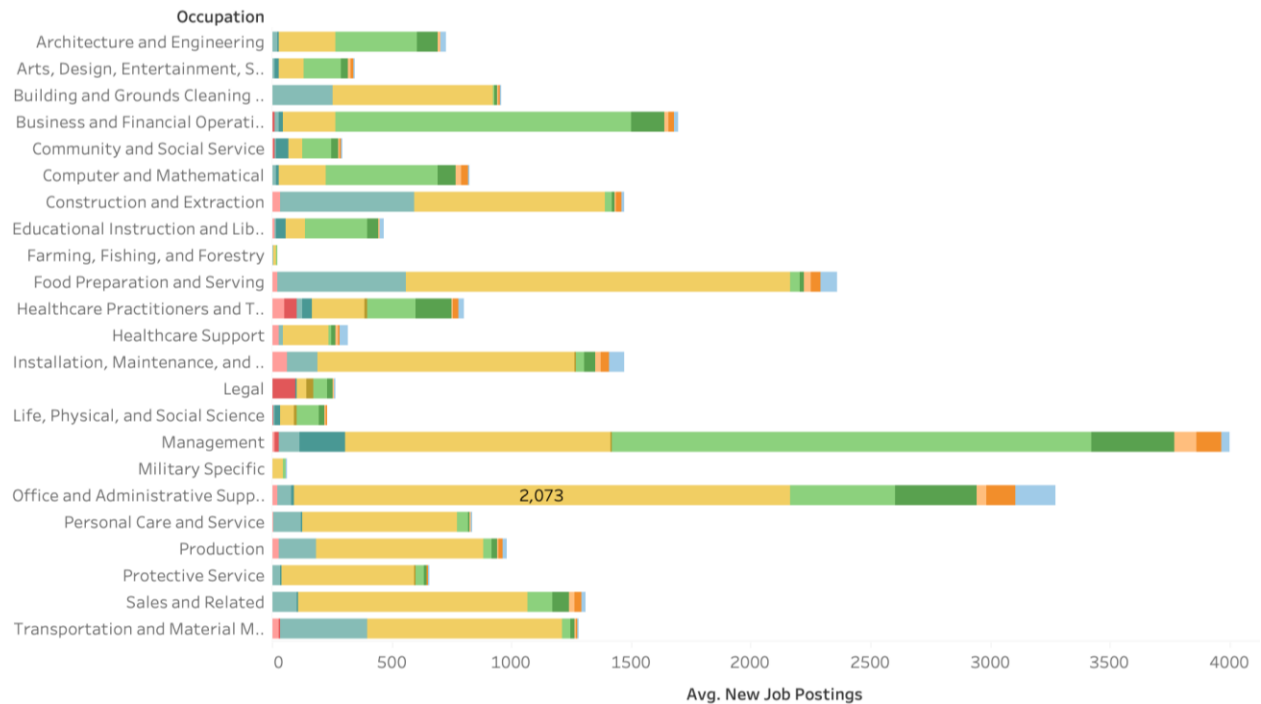
Educational Attainment as a Percentage of the Population Across Time and Place



