

T1 International

Survey 2022 - Data cleaning & initial silo analyses

Content

- Simplification of question names
- Data cleaning: cumulative filtering
- Standardise costs to USD
- Uncomplete records
- Silo analyses

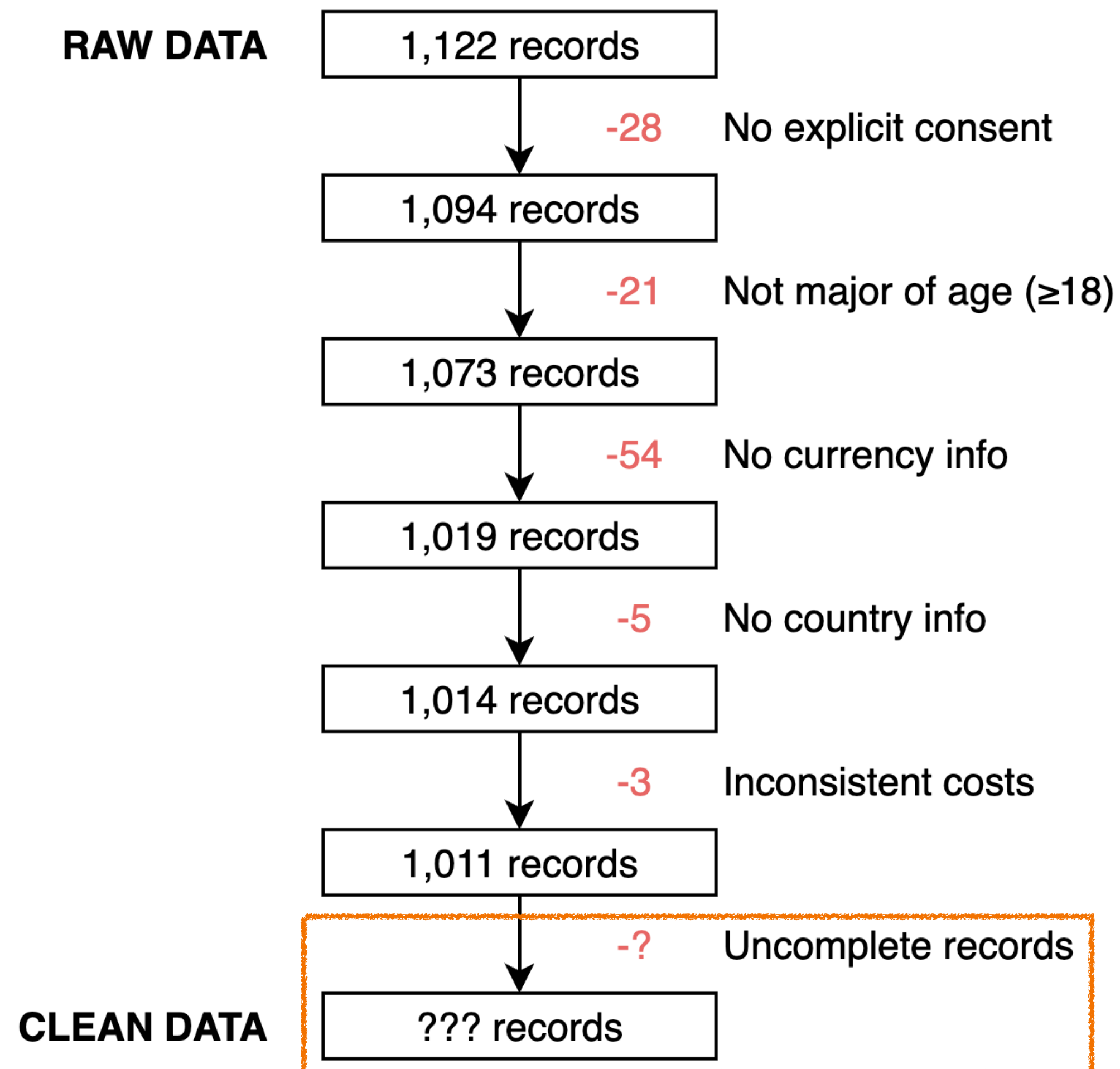
Simplification of question names

for easier data handling

- Available in a spreadsheet
- Will appear in draft figures
- Will be polished in final figures

renamed_column	initial_name_column
help_no	Do you receive any help to pay for your insulin, diabetes supplies, or care? (Choose all that apply) (choice=No)
help_famfriends	Do you receive any help to pay for your insulin, diabetes supplies, or care? (Choose all that apply) (choice=Yes, su
help_charity	Do you receive any help to pay for your insulin, diabetes supplies, or care? (Choose all that apply) (choice=Yes, ch
help_donation	Do you receive any help to pay for your insulin, diabetes supplies, or care? (Choose all that apply) (choice=Yes, do
help_gov	Do you receive any help to pay for your insulin, diabetes supplies, or care? (Choose all that apply) (choice=Yes, go
help_pharma	Do you receive any help to pay for your insulin, diabetes supplies, or care? (Choose all that apply) (choice=Yes, ph
help_other	Do you receive any help to pay for your insulin, diabetes supplies, or care? (Choose all that apply) (choice=Other {
help_pnta	Do you receive any help to pay for your insulin, diabetes supplies, or care? (Choose all that apply) (choice=Prefer r
help_other_desc	If other, please describe
payOoPE_none	In the past year, have you had to do any of the following to pay for your out-of-pocket costs for your medication an
payOoPE_savings	In the past year, have you had to do any of the following to pay for your out-of-pocket costs for your medication an
payOoPE_borrow	In the past year, have you had to do any of the following to pay for your out-of-pocket costs for your medication an
payOoPE_asset	In the past year, have you had to do any of the following to pay for your out-of-pocket costs for your medication an
payOoPE_other	In the past year, have you had to do any of the following to pay for your out-of-pocket costs for your medication an
payOoPE_pnta	In the past year, have you had to do any of the following to pay for your out-of-pocket costs for your medication an
payOoPE_other_desc	If other, please describe
covid_unaffected	Has the COVID-19 pandemic affected your access to insulin and diabetes supplies? (choice=No change)
covid_supply	Has the COVID-19 pandemic affected your access to insulin and diabetes supplies? (choice=Access to supplies ha
covid_insulin	Has the COVID-19 pandemic affected your access to insulin and diabetes supplies? (choice=Access to insulin has
covid_price_up	Has the COVID-19 pandemic affected your access to insulin and diabetes supplies? (choice=Prices have gone up)
covid_price_down	Has the COVID-19 pandemic affected your access to insulin and diabetes supplies? (choice=Prices have gone dow
covid_unsure	Has the COVID-19 pandemic affected your access to insulin and diabetes supplies? (choice=Unsure)
covid_pnta	Has the COVID-19 pandemic affected your access to insulin and diabetes supplies? (choice=Prefer not to answer)

