General and Substantive Accountability
Communication Strategies of Public and Private Organizations in Nursing Home Services

Ixchel Perez-Duran & Alfredo Hernandez-Sanchez

UAB & IBEI

May 4, 2022

Research Objectives

- To examine differences in the accountability messages used by different types of providers to inform about their performance.
- Although one of the dimensions of accountability is the provision of information and the justification of policies; the language used to communicate and engage with citizens about specify services remains underexplored in the literature.
- Theory-driven exploration of a relevant corpus

Why Twitter?

▶ **Accountability:** social relationship between at least two parties (an actor and a forum), in which the account-giver is obliged to inform and justify his/her conduct, and the account holder has the mechanisms to evaluate and sanction such conduct (Bovens, 2007, 2010).

- We focus on messages by diverse actors in the sector (mainly providers) to the **general public**.
- Tweets are not aimed directly at beneficiaries or their families, but to the broadest possible forum (*social* media) *ex profeso*.

General and Substantive Accountability

- **General Accountability:** core elements of accountability in the context of services provided
  - information
  - transparency
  - evaluation
  - sanction
- **Substantive Accountability:** three core dimensions of the quality of services (Donabedian, 1988, 2003)
  - **Structure indicators:** "the conditions under which care is provided", such as the material and human resources, the qualifications of the staff, shared facilities, space requirements.
  - **Process indicators:** "the activities that constitute health care" , such as treatments and diagnosis health plans, meals, channels of participation.
  - **Outcome indicators:** relate to the changes attributed to the services, such as satisfaction with the services received (Du Moulin et al, 2010: 288).

Hypotheses

▶ General accountability H1: Public organizations responsible for nursing home services will be more likely to use general accountability messages than private providers

▶ Substantive accountability H2: There is a statistically significant difference between the substantive accountability messaging of private and public organizations responsible for nursing home services.

▶ Accountability in crisis times H3. Organizations responsible for nursing home services are more likely to converge on their general accountability messages during crises times

▶ Accountability in crisis times H4. Organizations responsible for nursing home services are more likely to converge in their substantive accountability messages during crises times

Data Collection and Cleaning

Elderly nursing home services in Spain. Long-term care policies in Spain rely on the regional governments. In the year 2020, 73 percent of the beds in Spain were provided by private facilities.

Twitter Corpus:

▶ Twitter accounts of 64 actors (7020 tweets) by three categories:

▶ Nonprofit: 5 accounts, 667 tweets

▶ Private: 37 accounts, 5380 tweets

▶ Public: 22 accounts, 973 tweets

Text Cleaning:

▶ Removed: stopwords, acronyms, names, mentions, hastags, punctuation, and top and bottom 1% terms by frequency

▶ Filtered: tweets containing the term "residen" between 14/03/19 and 14/03/21

▶ Tokenized: unigrams and bigrams

Summary of Findings

- **Intensity:** The number of Tweets posted per week (intensity) has moderate and significant correlation (.56) with the number of new Covid-19 related deaths
- **Similarity:** There is little evidence of convergence in times of crisis, despite the fact that the intensity of tweeting is somewhat responsive to the increase of Covid-19 related deaths
- **Latent Topics:** Accountability terms are not thematically important, there is little thematic change during the crisis period
- **Sentiment:** Sentiment scores remain constant over the observed period, with no significant differences across public and private actors, though some interesting trends for nonprofits
- **Keywords:** There is a slight increase in the accountability terms before and after restrictions, but the share of terms is consistent across the board. The term *death* is mentioned very little.
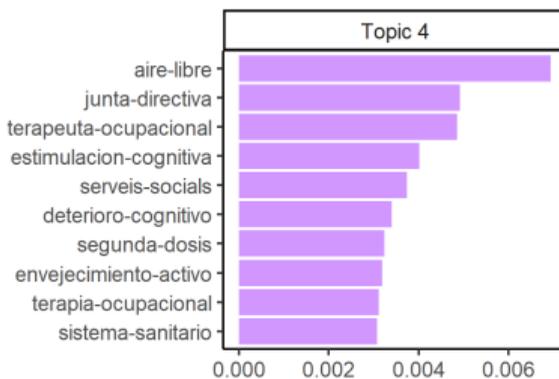
Top-Terms (Bag-of-Words)