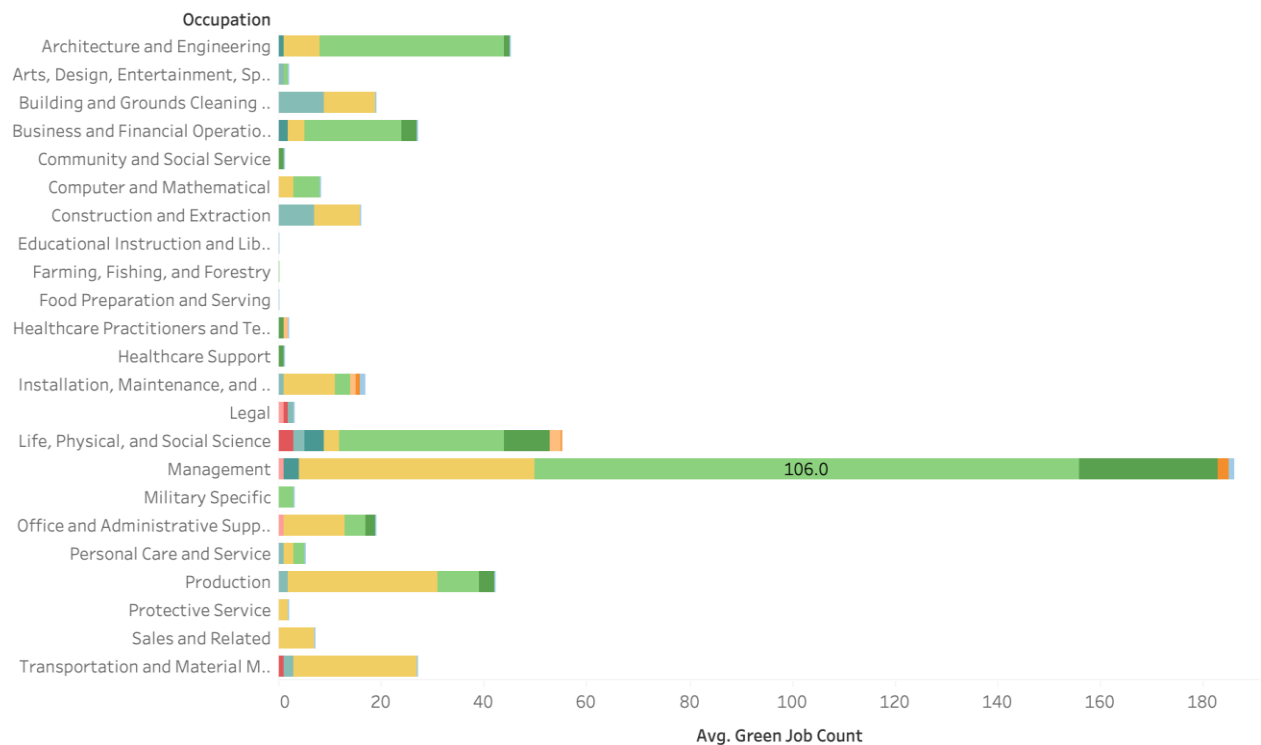
Average Employed vs Unemployed in USVI



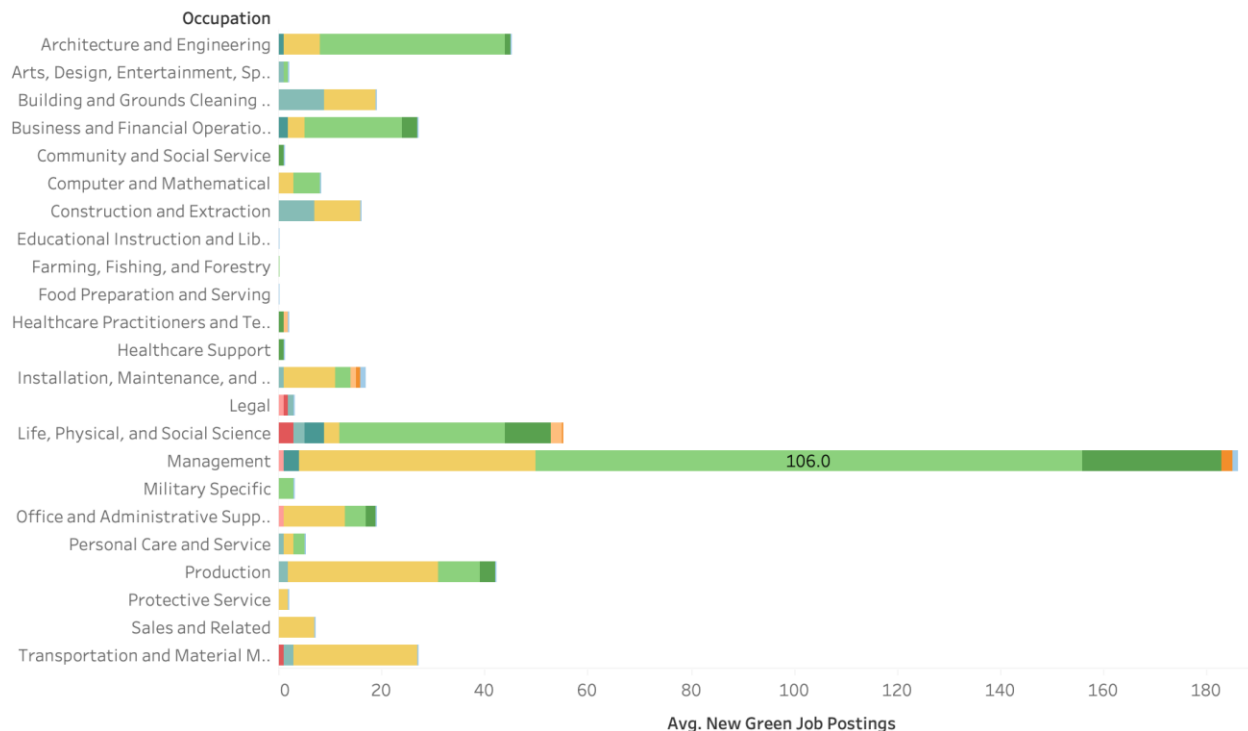
Average of Job Openings for Each Occupation in USVI



