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# Ensuring Equitable Service Delivery:

## A Primer for Mathphobes and Data Nerds, Too!

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**Collaboratory for Aging Resources and Education**

**Aging in Texas Conference 2022**

AITC:
LET'S TALK

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# The Obligatory

Participants will:

- Learn about how to quantify higher at-risk communities
- Use hypothetical data to explore how they can measure whether they are providing services equitably or create a plan to address growth opportunities
- Leave with ideas about how to increase equitable service delivery

There are no disclosures for this presentation.

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Source: Beilock, S. (Oct. 23, 2019). *Americans need to get over their fear of math.* Harvard Business Review, https://hbr.org/2019/10/americans-need-to-get-over-their-fear-of-math.

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# Why is data important in our field?

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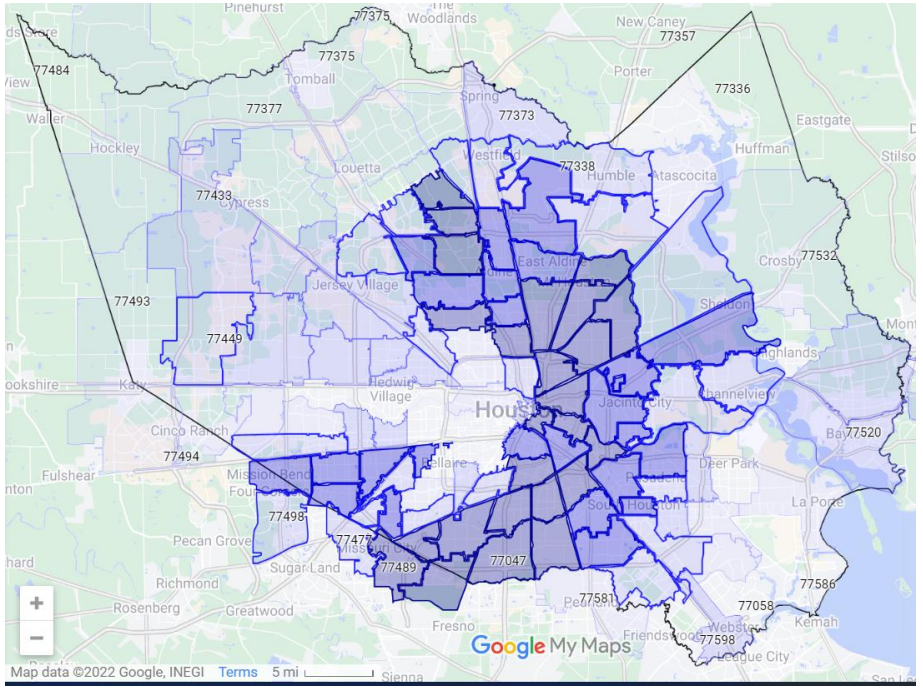
# Data is Critically Important

- Funding
- Central to our roles as storytellers and advocates
- Manage scarce resources
- Numbers/visualization are powerful

# A Brief Example

- The majority of Harris County's population belongs to a racial or ethnic minority.
- 1 out of every 2 older adults in Harris County is from a racial or ethnic minority group.

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# Today's Central Question

How do we work to ensure equitable service delivery when we have limited resources?

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# What does equitable service delivery mean to you?

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# How do people in your community learn about your services?

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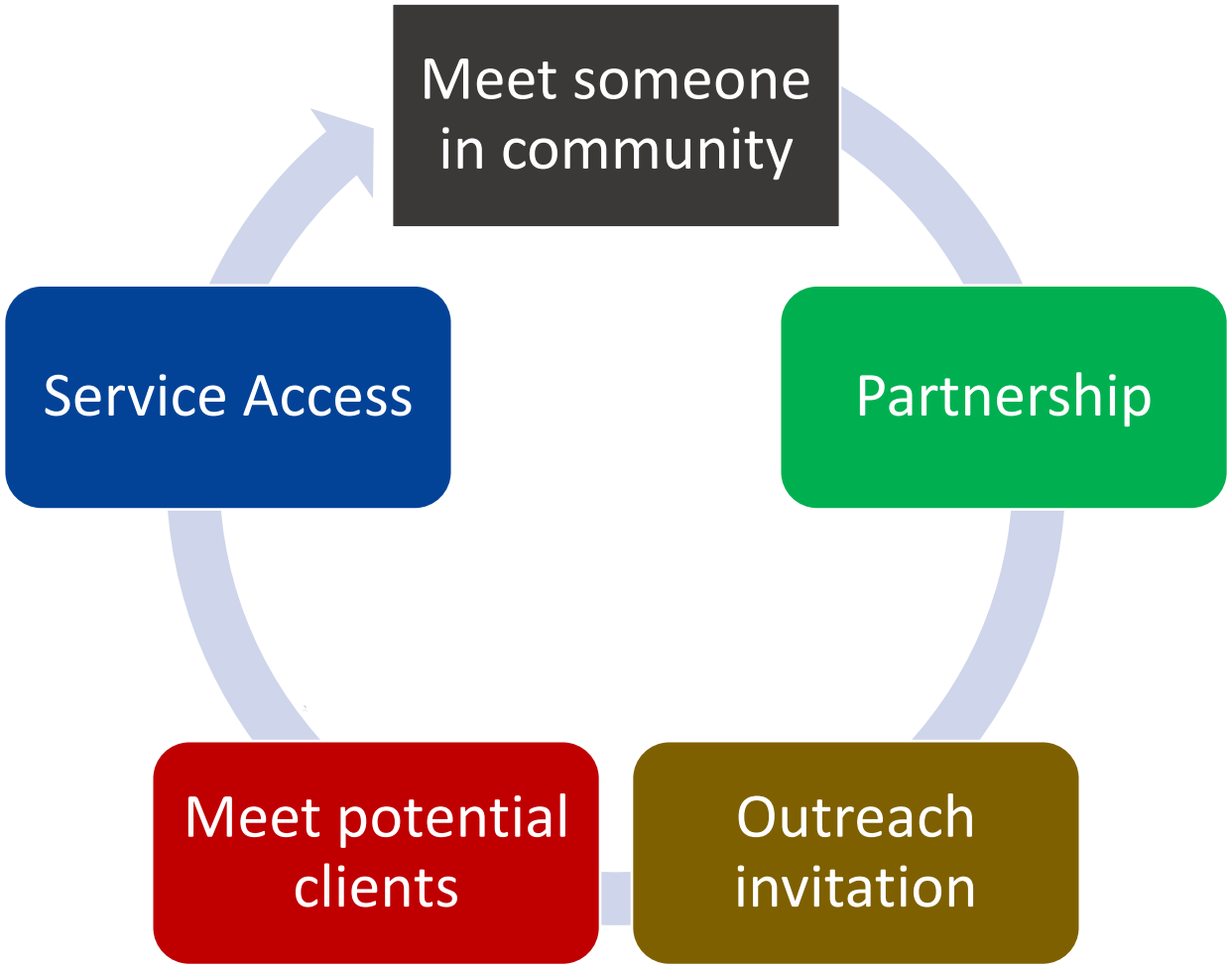
# One Traditional Method