Pre Covid-19 restrictions
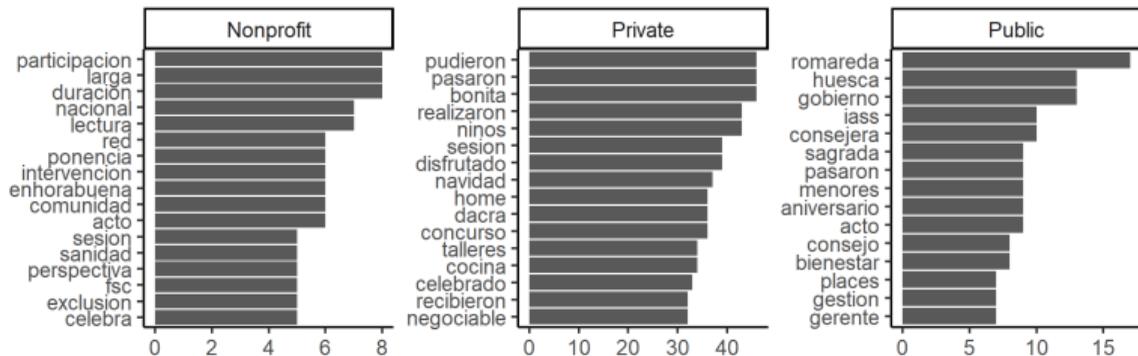
Post Covid-19 restrictions
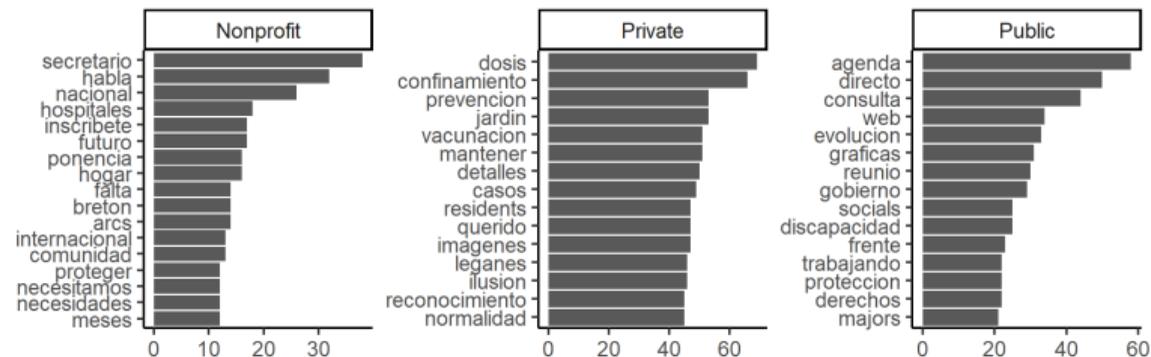
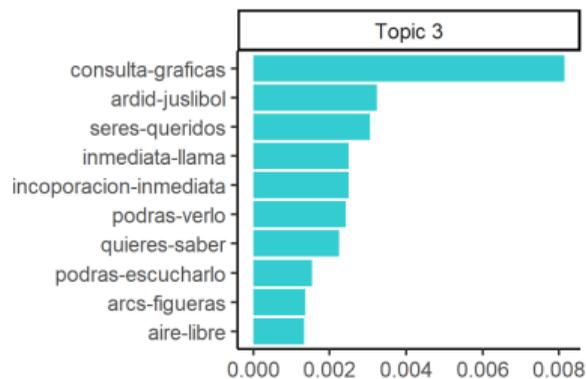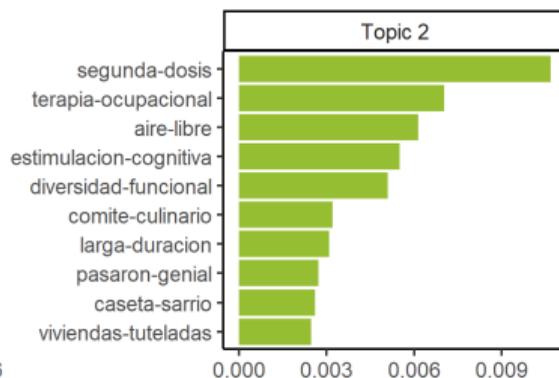