Data filtering



- Cumulative filtering (top to bottom): not absolute numbers as some entires might have been already discarded from previous step(s)
- Uncomplete records to remove: **TBD**

Standardise costs to USD

a. currency extraction

Note:

- direct references to data are displayed in green
- links are display in blue

- Currency symbol ([ISO 4217](#), ex. “(GBP)”) extraction strategy:
 1. If declared from drop-down menu: directly from answer
 2. If other currency (“Your Currency”): taken from description after manual curation
- Manual curation:
 - New column in raw data (see example below), for 112 cases
 - Country info used to resolve ties

Record ID	What country do you live in?	What currency do you use?	If your currency, please specify	currency_other_desc_manual
130	Argentina	Your Currency	Peso Argentino	ARS
966	Colombia	Your Currency	Peso coombiano	COP
1032	Colombia	Your Currency	pesos colombiano	COP
1002	Costa Rica	Your Currency	Colones	CRC
461	Denmark	Your Currency	Dk	DKK

Standardise costs to USD

b. currency conversion

- Conversion to USD uses current FX rates from the [World Bank API](#) (via the [priceR](#) package)
- All initial cost-related columns with format: `cost_XXX`
- All USD-converted columns renamed with format: `usd_XXX`

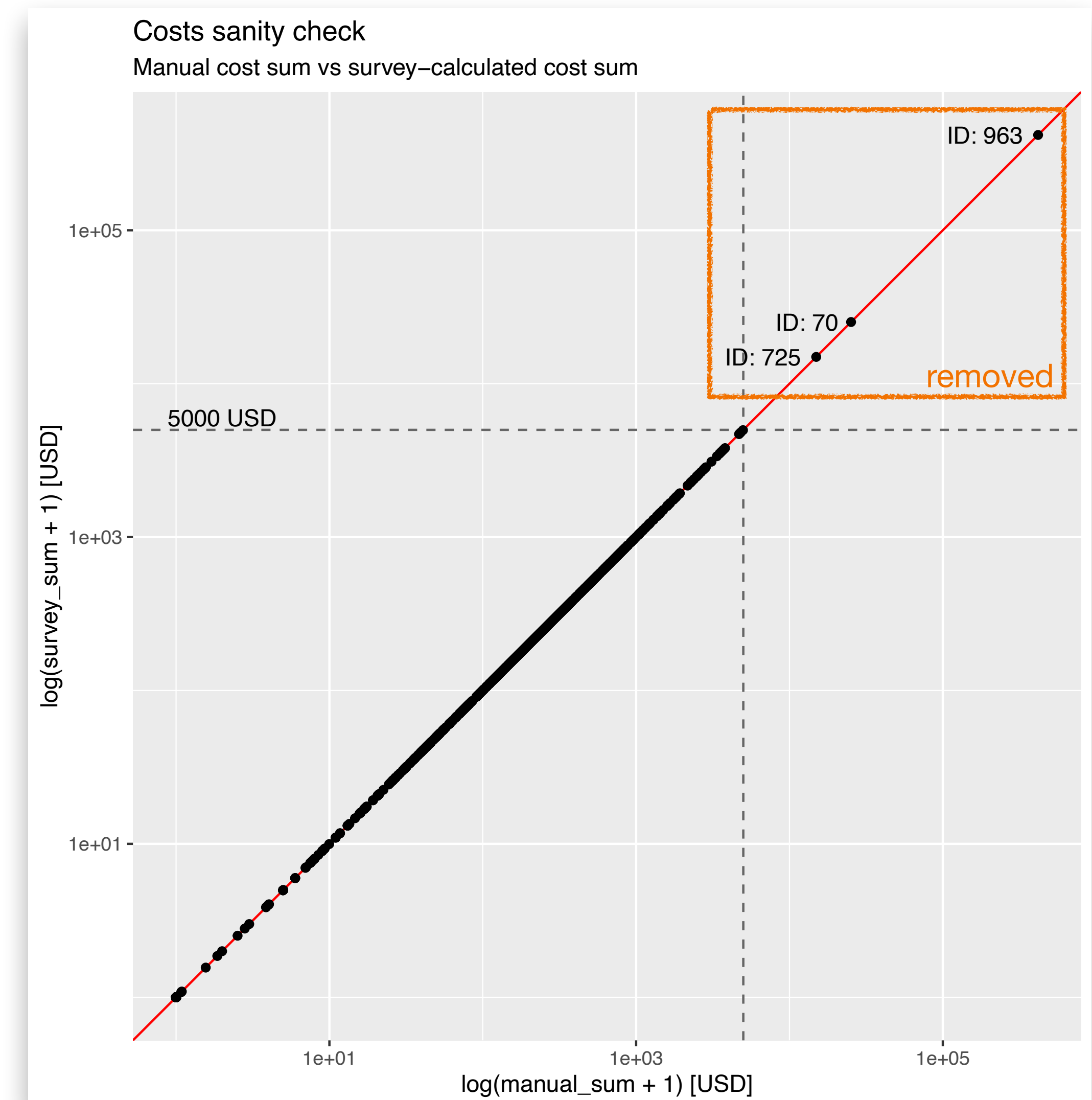
Standardise costs to USD

c. sanity check

- Manual sum of Out-of-Pocket Expenses (OoPEs)
VS
Survey's automatic calculation
- Definition:
$$OoPE_{total} = \sum (insulin_{[sa+la+mix+other]}, pump, bg, cgm, pen \& needles)$$

