

# Estimating Certificate Attainment A Life Table Approach

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HIGHER  
EDUCATION

*reach higher*

# Minnesota's Educational Attainment Goal

- Created out of concern for Minnesota's educational gaps by race/ethnicity, despite ranking second overall in the country in postsecondary attainment.
- ***Minn. Laws 2015 Chapter 69 Article 3 Sec. 6. [135A.012] HIGHER EDUCATION ATTAINMENT GOAL.***
  - The number of Minnesota residents ages 25 to 44 years, who hold postsecondary degrees or certificates, should be increased to at least 70 percent by 2025.
  - Should be measured for all race/ethnicity groups

# Challenge of Measuring Attainment

- Currently, the US Census' American Community Survey does not include data on how many adults have sub-baccalaureate certificates as their highest form of education.
- The Census category “some college, no degree” is a catch-all category that includes
  - Individuals who currently enrolled in college and have not finished
  - Individuals who attended college and did not complete
  - Individuals who earned a postsecondary credential below an associate degree
- Therefore, “some college, no degree” is an inadequate measure of certificate attainment.

# Data Sources

- **American Community Survey**
  - 2008-2012 5-yr state level estimates (centered on 2010)
  - 2010-2014 5-yr state level estimates (centered on 2012)
- **Minnesota State Colleges and Universities**
  - Sub-Associate certificates awarded 1990-2015
  - Shortest program 5 credit CNA
- **Minnesota Office of Higher Education**
  - Certificates awarded 2006-2015

# Disaggregation by Race/Ethnicity

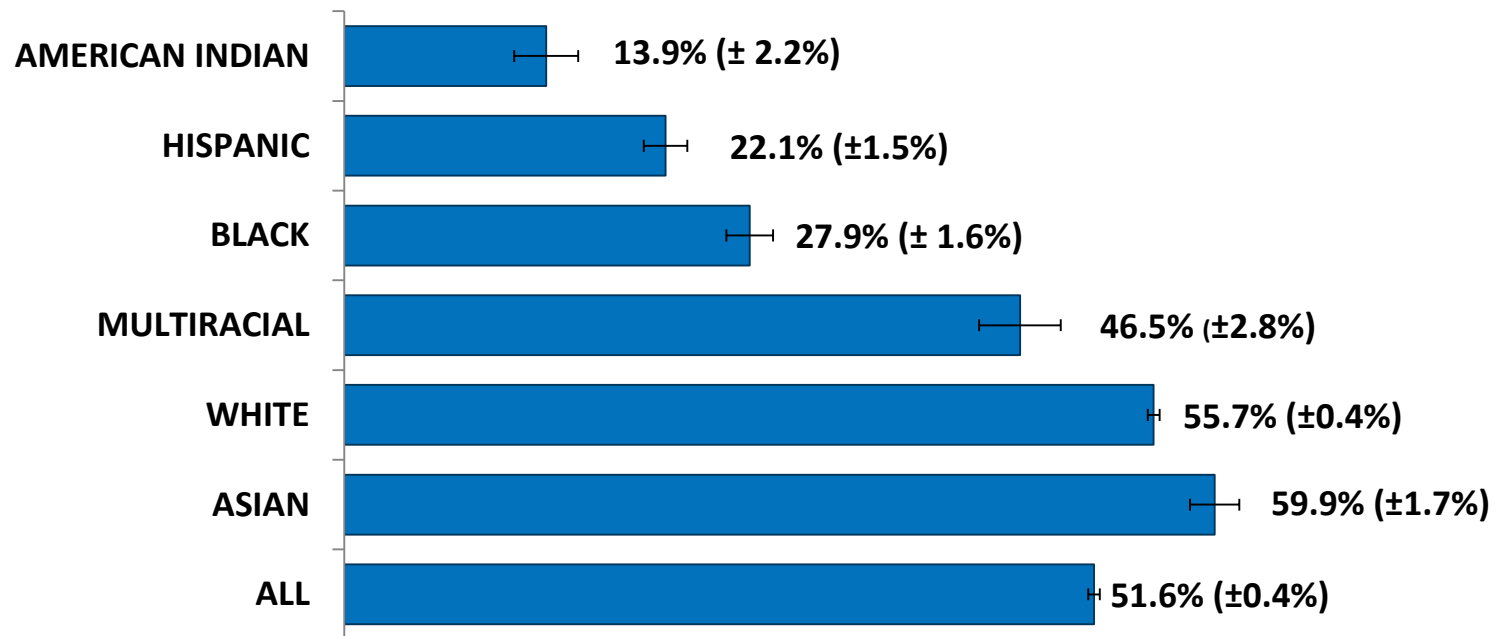
- Significant variation in attainment rates by race/ethnicity expected
  - Variation expected by Asian, Black/African American subgroups (cultural subgroups central to Minnesota)
- Disaggregation limited by data source
  - ACS disaggregation limited to subgroups with 30+ respondents in the 25-44 population; will have large error margins, will require combining groups across years
  - SLEDS/Minnesota State data limited to race/ethnicity categories utilized for U.S. Dept of Ed reporting
    - Will approximate more detailed subgroups using census data