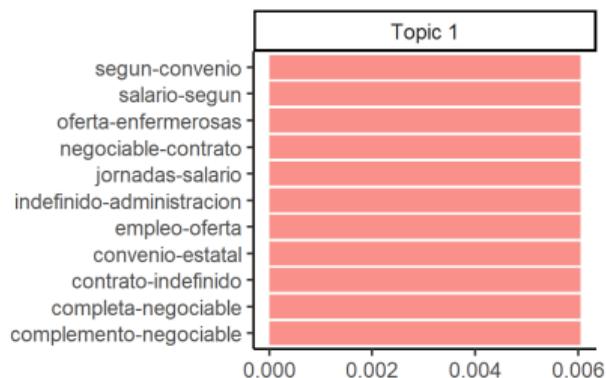# Topic Model

```
mystm_b <- stm(documents = dfmat_bigrams,
               K = 4,
               prevalence = ~location,
               data = my_docvars_b,
               init.type = "Spectral",
               verbose = F
    )
```
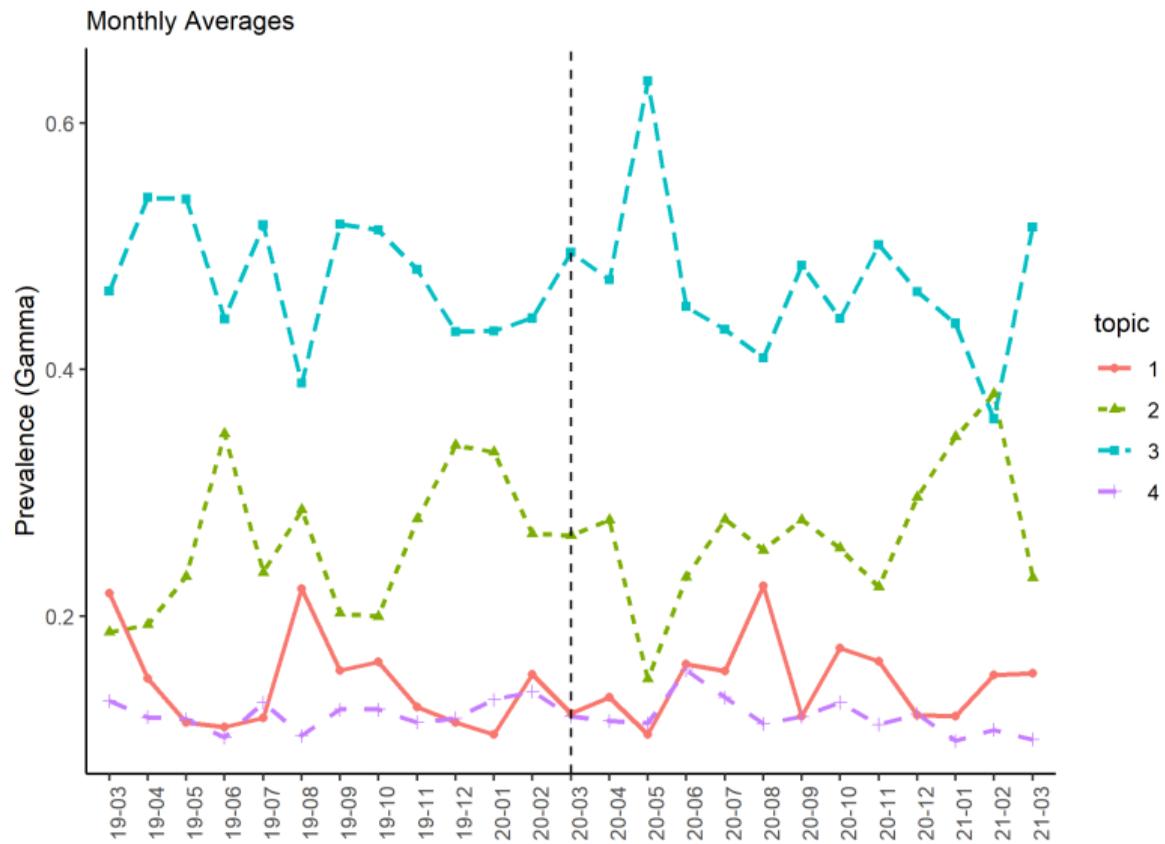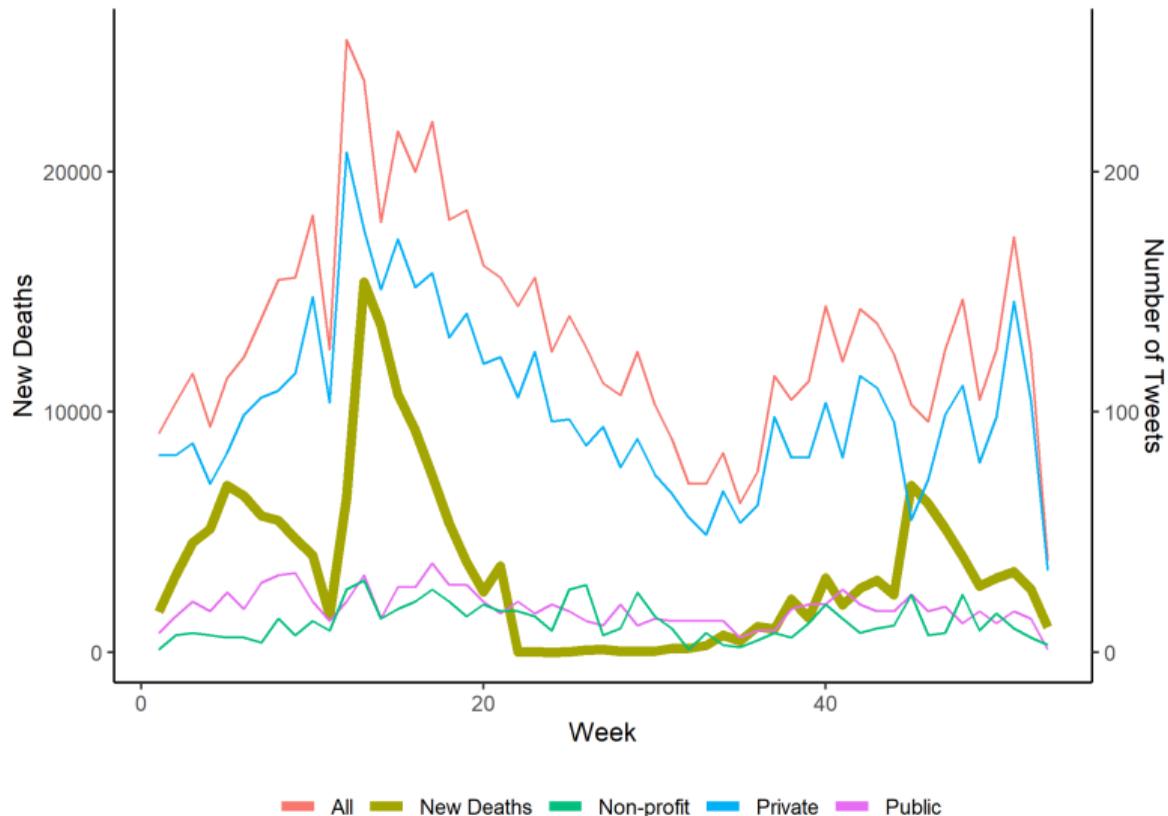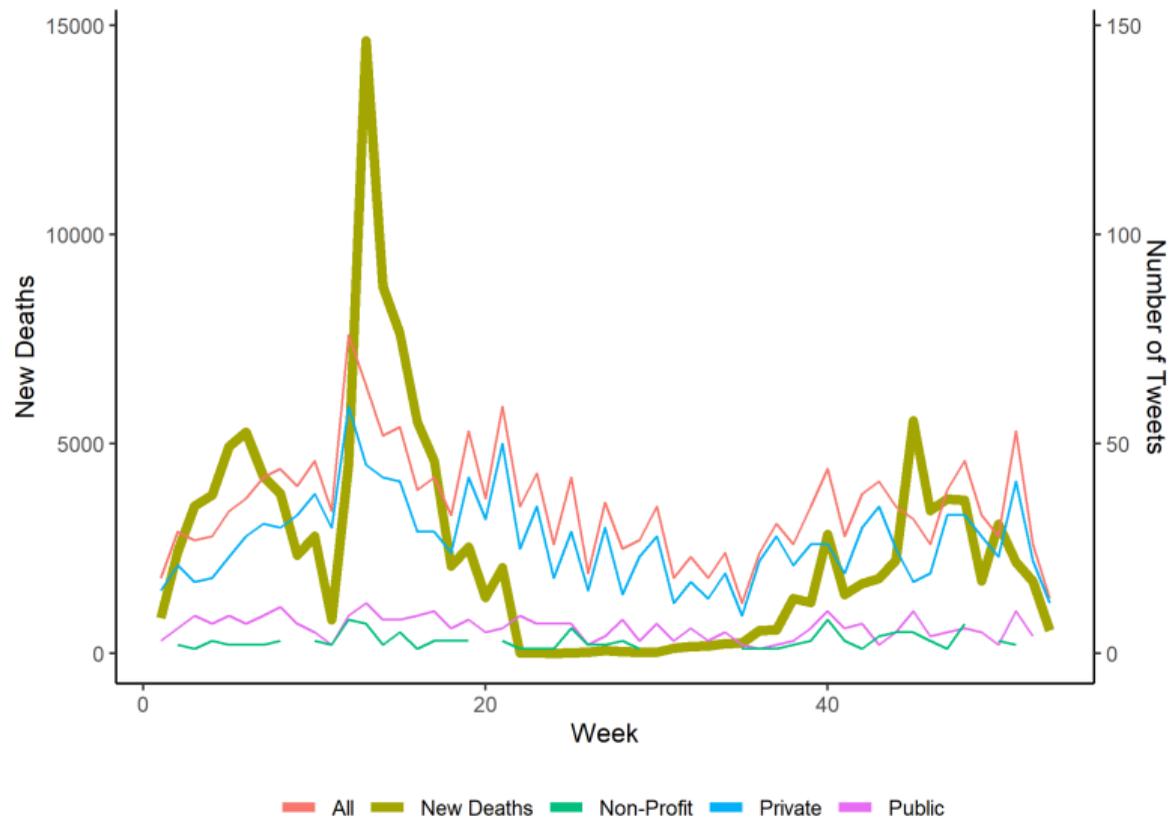
Topic Model (Beta)