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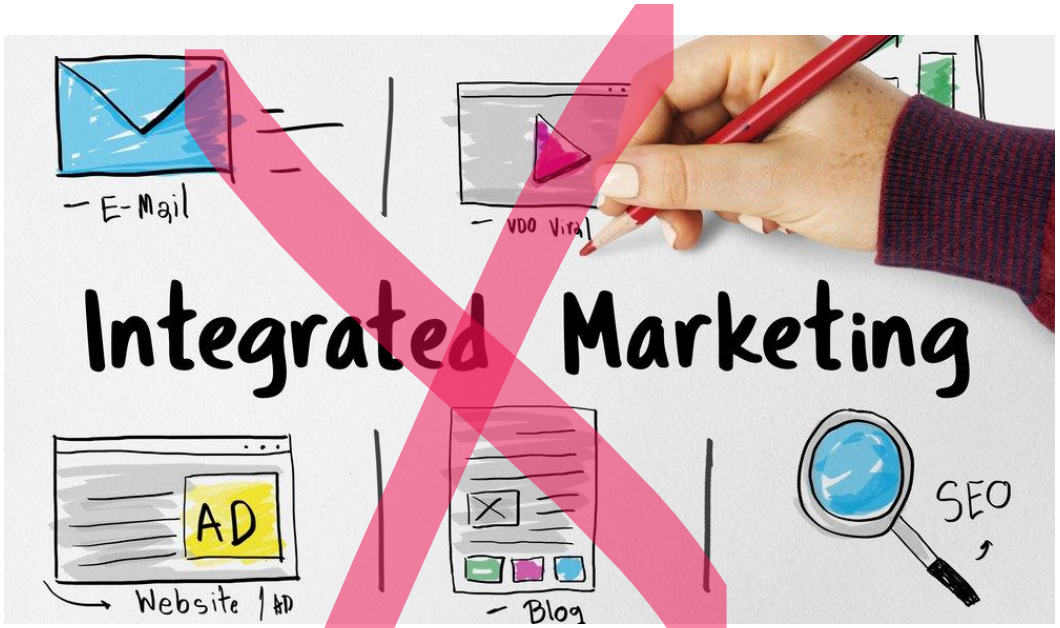
# Why It Works



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# Today's Proposal

- Use the CARE Index and American Community Survey/Census data to identify pockets of potentially vulnerable older adult
- Compare findings with data on service delivery
- Congratulate yourself or create a plan to address gaps

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# First, the Florida Elder Needs Index

- Modified from Florida's Elder Needs Index created by the Florida Department of Elder Affairs
  - Uses factors from the Older Americans Act to estimate pockets of potential need
  - Information used to target potential areas of high need and evaluate service delivery

# The CARE Index

| | | |
|---|---|---|
| % 55+ living <150%* FPL | % 55+ who identify as racial/ethnic minority | Ratio of # disabilities to 65+ population |
| % of 60+ older than age 85 | % 60+ with limited English proficiency | % 65+ living alone |

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# ACS vs. Census Data

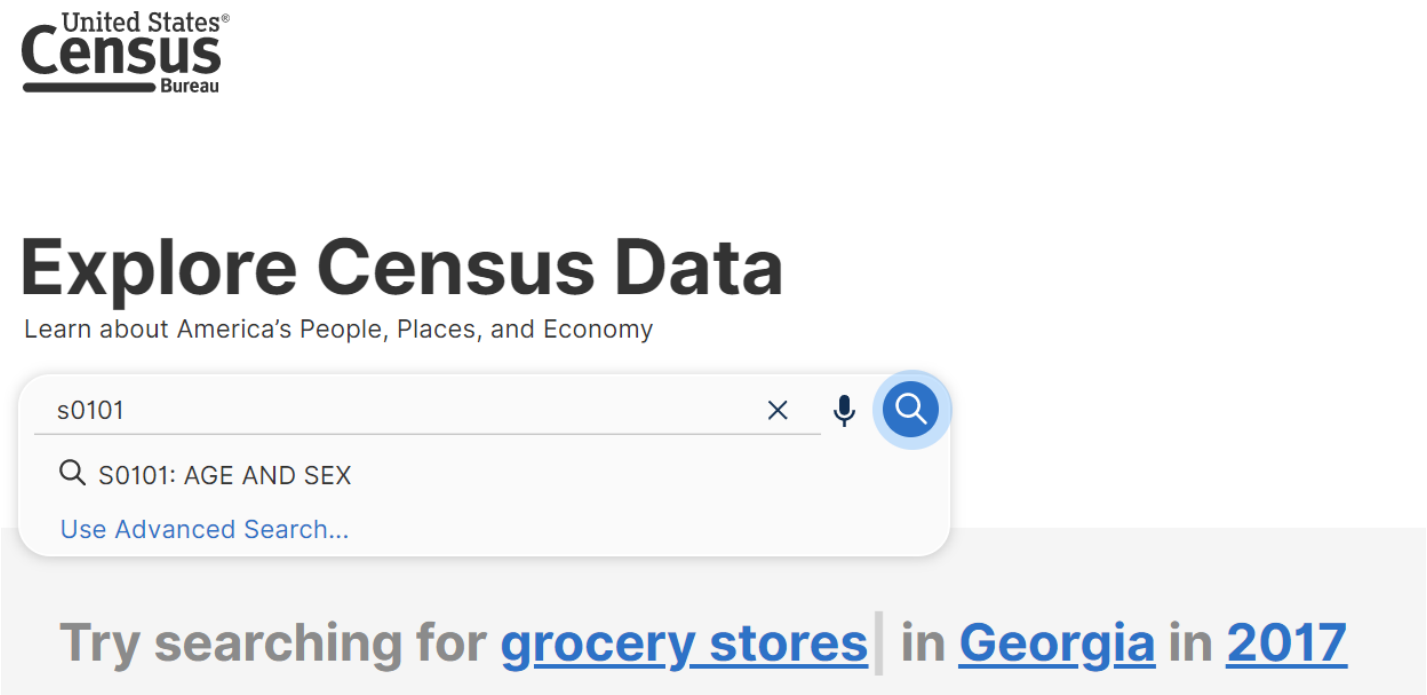
- ACS collected from a small statistically representative sample every year
- Available in 1-year and 5-year estimates
- Available at zip code level (most of the time) and other geographical breakdowns
- Similar to “long form” Census questions
- Captures changes over time vs. snapshot