# Steps to Estimation

1. Associate degree estimates from Census
2. Certificate estimate
3. Subgroup disaggregation

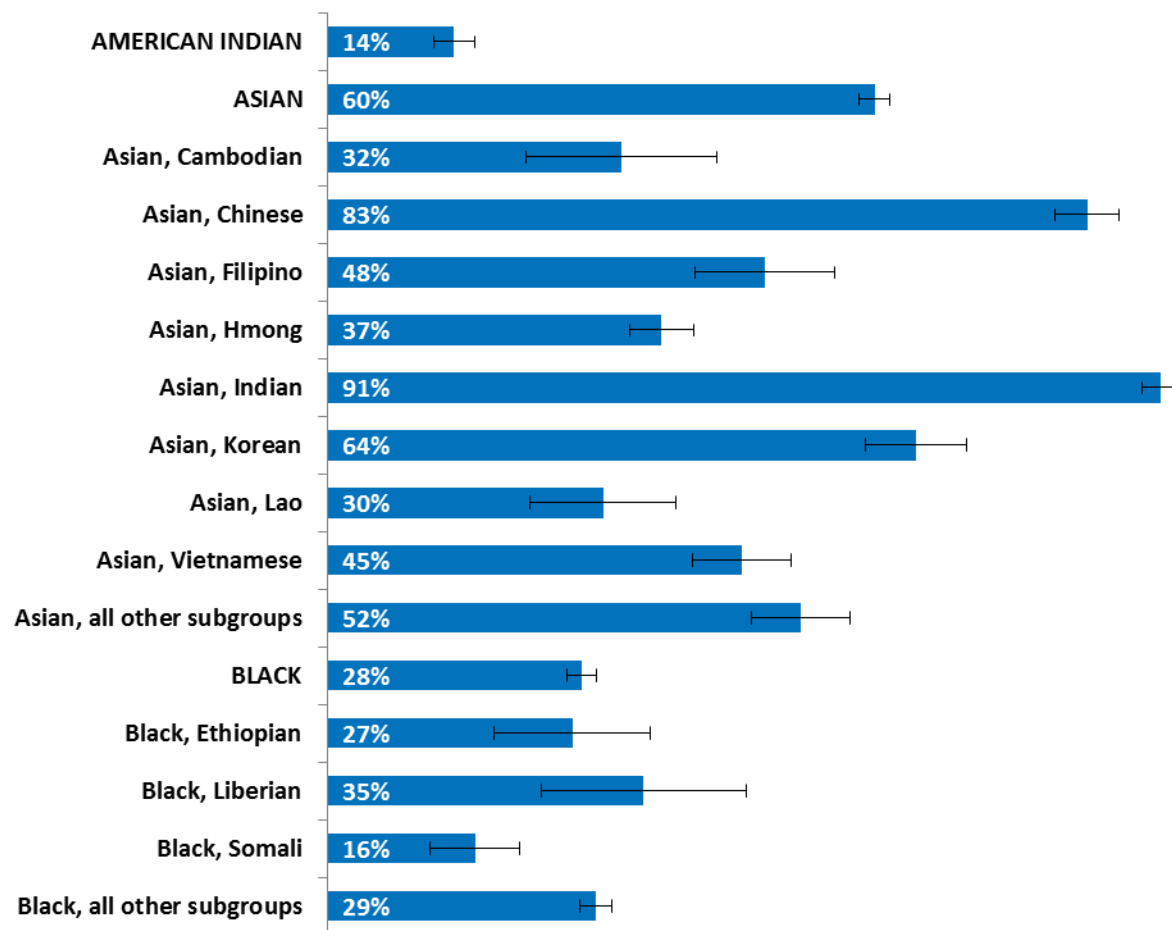
# Associate Degree Estimates

## Population Age 25-44 with an Associate or Higher Degree by Basic Race Categories, Minnesota, 2012



# Associate Degree Estimates

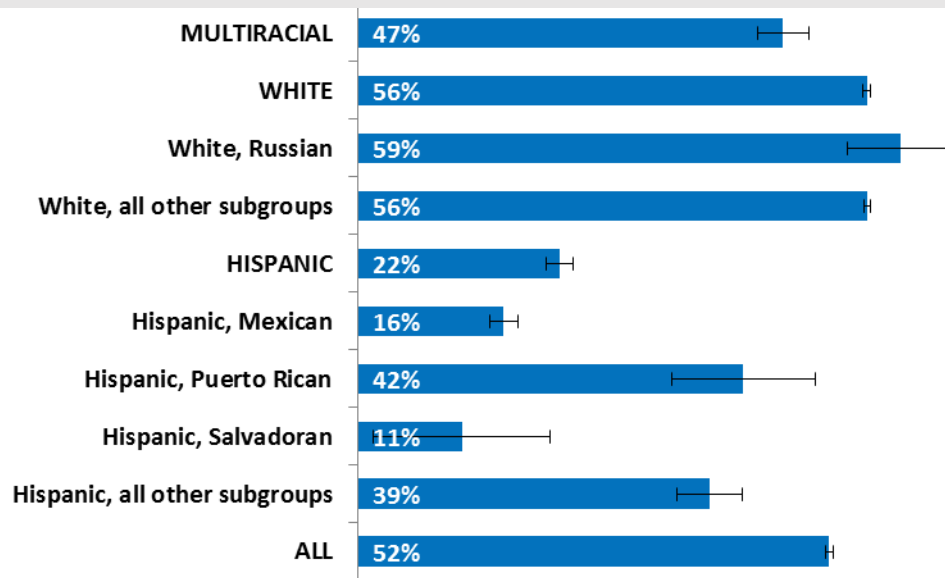
## Population Age 25-44 with an Associate or Higher Degree by Basic and detailed cultural groups, Minnesota, 2012





# Associate Degree Estimates

## Population Age 25-44 with an Associate or Higher Degree by Basic and detailed cultural groups, Minnesota, 2012 cont'd



# Certificate Estimates

- Solving the “some college, no degree” problem
  - Isolating certificate completers from currently enrolled & non-completers
- Cohort analysis/Lifetable approach
  - In the absence of data, utilize historical data to model the cohort and behavior of interest
  - Determine the number of certificates awarded annually and age them forward
  - Final estimate of certificate holders aged 25-44 based on four factors and the joint probability:
    - Mortality (death),
    - Migration of certificate holders into and out of Minnesota,
    - Certificate holders completing higher levels of education, and
    - Progression of certificate holders into and out of the 25 to 44 age group.
  - Aligns with the ACS data used step 1 by race and ethnicity.

# Assumptions

## ■ Mortality (death)

- The probability of survival to 2010 is based on an annual series of age-specific mortality rates from Minnesota Department of Health death records and U.S. Census Bureau population data for the period 1989 to 2009

## ■ Migration

- Age-specific domestic net migration rates from the U.S. Census Bureau to account for the in- and out-migration of certificate holders across state lines. Age-specific rates of net migration are available for 1990, 2000, and 2010 for those with some college education.

