

# Auditing County Care's Health Care Provider Network

## Ghost Hunter

Gabriel Barrett, Magdalena Barros & Paula Cafena

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### Overview:

Ghost Hunter is an application that audits the provider network of County Care, one of Illinois five Medicaid Managed Care Organizations to see how what percentage of County Care's network can be independently verified. First, we scrape County Care's [find a provider tool](#) to construct a sample database of their health care service provider network. Second, we attempt to verify that each located provider is accurately represented by matching them either in the State of Illinois' [IMPACT database](#) or on the [National NPI Registry](#). IMPACT is a state database that tracks all providers approved to bill Illinois Medicaid. If no trace of a provider exists in IMPACT, the provider is not eligible to treat patients on Medicaid. The NPI registry is a registry of all individual or corporate entities that need to bill health insurance. Matching on the NPI is important as a way to verify a provider's contact information and residence in Illinois as well as a source for future researchers as NPI numbers are very close to unique identifiers in the health care space. From this analysis we estimate groups of providers that while listed in County Care's directory are not actually seeing or billing Medicaid patients, and whose presence in County Care's directory is misleading to patients and inflates the strength of their network.

### Using the Application:

A thorough write up of how to use Ghost Hunter can be viewed in the [README.MD](#).

### What this project sought to accomplish and what we accomplished

This project, as stated in the abstract, sought to catch “ghosts,” or non-present healthcare providers, in one of Illinois’ Medicaid directories. In the beginning there were ambitions to Web Scrape Aetna, County Care, and Molina. Part of the hope in this project was that we would be able to use National Provider Identification numbers (NPI) numbers, to make strong matches between the data we recovered from the website, and the NPI registry and most critically the IMPACT data base which can verify eligibility to bill Medicaid.

What this project did accomplish was web scraping a sample of half of County Care’s health care provider network and matching 50.81% of that data with either the NPI registry, thereby confirming their residence in Illinois, or the IMPACT database and thereby confirming their Medicaid eligibility. If you look at the ratios in specialists and primary care doctors on the website you see that we have little under half of specialists and about two thirds of primary care doctors in their network. However, because we used an in-exact fuzzy matching process because of differences in how county care’s data and other data sets handled names (mostly the location of the middle initial), we cannot be confident that what we have found are plausibly “ghosts”.

Data Pipeline: The transportation of our data can be described as follows:

- data\_compilation/scrapers/county\_care ->
- the root of gh/data\_compilation where functions from clean and sort the data into the gh/data\_compilation/data\_output - >
- data\_viz & data\_analysis take the output and return visualizations