# Where to Find this Data

- Data.census.gov
- Explore or search by table code
  - FPL – B17024
  - Race/Ethnicity – B01001H
  - Number of Disabilities to 65+ population – S1810
  - % of older population 85+ – S0101
  - Limited English Proficiency – B16004
  - % 65+ Living Alone – B11010
- A little math involved but Excel can handle it (and you can, too!)

# Step 1: Choose Your Table/Topic

- Start at data.census.gov

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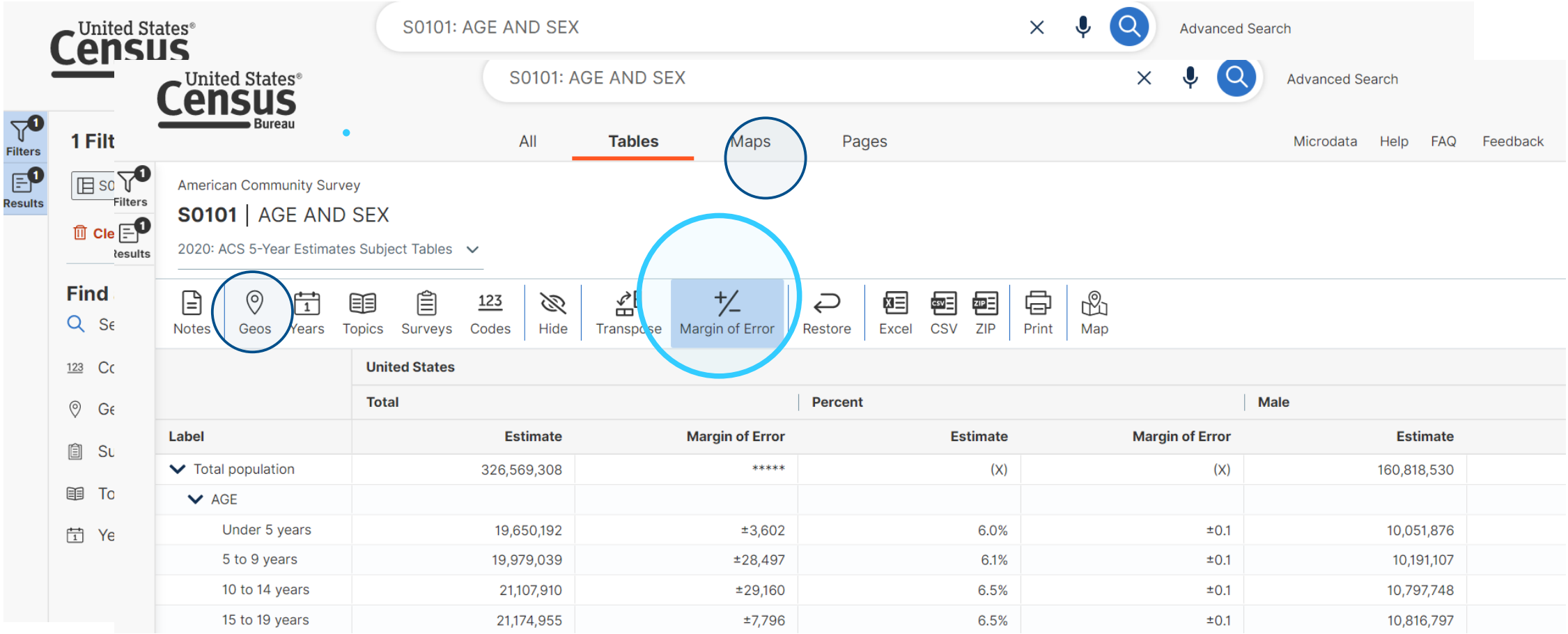
# Step 2: Adjust Your View




| | United States | | | | |
|---|---|---|---|---|---|
| | Total | | Percent | | Male |
| Label | Estimate | Margin of Error | Estimate | Margin of Error | Estimate |
| Total population | 326,569,308 | ***** | (X) | (X) | 160,818,530 |
| AGE | | | | | |
| Under 5 years | 19,650,192 | ±3,602 | 6.0% | ±0.1 | 10,051,876 |
| 5 to 9 years | 19,979,039 | ±28,497 | 6.1% | ±0.1 | 10,191,107 |
| 10 to 14 years | 21,107,910 | ±29,160 | 6.5% | ±0.1 | 10,797,748 |
| 15 to 19 years | 21,174,955 | ±7,796 | 6.5% | ±0.1 | 10,816,797 |