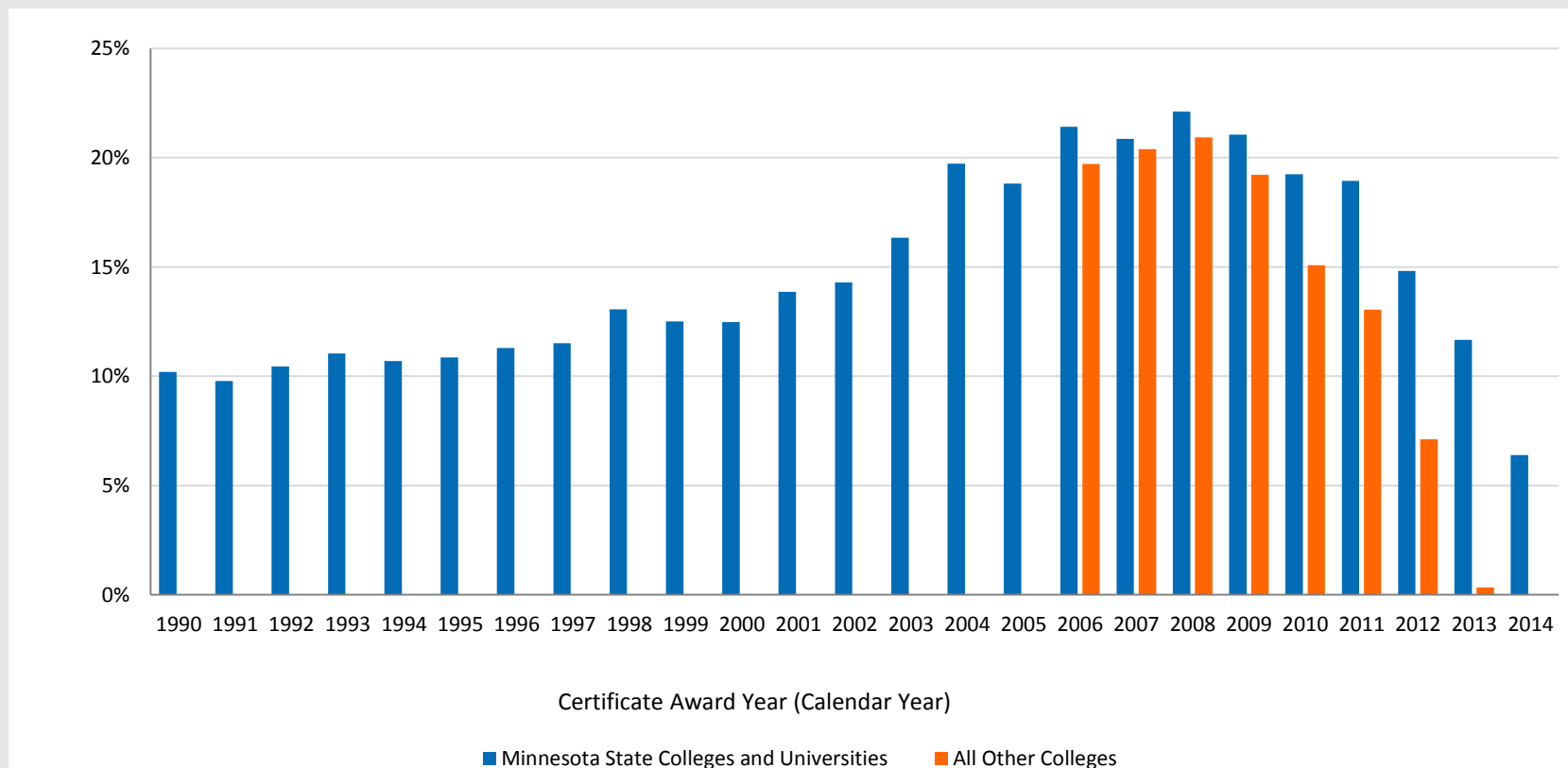
## ■ Further educational attainment

- A series of probabilities of educational advancement to an associate's degree (or higher) for each year after the certificate is obtained.

## ■ Age -- percent of population aging out of the 25-44 age group

# Further Education Estimates

## Percent of Certificate Completers Earning an Associate Degree (or Higher) by Certificate Award Year, Minnesota 1990-2015



# Further Education Estimates

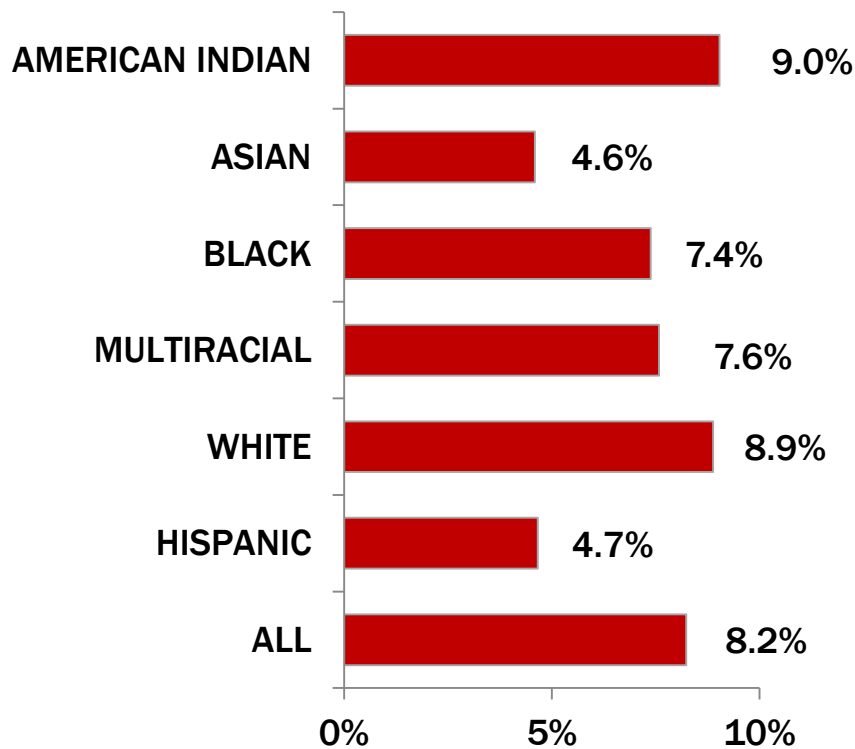
**Percent of Certificate Completers Earning an Associate Degree or Higher by Year between Certificate and Subsequent Degree, Minnesota 1990-2015 Minnesota State only**