⇒ Survey automatic calculation is good

⇒ 3 outliers removed



Uncomplete records

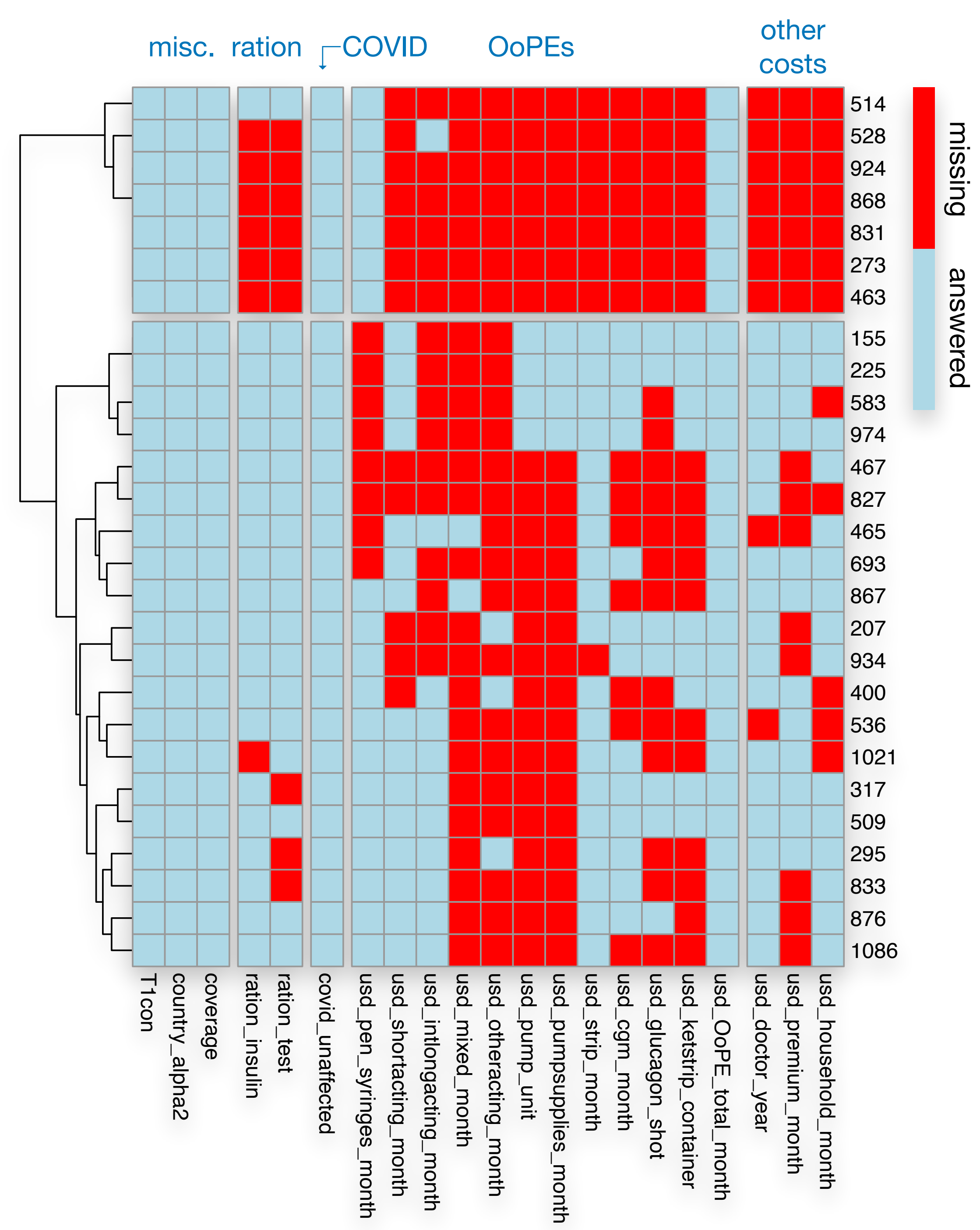
Overview

- Currently **27** records are marked as *incomplete*
- Tentative set of **important*** questions:
 - T1 connection, country, healthcare coverage
 - rationing of insulin and BG testing
 - all T1D-related costs (OoPEs)
 - other cost-related questions (doctor, premium, household)

⇒ Keeping the 27 *incomplete* records won't have dramatic consequences as many of the *completed* records also failed to inform on many of these questions

