# The Hidden Cost of the American Dream: A Deep Dive into Childcare Economics

## DSC 640 - Data Presentation & Visualization

### Milestone 1 Project Brief

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## Introduction

This project investigates the complex landscape of childcare costs in the United States, analyzing data from the National Database of Childcare Prices to understand the economic barriers facing working families. The research examines geographical variations, temporal trends, and socioeconomic factors affecting childcare accessibility. Through comprehensive data visualization and analysis, we aim to inform policy decisions and highlight opportunities for improving childcare affordability across different regions and demographics.

## Summary of Analysis

The analysis explores the National Database of Childcare Prices, focusing on geographical variations, temporal trends, and urban-rural disparities. Using Python for data analysis, we examined pricing patterns across states, tracked changes over time, and investigated relationships between various factors affecting childcare costs. The analysis reveals significant disparities in childcare affordability across different regions and demographics, highlighting the need for targeted policy interventions.

## Findings

Our analysis revealed several significant patterns in childcare pricing across the United States. First, we found substantial price differences between states, with coastal states showing consistently higher average costs. Urban areas demonstrated notably higher prices than rural locations, and we identified distinct regional clusters of high-cost and low-cost areas, suggesting systematic economic factors at play.

The temporal analysis showed a clear upward trend in childcare prices over the analyzed period, with the rate of increase varying significantly by region. The price gap between urban and rural areas has remained persistent over time, indicating a structural difference in childcare markets between these areas. Additionally, we found strong correlations between local median income and childcare costs, with urban centers showing greater price variability than rural areas. These price variations appear to closely reflect local economic conditions and cost of living factors.

## Assumptions

In conducting this analysis, we made several key assumptions about the data and market conditions. We assumed that the dataset accurately represents typical childcare costs in each region and that price variations primarily reflect differences in quality of care and local cost of living. We also assumed that urban/rural classifications are consistent across different states and that the reported prices include comparable levels of service across different providers. Finally, we assumed that economic factors affecting prices remain relatively stable within each reporting period.

## Items that Still Need Clarification

Several aspects of the analysis require further investigation and clarification. We need to better understand the specific services included in the reported prices and how state-specific regulations impact pricing. The effect of subsidies and financial assistance programs on reported prices needs examination, as does the relationship between quality metrics and pricing. Additionally, we need to clarify the methodology for urban/rural classification in border areas where the distinction may be less clear.

## Direction of Story/Plan of Attack

Our analysis aims to highlight the growing childcare affordability crisis in America, focusing on three key messages. First, we want to demonstrate how geographic and economic factors create barriers to quality childcare access. Second, we plan to illustrate the financial burden on families and its broader economic implications. Third, we will identify areas where targeted interventions could make the most significant impact. Our goal is to move beyond simple data presentation to advocate for specific policy changes and community-based solutions.

## Target Audience

Our analysis targets three primary audience segments: 1. Policymakers and government officials, including state and federal legislators, Department of Health and Human Services officials, and local government planners 2. Community stakeholders such as childcare providers and administrators, parent advocacy groups, and economic development organizations 3. The general public, particularly parents seeking childcare, community leaders, and local media outlets

## Selected Mediums

To effectively communicate our findings, we will utilize three distinct mediums:

1. **Interactive Data Dashboard**: Built with Python Plotly/Dash, featuring interactive maps, trend analysis, and comparative tools that allow users to explore childcare costs across different regions and demographics.
2. **Social Media Video Series**: Short, engaging TikTok/Reel-style videos (60-90 seconds each) that highlight key findings through dynamic visualizations and clear narratives, targeting younger parents and digital-native policymakers.
3. **Infographic Series**: Three professionally designed infographics focusing on state-by-state comparisons, urban-rural divides, and historical trends, optimized for social media sharing and print distribution to policymakers.

These mediums were chosen to reach different audience segments through their preferred channels while maintaining a consistent message across all platforms. The combination of interactive, video, and static content ensures maximum engagement and accessibility for all stakeholders.