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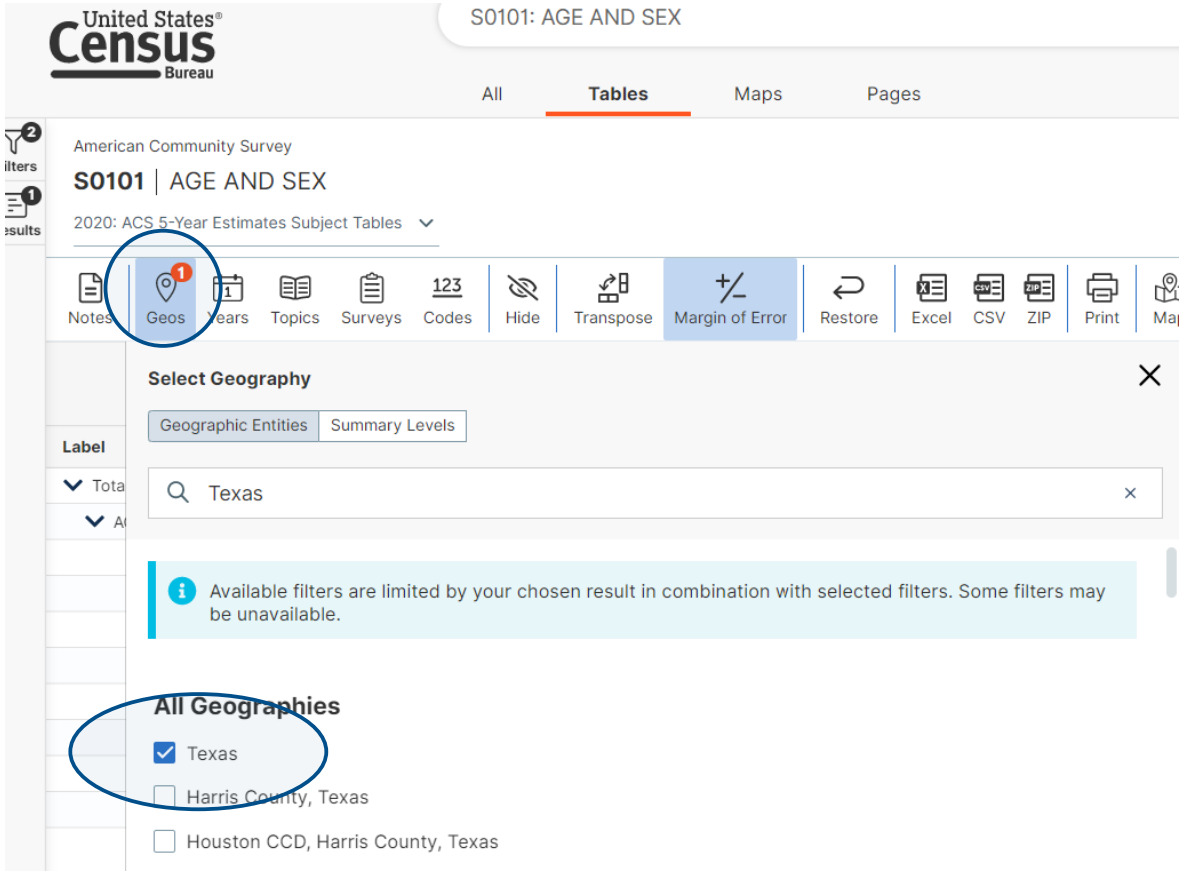
# Step 3: Choose Your Geographies




State,

County,

Zip Code (ZCTA)

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# Step 4: Download, Calculate, Repeat

**S0101** | AGE AND SEX

2020: ACS 5-Year Estimates Subject Tables

Notes | Geos (3) | Years | Topics | Surveys | Codes | Hide | Transpose | Margin of Error | Restore | Excel | CSV | ZIP | Print | Map

| | El Paso County, Texas | | | | | | ZCTA5 79821 | |
|---|---|---|---|---|---|---|---|---|
| | Total | Percent | Male | Percent Male | Female | Percent Female | Total | Percent |
| Label | Estimate | Estimate | Estimate | Estimate | Estimate | Estimate | Estimate | Estimate |
| Total population | | | | | | | | |
| AGE | | | | | | | | |
| Under 5 years | | | | | | | | |
| 5 to 9 years | | | | | | | | |
| 10 to 14 years | | | | | | | | |
| 15 to 19 years | | | | | | | | |
| 20 to 24 years | | | | | | | | |
| 25 to 29 years | | | | | | | | |
| 30 to 34 years | | | | | | | | |
| 35 to 39 years | | | | | | | | |
| 40 to 44 years | | | | | | | | |
| 65 to 69 years | 33,637 | 4.0% | 15,373 | 3.7% | 18,264 | 4.3% | 288 | 4.1% |
| 70 to 74 years | 24,319 | 2.9% | 10,890 | 2.6% | 13,429 | 3.2% | 123 | 1.7% |
| 75 to 79 years | 17,452 | 2.1% | 7,206 | 1.7% | 10,246 | 2.4% | 184 | 2.6% |
| 80 to 84 years | 12,093 | 1.4% | 4,870 | 1.2% | 7,223 | 1.7% | 113 | 1.6% |
| 85 years and over | 14,445 | 1.7% | 5,167 | 1.3% | 9,278 | 2.2% | 65 | 0.9% |
| SELECTED AGE CATEGORIES | | | | | | | | |
| 5 to 14 years | 126,283 | 15.1% | 64,135 | 15.5% | 62,148 | 14.7% | 784 | 11.1% |
| 15 to 17 years | 38,549 | 4.6% | 19,601 | 4.7% | 18,948 | 4.5% | 307 | 4.4% |
| Under 18 years | 227,515 | 27.2% | 115,779 | 28.0% | 111,736 | 26.4% | 1,726 | 24.5% |
| 18 to 24 years | 95,236 | 11.4% | 51,059 | 12.4% | 44,177 | 10.4% | 674 | 9.6% |
| 15 to 44 years | 363,893 | 43.5% | 188,271 | 45.6% | 175,622 | 41.4% | 3,209 | 45.6% |
| 16 years and over | 635,058 | 75.9% | 310,551 | 75.2% | 324,507 | 76.6% | 5,496 | 78.0% |
| 18 years and over | 609,400 | 72.8% | 297,292 | 72.0% | 312,108 | 73.6% | 5,318 | 75.5% |
| 21 years and over | 570,618 | 68.2% | 276,437 | 66.9% | 294,181 | 69.4% | 5,025 | 71.3% |
| 60 years and over | 142,939 | 17.1% | 61,661 | 14.9% | 81,278 | 19.2% | 1,003 | 14.2% |
| 62 years and over | 127,072 | 15.2% | 54,602 | 13.2% | 72,470 | 17.1% | 934 | 13.3% |
| 65 years and over | 101,946 | 12.2% | 43,506 | 10.5% | 58,440 | 13.8% | 773 | 11.0% |

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# Pitfall: Numbers or look-alikes?