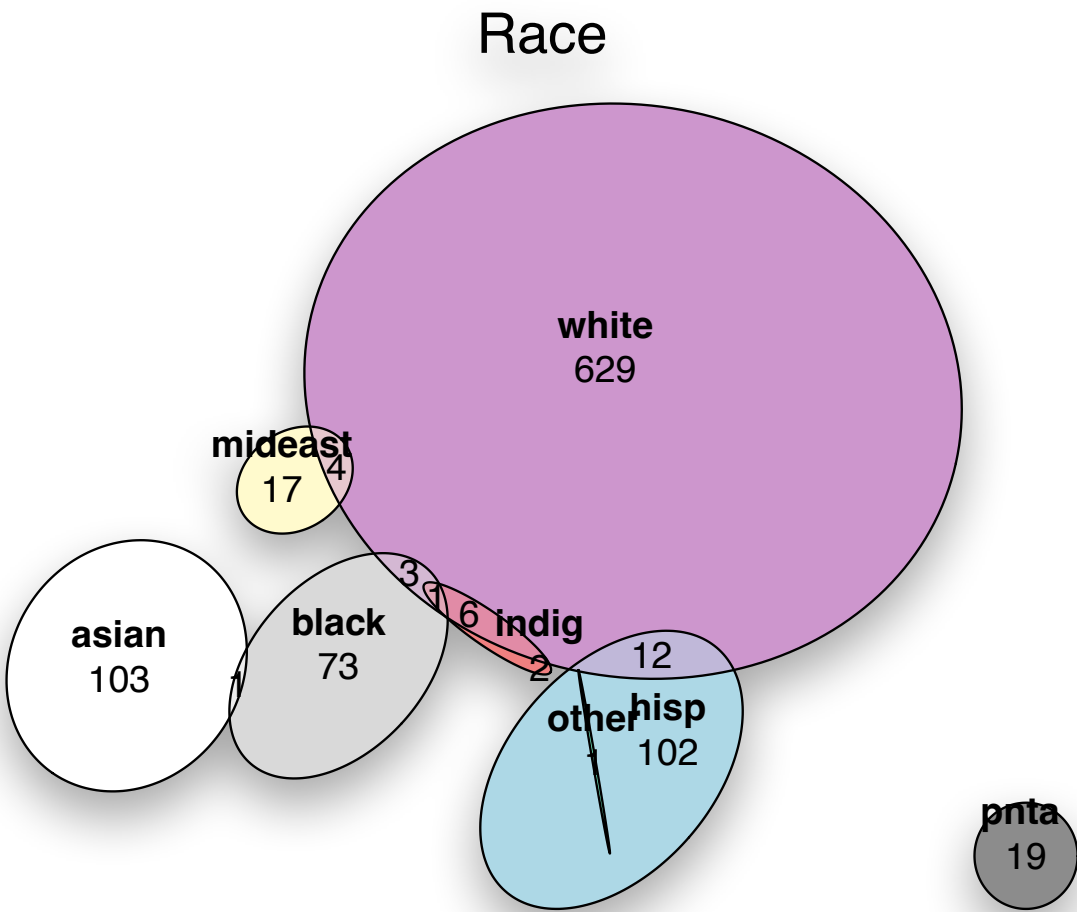
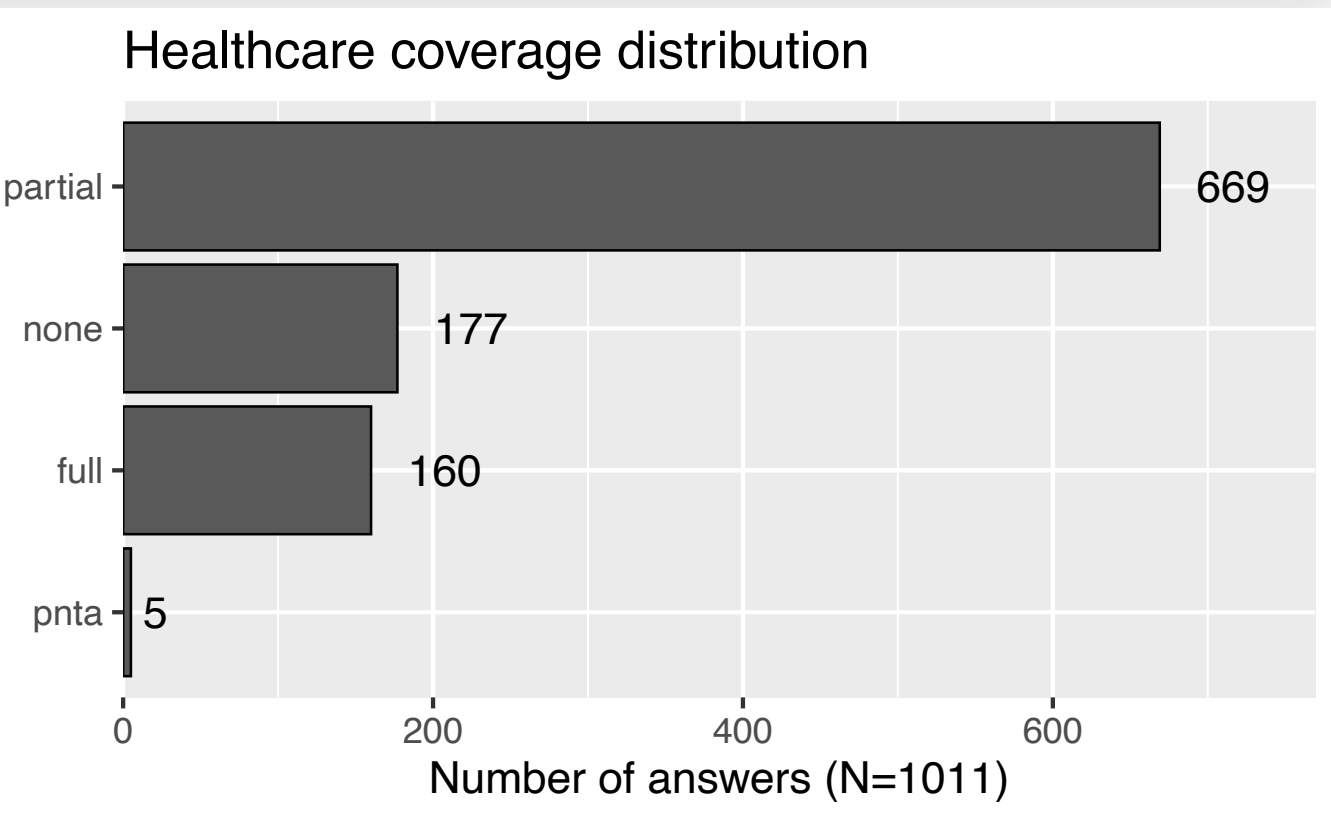
