

Data Source

Contents

The data is sourced from the Texas Department of Agriculture, a reputable source. It was collected via official claims records provided by schools and school districts. The dataset, made up of 20.5K rows and 48 columns, contains claims information for paid or approved to pay meal reimbursement for sites participating in school nutrition programs for program year 2021-2022. Variables include school district name; county the school district is located in; number of participants eligible for reduced price or free breakfast/lunch; number of lunch/breakfast meals provided; number of COVID meal sites; total breakfast, lunch, snack, and milk reimbursement claims for the month; and claim date, among other variables.

Data Profile

Data Cleaning

- I deleted the columns named 'MilkDays', 'Milktotal', 'MilkADP', 'MilkServedFree', 'MilkServedReduced', 'MilkServedPaid', and 'MilkReimbursement' because they were unnecessary to my analysis.
- I changed the column 'CountyDistrictCode' from a mixed data type column into a string data type
- I changed the columns 'CEID', 'ESC', 'TDARegion', and 'SiteID' columns to a string data type

Basic Descriptive Statistical Analysis

	EnrollmentQty	FreeEligQty	RedcEligQty	PaidEligQty	BreakfastDays	BreakfastTotal	BreakfastADP	BreakfastServedFree	BreakfastServedRedc
count	20509.000000	20509.000000	20509.000000	20509.000000	20509.000000	20509.000000	20509.000000	20509.000000	20509.000000
mean	184.402799	102.47389	2.990980	35.381637	4.934273	925.780340	51.103375	847.097421	9.564776
std	349.541654	247.39117	13.030383	137.252335	8.852599	2412.561839	130.672329	2235.378517	69.299616
min	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
25%	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
50%	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
75%	324.000000	89.000000	0.000000	0.000000	10.000000	110.000000	5.610000	51.000000	0.000000
max	18179.000000	16736.000000	325.000000	7996.000000	31.000000	31767.000000	1027.470000	31767.000000	1629.000000

BreakfastServedPaid	...	SnackDays	SnackTotal	SnackADP	SnacksServedFree	SnacksServedRedc	SnacksServedPaid	BreakfastReimbursement
20509.000000	...	20509.000000	20509.000000	20509.000000	20509.000000	20509.000000	20509.000000	20509.000000
69.118143	...	8.979472	435.911210	27.158652	435.858355	0.002584	0.050271	2006.997598
247.247361	...	9.006062	990.588246	45.637580	990.604892	0.263772	2.827558	5297.106562
0.000000	...	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.000000	...	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.000000	...	8.000000	146.000000	12.830000	146.000000	0.000000	0.000000	0.000000
0.000000	...	17.000000	582.000000	40.000000	582.000000	0.000000	0.000000	155.820000
4539.000000	...	31.000000	31415.000000	1310.000000	31415.000000	36.000000	199.000000	74652.450000

LunchReimbursement	SnackReimbursement	TotalReimbursement
20509.000000	20509.000000	20509.000000
4147.799124	435.864171	6590.734695
10138.741459	990.602623	15380.196380
0.000000	0.000000	0.000000
0.000000	0.000000	78.000000
0.000000	146.000000	528.000000
600.780000	582.000000	2407.050000
117945.000000	31415.000000	224012.450000

Limitations and Ethics

There are some schools within districts that input more zeros than others. It is unclear whether this is a result of missing data or if it's actually zero meals served. As a result, there could be some schools/districts that are not as well-represented as others. There is also no way to verify how many of the meals served were actually eaten by students versus how many were thrown away.

Since the students are minors, it is important to ensure that no identifying information is visible. In this data set, there is no changing personally identifiable information. Information is collected through official claims submitted by contracting entities (districts) to the Texas Department of Agriculture, so it can be trusted to be free of collection bias. Despite this, I will still have to be mindful of measurement and presentation bias throughout my analysis.

Analysis Questions

- Are there certain times of the year when the demand for free or reduced price meals increase/decrease?

- Do locations serving as COVID Meal Sites serve a majority of students eligible for free or reduced priced meals?
- Are students eligible for free or reduced priced meals opting to receive these meals at similar/higher/lower rates than students who pay full price?
- Which counties serve the most total meals? Which counties serve the most free, reduced price, and full price meals?
- How do public, private, charter, and residential child care institutions (RCCI) compare in terms of free/reduced priced meal candidates and meals served?