- If you see the little green triangles – be careful
- You may need to right click and choose “Convert to Number”
- Good news – you can do a chunk at a time, just don’t include words

| | El Paso County, Texas | ZCTA5 79821 | ZCTA5 79835 | ZCTA5 79902 |
|---|---|---|---|---|
| Label | Estimate | Estimate | Estimate | Estimate |
| 55 to 64 years: | 86,222 | 586 | 1,096 | 2,576 |
| Under .50 | 5,035 | 51 | 125 | 109 |
| .50 to .74 | 4,153 | 35 | 69 | 114 |
| .75 to | 4,649 | 24 | 11 | 128 |
| 1.00 t | 4,597 | 63 | 40 | 178 |
| 1.25 to 1.49 | 5,395 | 67 | 111 | 73 |
| 1.50 to 1.74 | 4,293 | 18 | 227 | 39 |
| 1.75 to 1.84 | 1,761 | 5 | 27 | 0 |
| 1.85 to 1.99 | 3,052 | 0 | 42 | 93 |
| 2.00 to 2.99 | 15,360 | 122 | 142 | 294 |
| 3.00 to 3.99 | 11,380 | 155 | 129 | 441 |
| 4.00 to 4.99 | 7,914 | 6 | 104 | 171 |
| 5.00 and over | 18,633 | 40 | 69 | 936 |
| 65 to 74 years: | 57,524 | 329 | 981 | 2,438 |
| Under .50 | 2,580 | 0 | 51 | 284 |
| .50 to .74 | 2,731 | 0 | 48 | 66 |

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# Step 5: Combine Results on New Excel Sheet

- Add up the results and divide by 6
- An index is about relationship

| | El Paso County | 79821 | 79835 | 79902 |
|---|---|---|---|---|
| Poverty <150% | 0.313075872 | 0.541895 | 0.335329 | 0.331033 |
| 55+ Racial/ethnic min | 0.686924128 | 0.458105 | 0.664671 | 0.668967 |
| Disabilities | 1.024466081 | 0.962373 | 0.898477 | 0.825646 |
| 85+ | 0.101057094 | 0.064806 | 0.051528 | 0.133054 |
| LEP | 0.09864367 | 0.067339 | 0.057351 | 0.161152 |
| Living alone | 0.238860708 | 0.17945 | 0.236675 | 0.287633 |
| | | | | |
| Raw score | 2.463027554 | 2.273968 | 2.244031 | 2.407485 |
| | 0.410504592 | 0.378995 | 0.374005 | 0.401248 |

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# In what order would you target these communities? El Paso County has 140,000 older adults (17%)

79849 (2,100 older adults/18%)

79853 (466 older adults/20%)

79901 (2,800 older adults/28%)

79936 (18,061 older adults/17%)

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# Communities by the Numbers

| Community | Data Description |
|---|---|
| El Paso County | More than 140,000 older adults (17%) of the population live in the county; almost 1 in 3 are below 150% FPL and 1 in 3 have LEP; high rate of disability (1.02); 69% are a racial or ethnic minority |
| 79849 | 2,100 older adults (18%); almost 100% racial/ethnic minority, 49% below 150% FPL; 80% don't speak English "very well;" one of the highest rates of disability in the county |
| 79853 | 466 older adults (20%); almost 100% racial/ethnic minority; 81% with LEP, 57% below FPL; high disability rate but not quite as high as the county |
| 79901 | Home to 2,800 older adults (28% population); most residents at or below 150% FPL; there are more than 1.4 disabilities per person living in the zip code |
| 79936 | 18,061 older adults (17%); 19% below 150% FPL, disability rate is 16% lower than county; 22% LEP; 86% a racial/ethnic minority |

# CARE Index Results

| Location | Score | | |
|---|---|---|---|
| 79901 | 0.783755 | 79935 | 0.457404 |
| 79849 | 0.62802 | El Paso County | 0.451032 |
| 79905 | 0.616042 | 79821 | 0.444098 |
| 79915 | 0.581741 | 79902 | 0.417973 |
| 79853 | 0.572168 | 79924 | 0.417434 |
| 79904 | 0.56251 | 79936 | 0.401311 |
| 79907 | 0.537156 | 79935 | 0.395174 |

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# Using (Fabricated) Data

| | | |
|---|---|---|
| El Paso County | • 142,939/3,476 unduplicated<br>• 2.4% | |
| 77849 | • 2,078/125 unduplicated<br>• 6.0% | 2 |
| 79853 | • 466/32 unduplicated<br>• 4.5% | 3 |
| 79901 | • 2,521/33 unduplicated<br>• 1.3% | 1 |
| 79936 | • 18,061/1,567 unduplicated<br>• 8.7% | 4 |

# served/ 60+ pop = service %

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# A Potential Mismatch

- Highest indexed zip code had lowest service percentage
- Ask questions
  - Why is it this way?
  - Why does it have to be this way?
  - In what ways are we contributing to the situation?
  - Where can we make even incremental improvements?
  - Who needs to be at the table to help us reach our goals?

| | | |
|---|---|---|
| 77849 | • 2,078/125 unduplicated<br>• 6.0% | 2 |
| 79853 | • 466/32 unduplicated<br>• 4.5% | 3 |
| 79901 | • 2,521/33 unduplicated<br>• 1.3% | 1 |
| 79936 | • 18,061/1,567 unduplicated<br>• 8.7% | 4 |