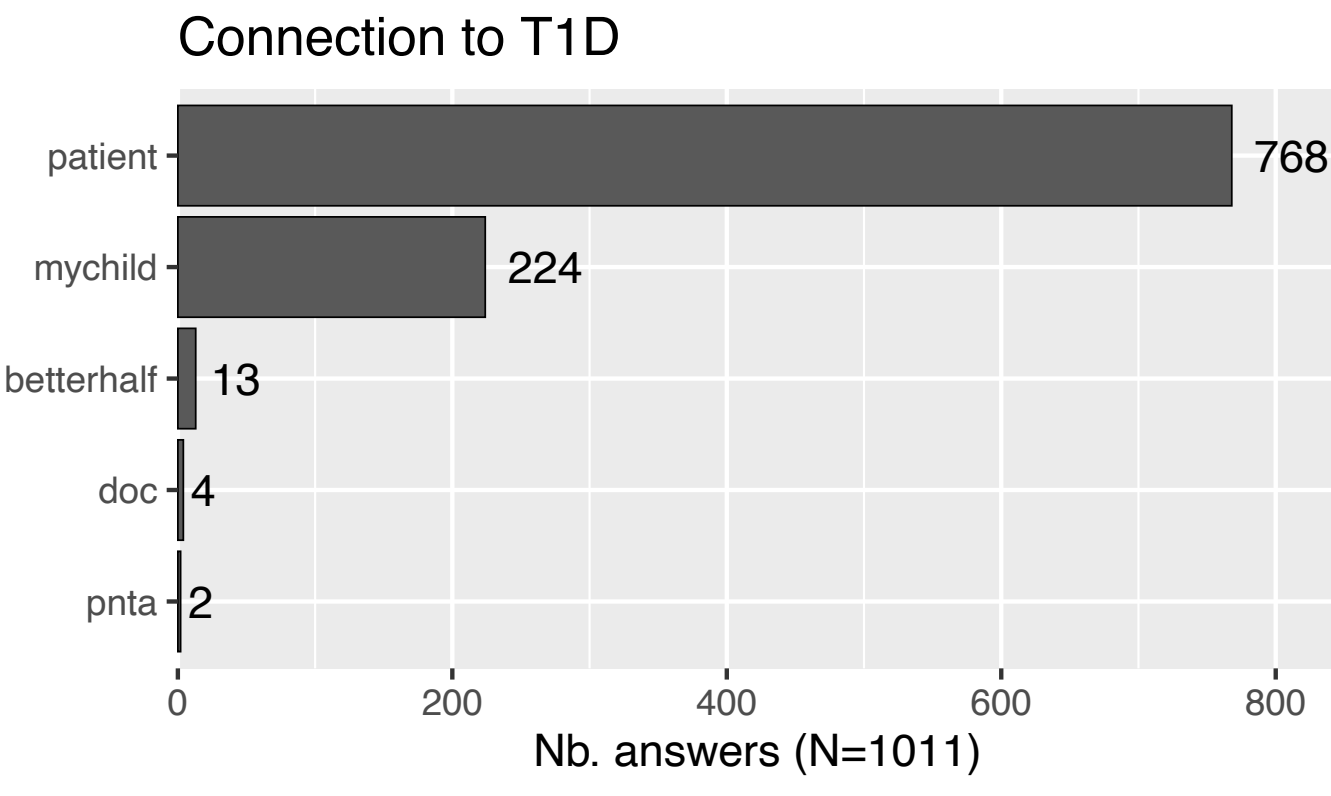
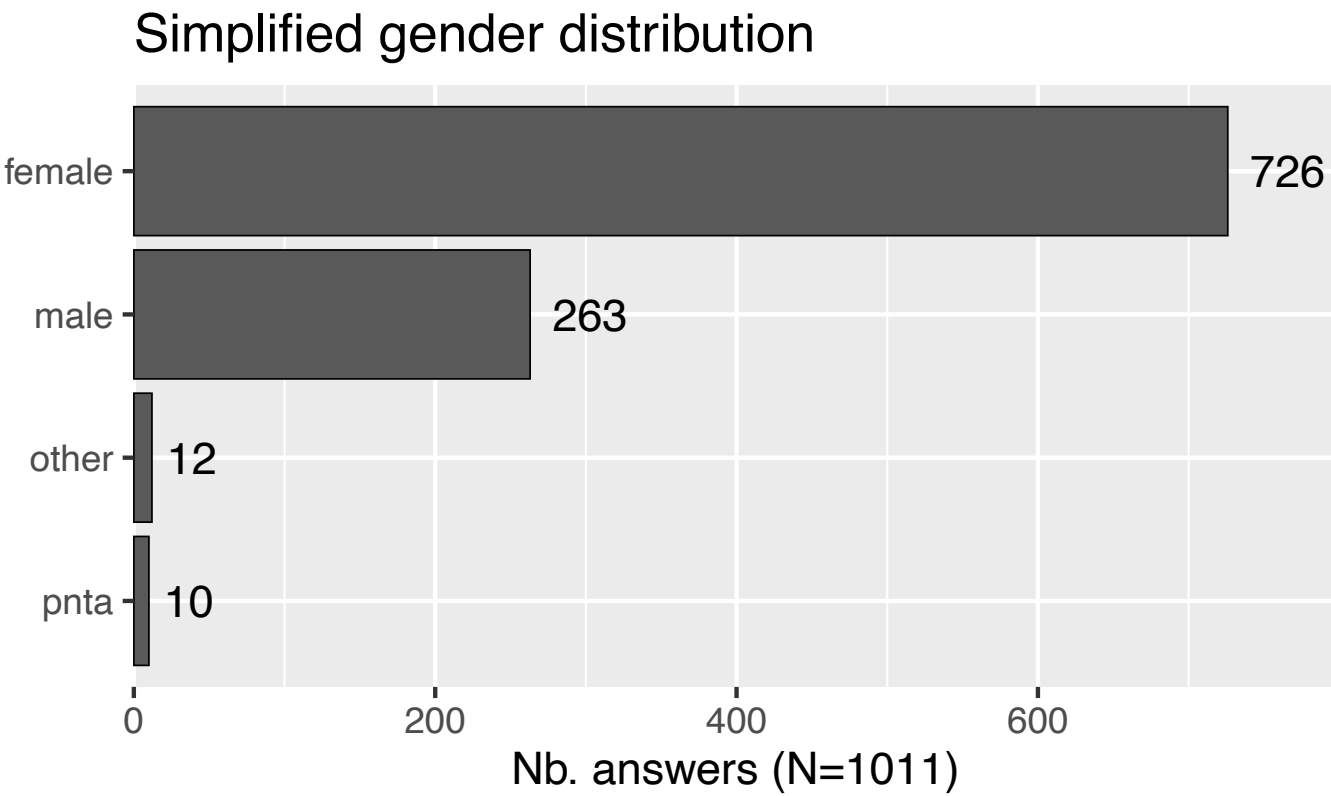
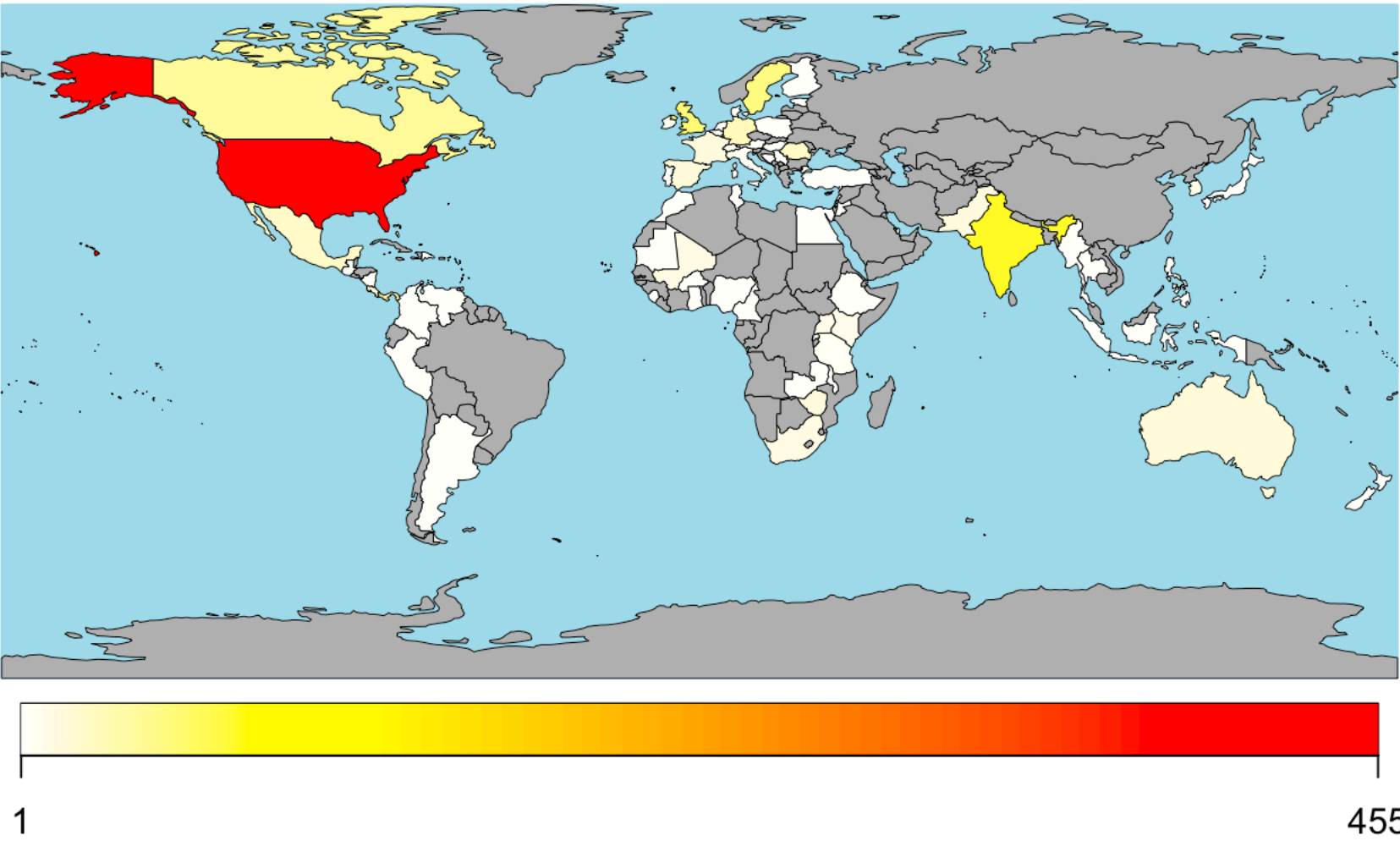