Beta (bi-grams)

Topic Model (Gamma)

Monthly Averages

Intensity (General)

Intensity (Accountability Messages)

Cosine Similarity (In-Group/Out-Group)

In-Group vs. Out-Group
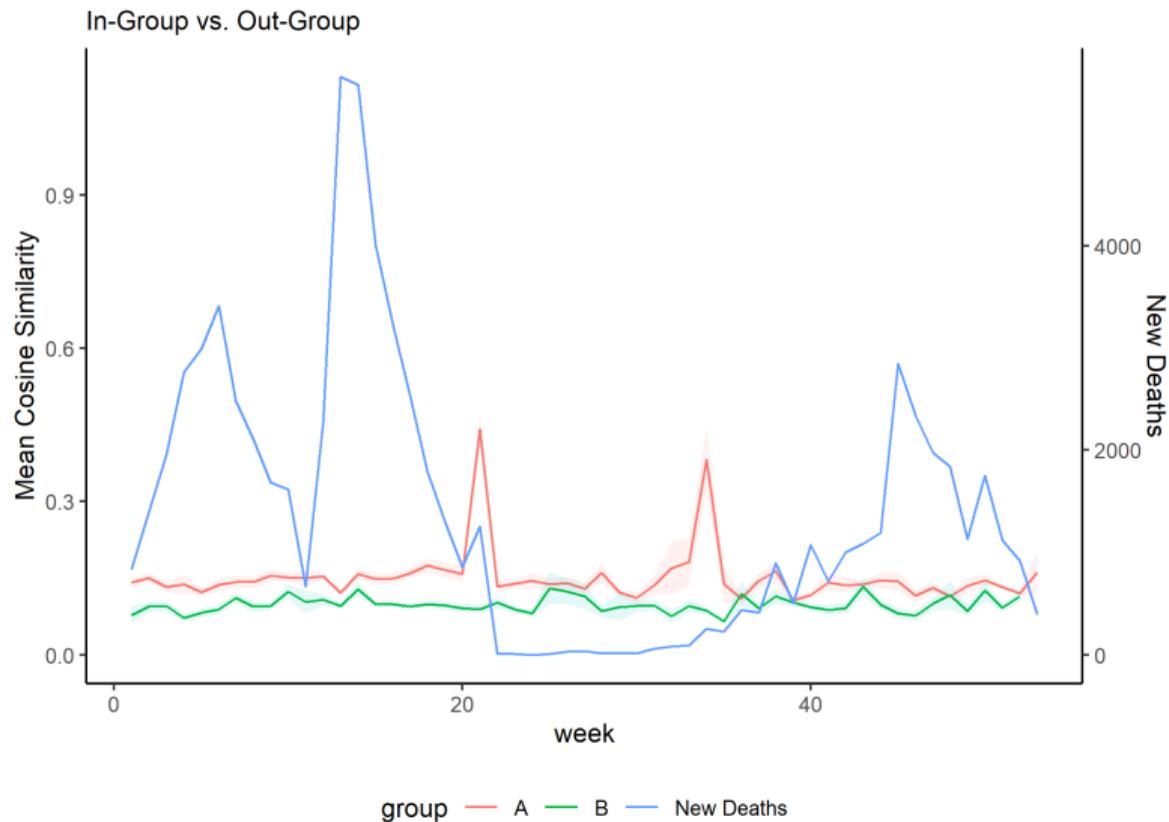
Dictionary

```r
accountability <- c(
  "transparen",
  "supervis",
  "evalu",
  "sancion",
  "rendicioncuentas",
  "audit",
  "control",
  "inform",
  "inspec"
)
```

```r
facilities <- c(
  "staff",
  "ratio",
  "infraestructur",
  "instala",