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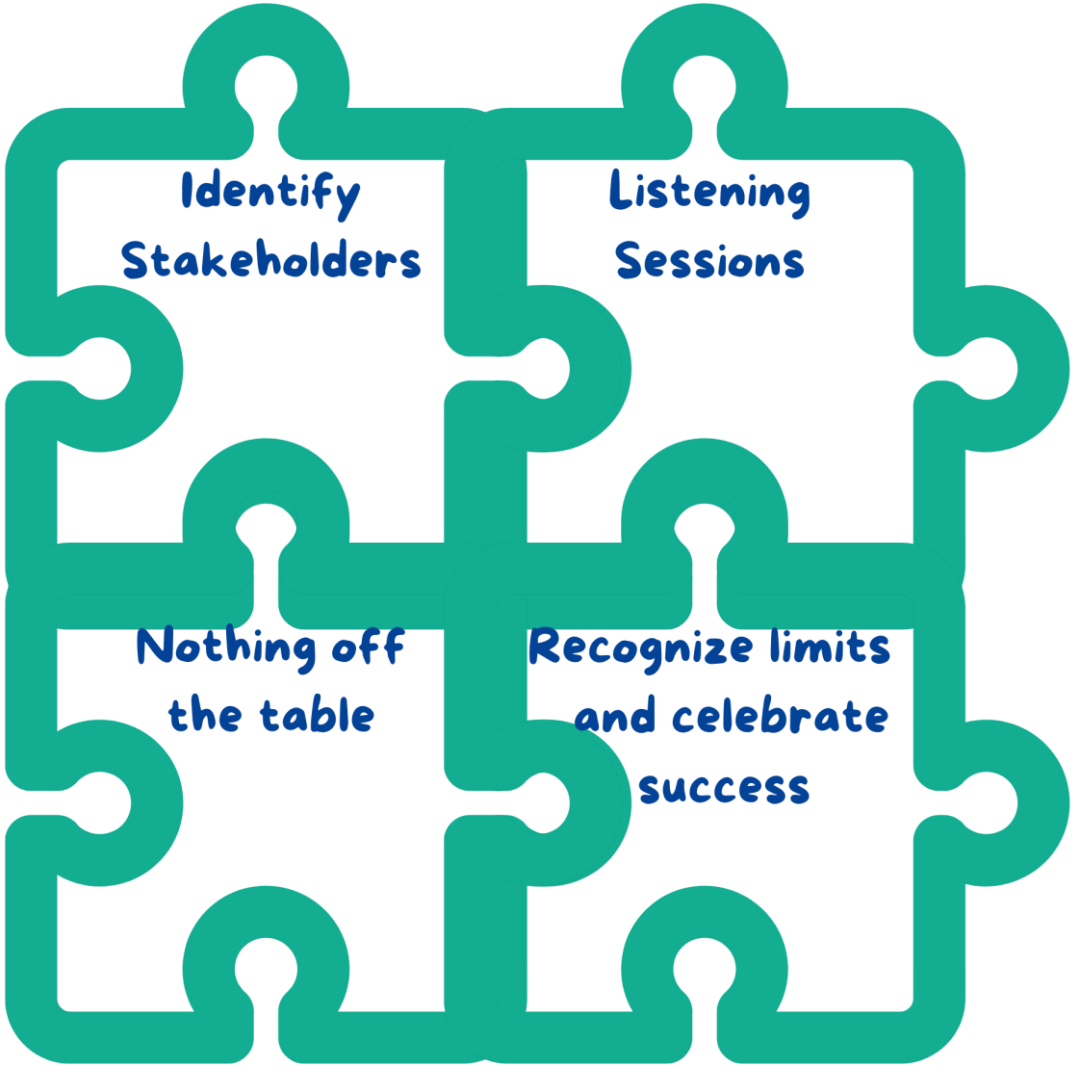
# Become the Puzzle Master

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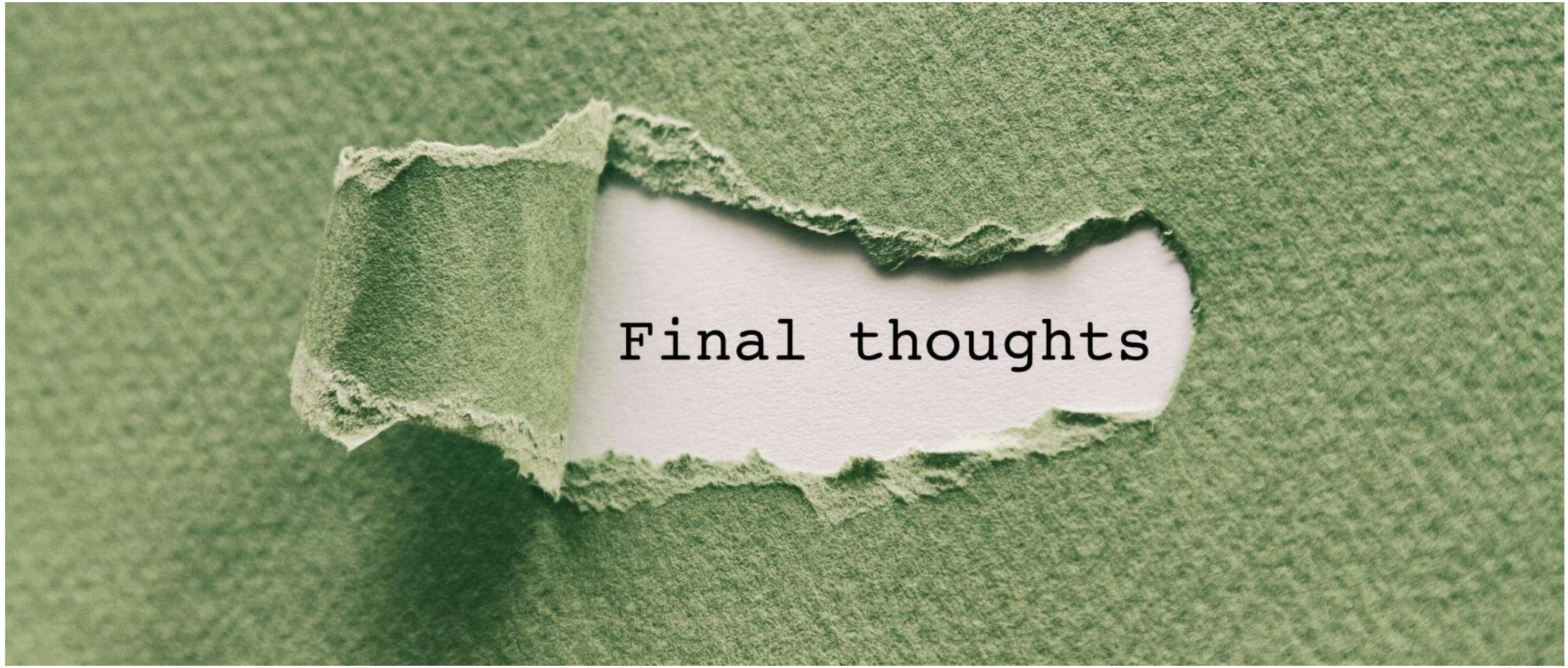
# You Got This!