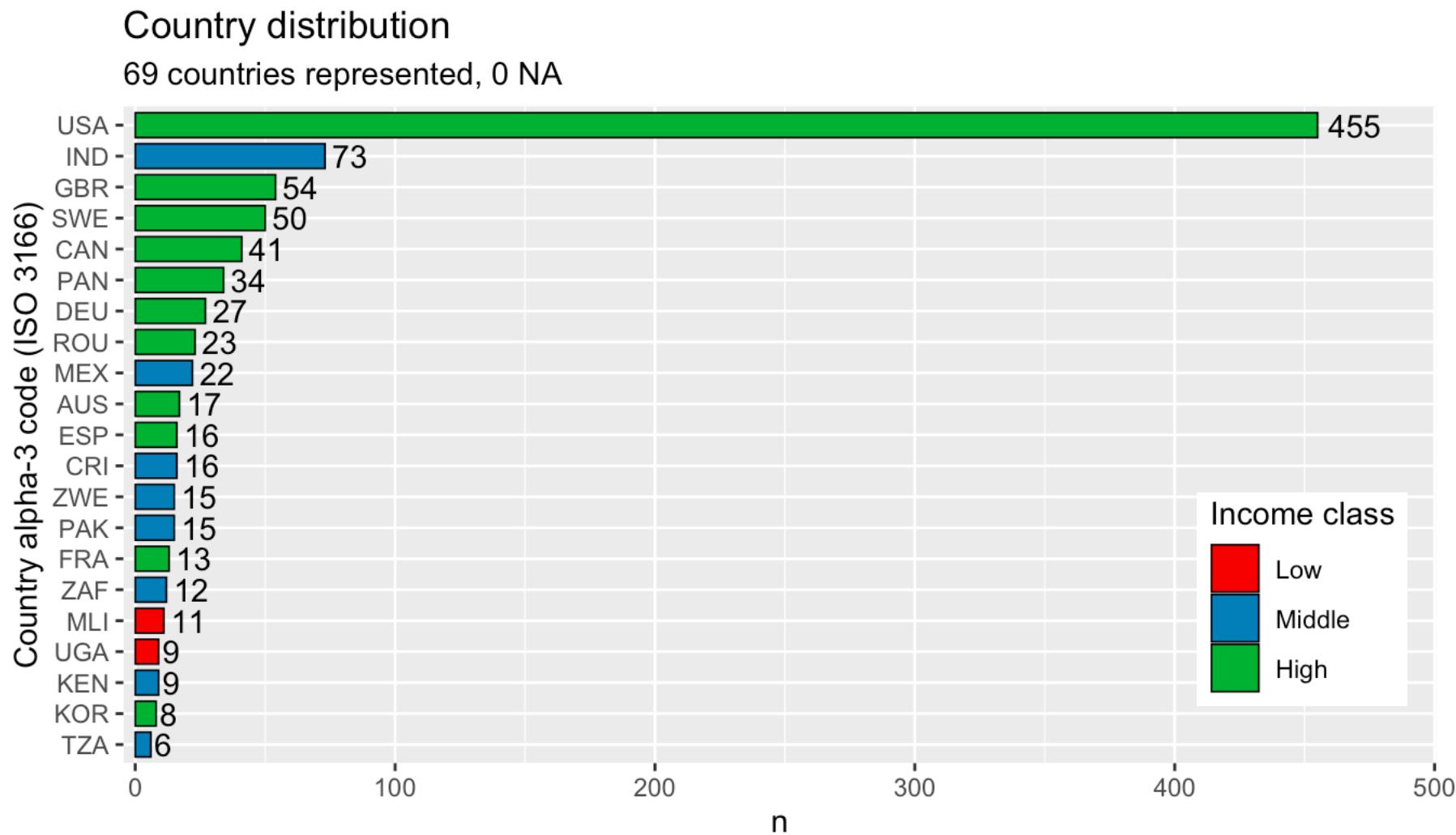
⇒ If kept, final dataset will comprise **1,011** answers