*Lines represent calendar year initial certificate completed*



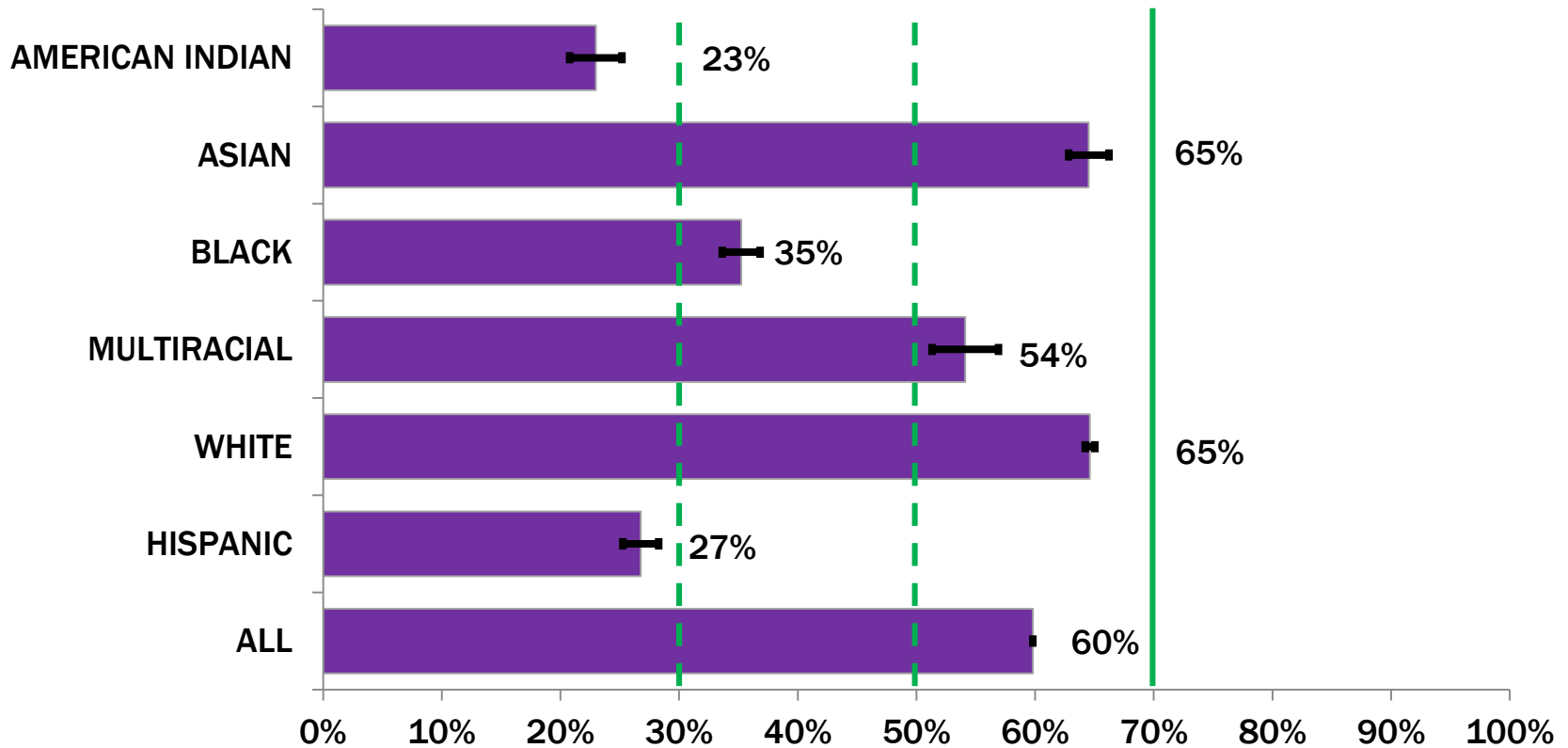
# Final Certificate Estimate

## Population Age 25-44 with a Certificate as their Highest Postsecondary Award, Minnesota 2012 by Basic Race Categories



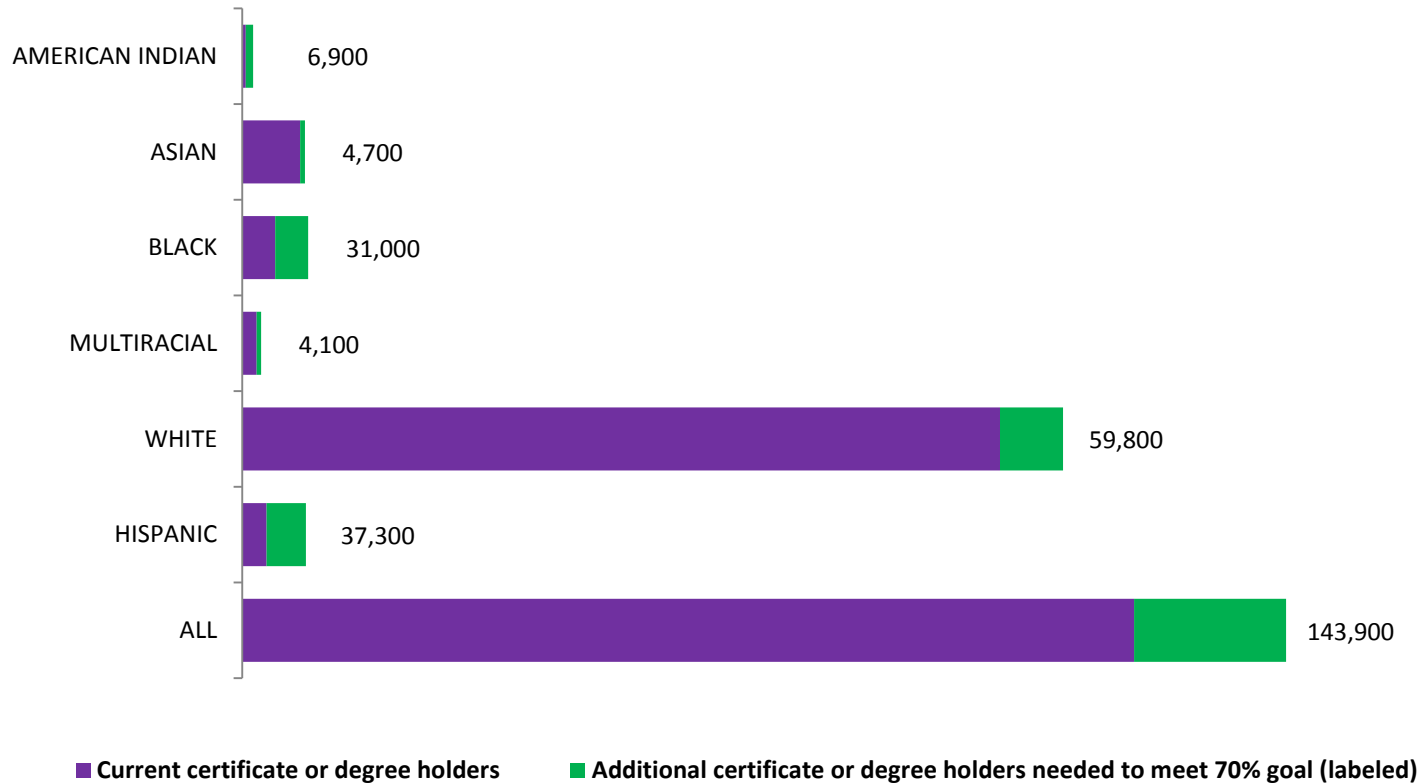
# Reaching 70% - Final Estimates

## Population Age 25-44 with a Certificate or Higher Credential, Minnesota 2012 by Basic Race Categories



# Reaching 70% - Final Estimates

## Number of Persons Age 25-44 with a Certificate Or Higher Degree Needed To Reach 70% Goal By Basic Race Groups, 2012





# Questions?

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