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# Connect with CARE

Tammy Mermelstein, JD, MSW
tammy@whenwecare.org
346-704-4233

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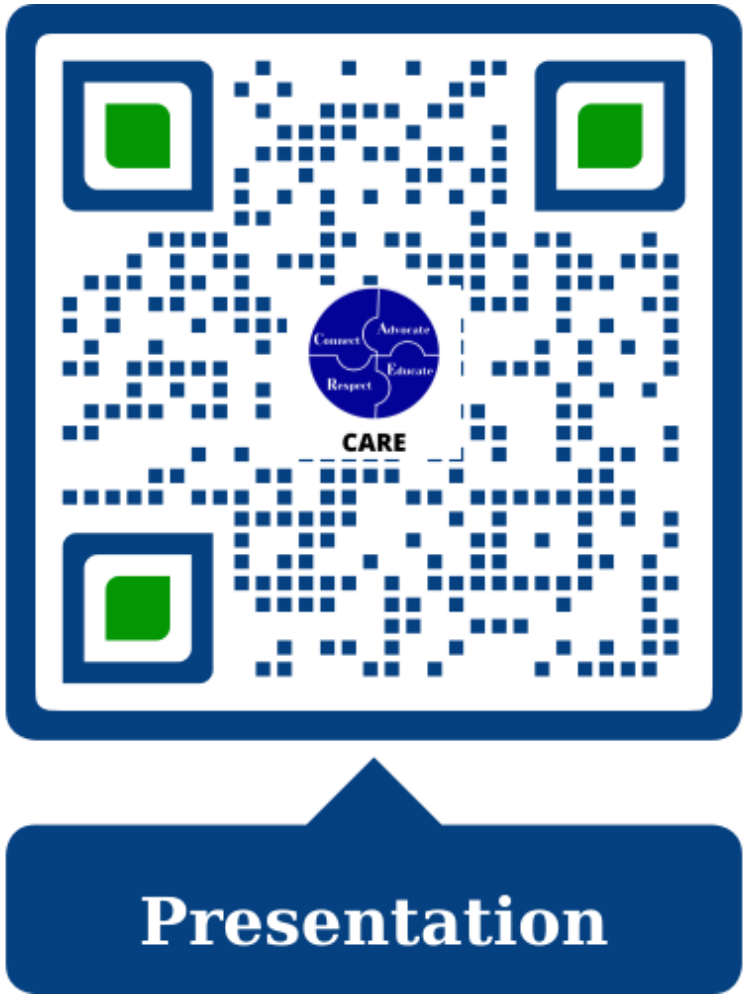
# Pick Up Your Copy Today




If you cannot access Google Drive, email tammy@whenwecare.org for a PDF of this presentation.

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# ACS Table Math

The following slides have formulas to calculate each of the CARE Index factors.  Please reach out to me at tammy@whenwecare.org if you need assistance.

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# S0101 (Age) Math

- Broken down by age sex
- Find the “60 and over” cell in the Selected Age Categories section
- Do the same for 85 and over in the Age section

| | El Paso County, Texas | | | |
|---|---|---|---|---|
| | Total | Percent | Male | Percent Male |
| Label | Estimate | Estimate | Estimate | Estimate |
| 75 to 79 years | 17,452 | 2.1% | 7,206 | 1.7% |
| 80 to 84 years | 12,093 | 1.4% | 4,870 | 1.2% |
| 85 years and over | 14,445 | 1.7% | 5,167 | 1.3% |
| SELECTED AGE CATEGORIES | | | | |
| 5 to 14 years | 126,283 | 15.1% | 64,135 | 15.5% |
| 15 to 17 years | 38,549 | 4.6% | 19,601 | 4.7% |
| Under 18 years | 227,515 | 27.2% | 115,779 | 28.0% |
| 18 to 24 years | 95,236 | 11.4% | 51,059 | 12.4% |
| 15 to 44 years | 363,893 | 43.5% | 188,271 | 45.6% |
| 16 years and over | 635,058 | 75.9% | 310,551 | 75.2% |
| 18 years and over | 609,400 | 72.8% | 297,292 | 72.0% |
| 21 years and over | 570,618 | 68.2% | 276,437 | 66.9% |
| 60 years and over | 142,939 | 17.1% | 61,661 | 14.9% |
| 62 years and over | 127,072 | 15.2% | 54,602 | 13.2% |
| 65 years and over | 101,946 | 12.2% | 43,506 | 10.5% |
| 75 years and over | 43,990 | 5.3% | 17,243 | 4.2% |
| SUMMARY INDICATORS | | | | |

Example formula

=B23/B33

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# B17024 (Ratio of Income to Poverty) Math

- Broken down by age and poverty level (55-64, 65-74, 75+)
- Add cells for “Under .50” to “1.25-1.49”) for each age range
- You will need total population (55+) – just add the total for age ranges

| | El Paso County, Texas | ZCTA5 79821 | ZCTA5 79835 | ZCTA5 79902 |
|---|---|---|---|---|
| Label | Estimate | Estimate | Estimate | Estimate |
| 55 to 64 years: | 86,222 | 586 | 1,096 | 2,576 |
| Under .50 | 5,035 | 51 | 125 | 109 |
| .50 to .74 | 4,153 | 35 | 69 | 114 |
| .75 to .99 | 4,649 | 24 | 11 | 128 |
| 1.00 to 1.24 | 4,597 | 63 | 40 | 178 |
| 1.25 to 1.49 | 5,395 | 67 | 111 | 73 |
| 1.50 to 1.74 | 4,293 | 18 | 227 | 39 |
| 1.75 to 1.84 | 1,761 | 5 | 27 | 0 |
| 1.85 to 1.99 | 3,052 | 0 | 42 | 93 |
| 2.00 to 2.99 | 15,360 | 122 | 142 | 294 |
| 3.00 to 3.99 | 11,380 | 155 | 129 | 441 |
| 4.00 to 4.99 | 7,914 | 6 | 104 | 171 |
| 5.00 and over | 18,633 | 40 | 69 | 936 |
| 65 to 74 years: | 57,524 | 329 | 981 | 2,438 |
| Under .50 | 2,580 | 0 | 51 | 284 |

Example formula

=SUM(Data!B96:B100)+SUM(Data!B109:B113)+
SUM(Data!B122:B126)

Number Below/Total Pop = ratio

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# B01001H (Race/Ethnicity) Math

- Avoids data suppression issues
- Use 55+ population #s
- Add rows from both male and female
- White, not Hispanic/Total Pop (% White, not Hispanic)
- Subtract from 1 for % racial/ethnic minority

Example formulas

=SUM(Data!B15:B18+Data!C30)