* *arbitrarily-defined as per the intended main goals of the survey*
e.g. costs, COVID, and rationing



Silo analyses

Demographics & misc

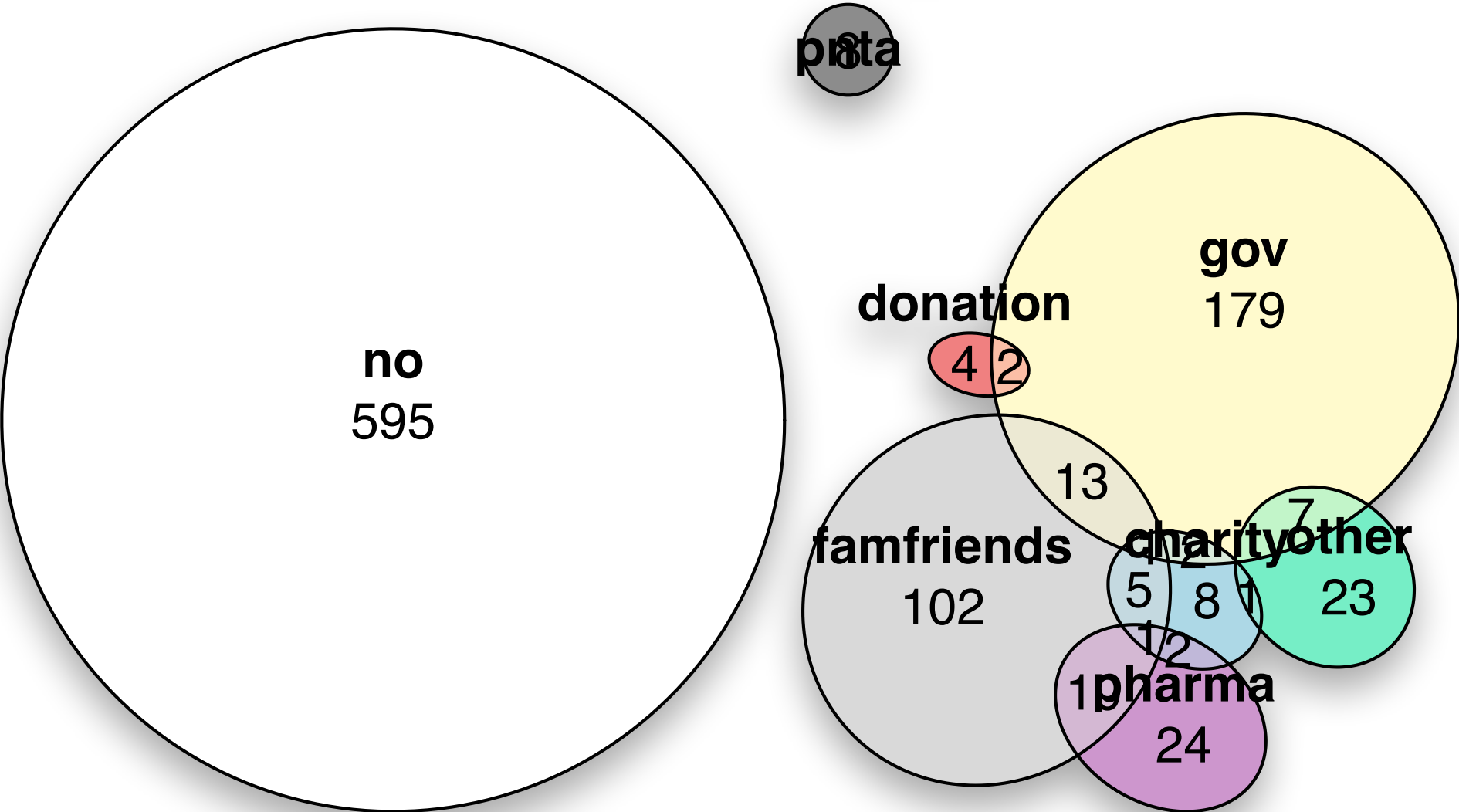


! Note:
Euler diagrams (cfr. above) are comparable to classical Venn diagrams except:
- Areas are proportional to the number of members in a set
- Must be interpreted as an overview rather than an exact representation of the data reality: all set intersection are not always possible to represent geometrically