  "cualific",
  "recursoshumanos",
  "personal",
  "organigrama",
  "direccion"
)
```
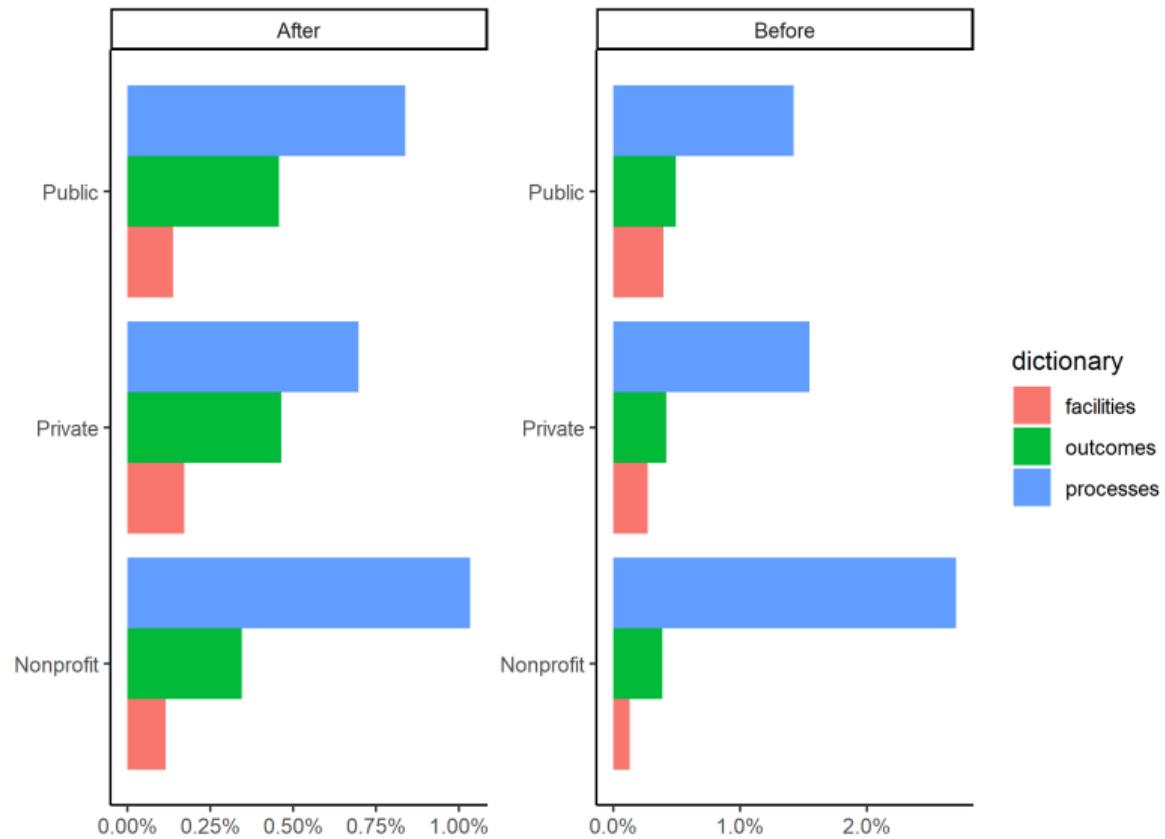
Dictionary (cont.)

```r
processes <- c(
  "servici",
  "prestaci",
  "contrat",
  "horari",
  "comida",
  "menu",
  "privacid",
  "actividad",
  "ejerci",
  "participa"
)
```

```r
outcomes <- c(
  "resulta",
  "innova",
  "eficien",
  "equidad",
  "igualdad",
  "morta",
  "muert",
  "ulcera",
  "calidad",
  "satisfaccion",
  "usuari"
)
```