Answer/Total Pop 55+ = ratio White

1-ratio White = % racial/ethnic minority

| | El Paso County, Texas | ZCTA5 79821 | ZCTA5 79835 | ZCTA5 79902 |
|---|---|---|---|---|
| Label | Estimate | Estimate | Estimate | Estimate |
| 65 to 74 years | 5,349 | 101 | 72 | 440 |
| 75 to 84 years | 2,443 | 34 | 25 | 80 |
| 85 years and over | 1,197 | 0 | 12 | 137 |
| Female: | 44,203 | 180 | 354 | 1,643 |
| Under 5 years | 2,918 | 0 | 13 | 81 |
| 5 to 9 years | 2,431 | 0 | 0 | 80 |
| 10 to 14 years | 2,449 | 0 | 37 | 33 |
| 15 to 17 years | 1,296 | 0 | 17 | 18 |
| 18 and 19 years | 697 | 0 | 16 | 44 |
| 20 to 24 years | 2,897 | 0 | 0 | 100 |
| 25 to 29 years | 3,625 | 41 | 32 | 137 |
| 30 to 34 years | 3,073 | 11 | 29 | 43 |
| 35 to 44 years | 5,009 | 0 | 58 | 205 |
| 45 to 54 years | 4,626 | 29 | 25 | 72 |
| 55 to 64 years | 5,722 | 34 | 19 | 364 |
| 65 to 74 years | 4,814 | 18 | 60 | 197 |

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# S1810 (Disabilities) Math

- Use 65+ population #s
- Add “With a disability” for each type of disability for the 65+ population
- # of people reporting disabilities/65+ population

| | El Paso County, Texas | | | ZCTA5 79821 | |
|---|---|---|---|---|---|
| | Total | With a disability | Percent with a disability | Total | With a disability |
| Label | Estimate | Estimate | Estimate | Estimate | Estimate |
| 65 to 74 years | 57,524 | 18,665 | 32.40% | 329 | 13 |
| 75 years and over | 42,819 | 24,808 | 57.90% | 362 | 13 |
| | | | | | |
| DISABILITY TYPE BY DETAILED AGE | | | | | |
| With a hearing difficulty | (X) | 27,418 | 3.40% | (X) | 18 |
| Population under 18 years | 227,407 | 1,378 | 0.60% | 1,726 | |
| Population under 5 years | 62,683 | 398 | 0.60% | 635 | |
| Population 5 to 17 years | 164,724 | 980 | 0.60% | 1,091 | |
| Population 18 to 64 years | 485,458 | 10,223 | 2.10% | 3,589 | 8 |
| Population 18 to 34 years | 205,158 | 1,906 | 0.90% | 1,500 | 2 |
| Population 35 to 64 years | 280,300 | 8,317 | 3.00% | 2,089 | 5 |
| Population 65 years and over | 100,343 | 15,817 | 15.80% | 691 | 10 |
| Population 65 to 74 years | 57,524 | 5,742 | 10.00% | 329 | 2 |
| | | | | | |
| Population 75 years and over | 42,819 | 10,075 | 23.50% | 362 | 7 |

Example formulas

=Data!C33+Data!C43+Data!C51+Data!C59+Data!C67+Data!C74

Answer/Total Pop 65+ = disability ratio

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# B16004 (Limited English) Math

- Use 65+ population #s in this chart for this calculation only
- For 65+ add “not well” and “not at all” for each language
- # LEP/65+ population from this chart

| | El Paso County, Texas | ZCTA5 79821 | ZCTA5 79835 | ZCTA5 79902 |
|---|---|---|---|---|
| .abel | Estimate | Estimate | Estimate | Estimate |
| 65 years and over: | 101,946 | 773 | 1,576 | 4,172 |
| Speak only English | 25,471 | 200 | 349 | 1,073 |
| Speak Spanish: | 74,326 | 558 | 1,165 | 3,048 |
| Speak English "very well" | 26,032 | 160 | 199 | 1,608 |
| Speak English "well" | 13,700 | 44 | 149 | 349 |
| Speak English "not well" | 14,240 | 141 | 365 | 443 |
| Speak English "not at all" | 20,354 | 213 | 452 | 648 |
| Speak other Indo-European languages: | 953 | 15 | 0 | 51 |
| Speak English "very well" | 754 | 15 | 0 | 51 |
| Speak English "well" | 181 | 0 | 0 | 0 |
| Speak English "not well" | 18 | 0 | 0 | 0 |
| Speak English "not at all" | 0 | 0 | 0 | 0 |
| Speak Asian and Pacific Island languages: | 946 | 0 | 62 | 0 |
| Speak English "very well" | 285 | 0 | 0 | 0 |

Example formulas

=Data!B53+Data!B54+Data!B58+Data!B59+Data!B63+Data!B64+Data!B68+Data!B69

Answer/Total Pop 65+ = LEP ratio

When we CARE about older adults, we all benefit

# B11010 (Living Alone) Math

- Use 65+ population #s from S1810 (community living)
- Add Male, Living Alone, 65+ and Female, Living Alone, 65+
- # living alone/65+ population

| Label | El Paso County, Texas Estimate | ZCTA5 79821 Estimate | ZCTA5 79835 Estimate | ZCTA5 79902 Estimate |
|---|---|---|---|---|
| Male householder: | 36,965 | 212 | 456 | 2,167 |
| Living alone: | 30,803 | 184 | 414 | 1,795 |
| Householder 15 to 64 years | 23,278 | 97 | 347 | 1,371 |
| Householder 65 years and over | 7,525 | 87 | 67 | 424 |
| Not living alone: | 6,162 | 28 | 42 | 372 |
| Householder 15 to 64 years | 5,504 | 10 | 42 | 353 |
| Householder 65 years and over | 658 | 18 | 0 | 19 |
| Female householder: | 38,533 | 172 | 460 | 2,079 |
| Living alone: | 34,248 | 164 | 427 | 1,687 |
| Householder 15 to 64 years | 17,805 | 127 | 121 | 976 |
| Householder 65 years and over | 16,443 | 37 | 306 | 711 |
| Not living alone: | 4,285 | 8 | 33 | 392 |
| Householder 15 to 64 years | 3,497 | 8 | 9 | 325 |

Example formulas

=Data!B7+Data!B14

Answer/Total Pop 65+ = living alone

When we CARE about older adults, we all benefit