Average of New Job Postings for Each Occupation in USVI



Average of Green Job Count for Each Occupation in USVI



Average of New Green Job Postings for Each Occupation in USVI

Findings

- A graph representing job openings based on the educational levels attained, reveals that professions like Business Management and Finance demand a higher bachelor's degree. However, a high school degree seems to be a popular prerequisite for almost every occupation. It can be concluded that high-paying jobs most certainly prefer candidates with a professional degree. To maintain the ecosystem, it is essential that a high school degree is a necessity for exempt employment.
- An elaborate visualization of educational attainment in all the four places in our case study along the years of 2000 to 2020 showcases the highs and lows. 2012 surely had the highest number of high school graduates in St. Thomas and USVI but St. Croix and St. John took longer to reach their peak. 2013 saw the most associate's degrees in St. Croix and St. John. Ironically, St. Thomas and Virgin Islands experienced a dip in the same year. A bachelor's degree does not seem to have a lot of seekers in any of the regions, yet St. John relatively peaked in 2006 but failed to maintain this status.
- A significant graph portraying the average employment rate across 45 consecutive years reveals that 1993 had the highest average employment. The stability was maintained throughout. On the other hand, it can be observed that 2017 had the highest average unemployment, which can be attributed to the hurricanes experienced by the region.

Discussion & Conclusion

Local Data Request form has been sent to the USVI local stake holders. The data requested for the Life Expectancy, Economic status for different levels of education from 2008 to 2023. Further research will focus on the data analysis for connecting the different levels of education and workforce development with these Life Expectancy and Economic status to improve Health Outcomes in USVI.

Limitations:

➤ Data Availability:

Limited availability or poor quality of healthcare and socio-demographic data in the US Virgin Islands could be a significant limitation. Incomplete or outdated datasets might hinder the depth and accuracy of the analysis.

➤ Generalizability:

Findings and recommendations derived from studying the US Virgin Islands' healthcare system and socio-demographic context might not be directly applicable or generalizable to other regions due to unique geographical, cultural, or socioeconomic factors.

➤ Complexity of SDOH:

SDOH encompass various factors like socioeconomic status, education, environment, etc., which are interconnected and complex. Understanding their interplay and accurately quantifying their influence on healthcare outcomes can be challenging.

➤ Local Stakeholder Engagement:

Inadequate engagement with key stakeholders such as healthcare providers, policymakers, or community representatives might limit the understanding of local needs and hinder the implementation of proposed solutions.

➤ Policy and Regulatory Barriers:

Variations in healthcare policies, regulations, and interventions across regions can affect the implementation and success of strategies derived from this project. What works in one area might not align with or be supported by policies in another region.

➤ Technology and Infrastructure:

The region might have limitations in terms of technological infrastructure or interoperability of healthcare systems, making integration and analysis of diverse datasets challenging.

Reference

- 1) USVI Department of Health.
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- 2) *Labor Statistics*. Virgin Islands Department of Labor. (2022, November)
<https://www.vidol.gov/labor-statistics/>
- 3) *Educational attainment, ages 25 and up: Kids Count Data Center*.
Educational attainment, ages 25 and up | KIDS COUNT Data Center.
<https://datacenter.aecf.org/data/tables/7880-educational-attainment-ages-25-and-up#detailed/4/any/false/574,573,869,36,868,133,38,35,18,17/4175,4178,4179,4180,4176,4174,4177/15201>
- 4) Peters, J. W. (2017, September 27). *In the Virgin Islands, Hurricane Maria drowned what Irma didn't destroy*. The New York Times.
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