General Accountability Dictionary
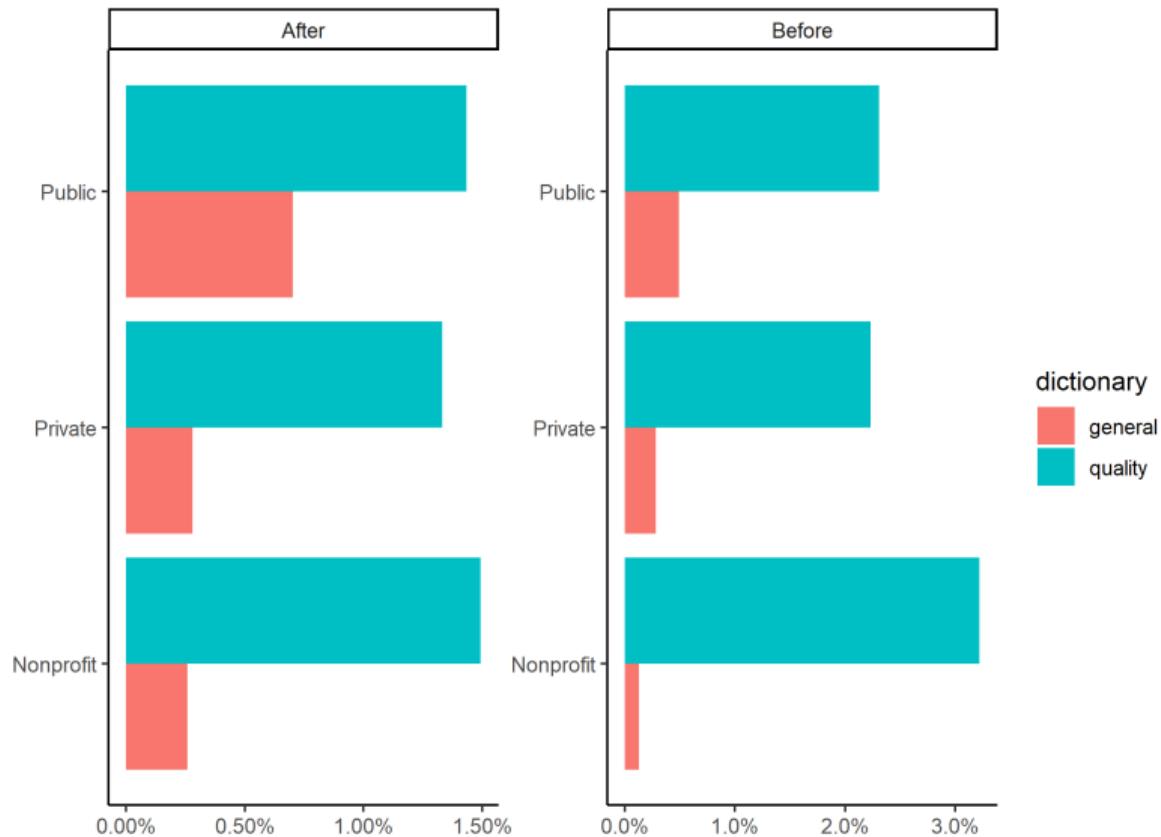
Quality Dictionary

Limitations and Future Research

Future research:

- ▶ Use of individual names differences
- ▶ Looking at other relevant *corpora*
- ▶ Demand-side of accountability
- ▶ Polarization literature (random-forest classifier accuracy)

Limitations:

- ▶ Benchmarking results of dictionary analysis
- ▶ Looking at other relevant *corpora*
- ▶ Training data for a classification machine
- ▶ Lack of regional granularity
- ▶ Other proxies for crisis (new cases)

Thank You!