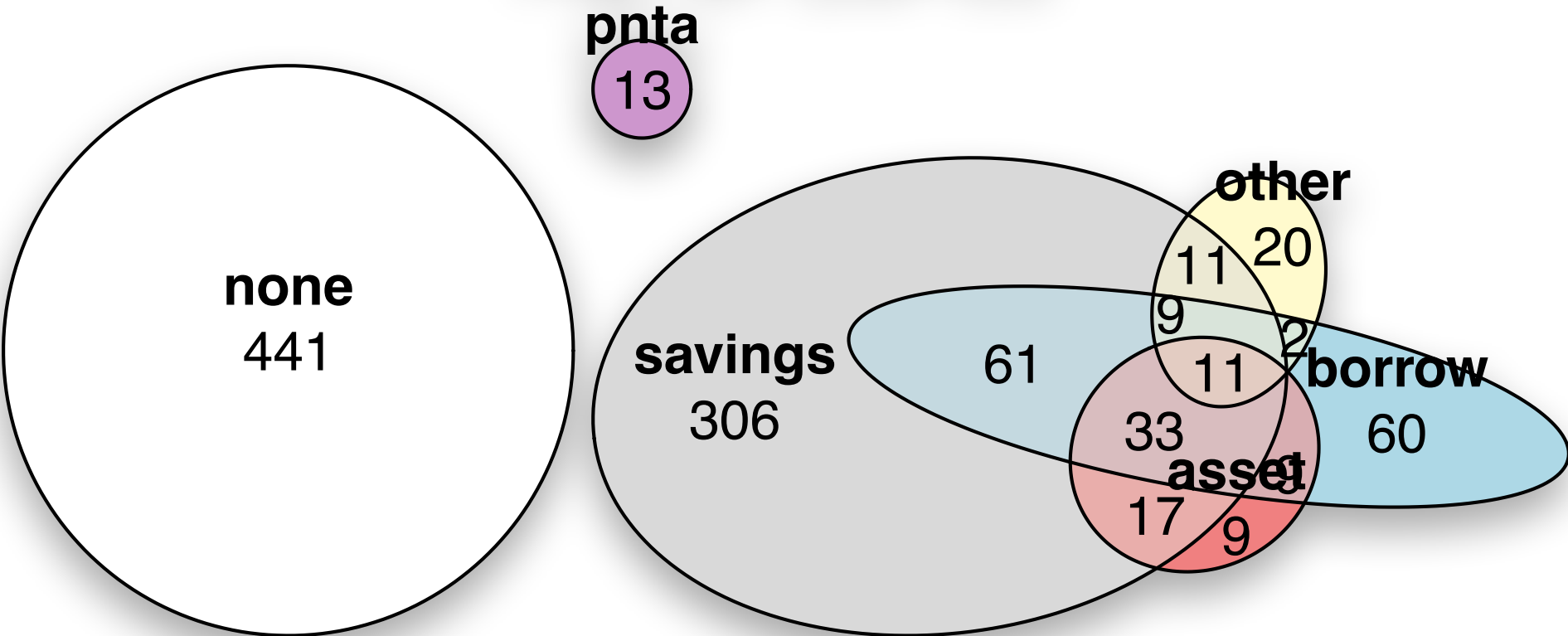
Silo analyses

Financing

Financial help

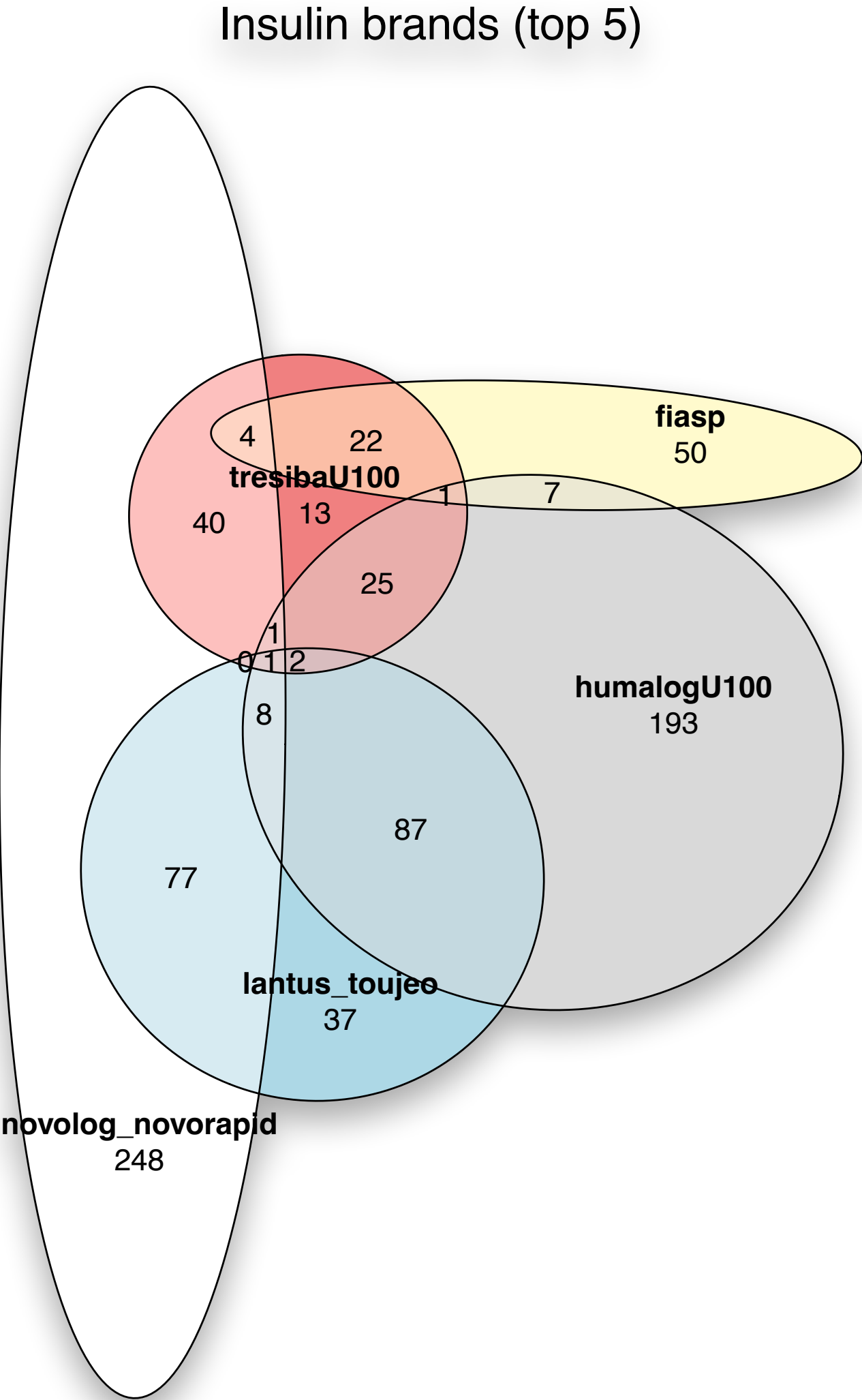
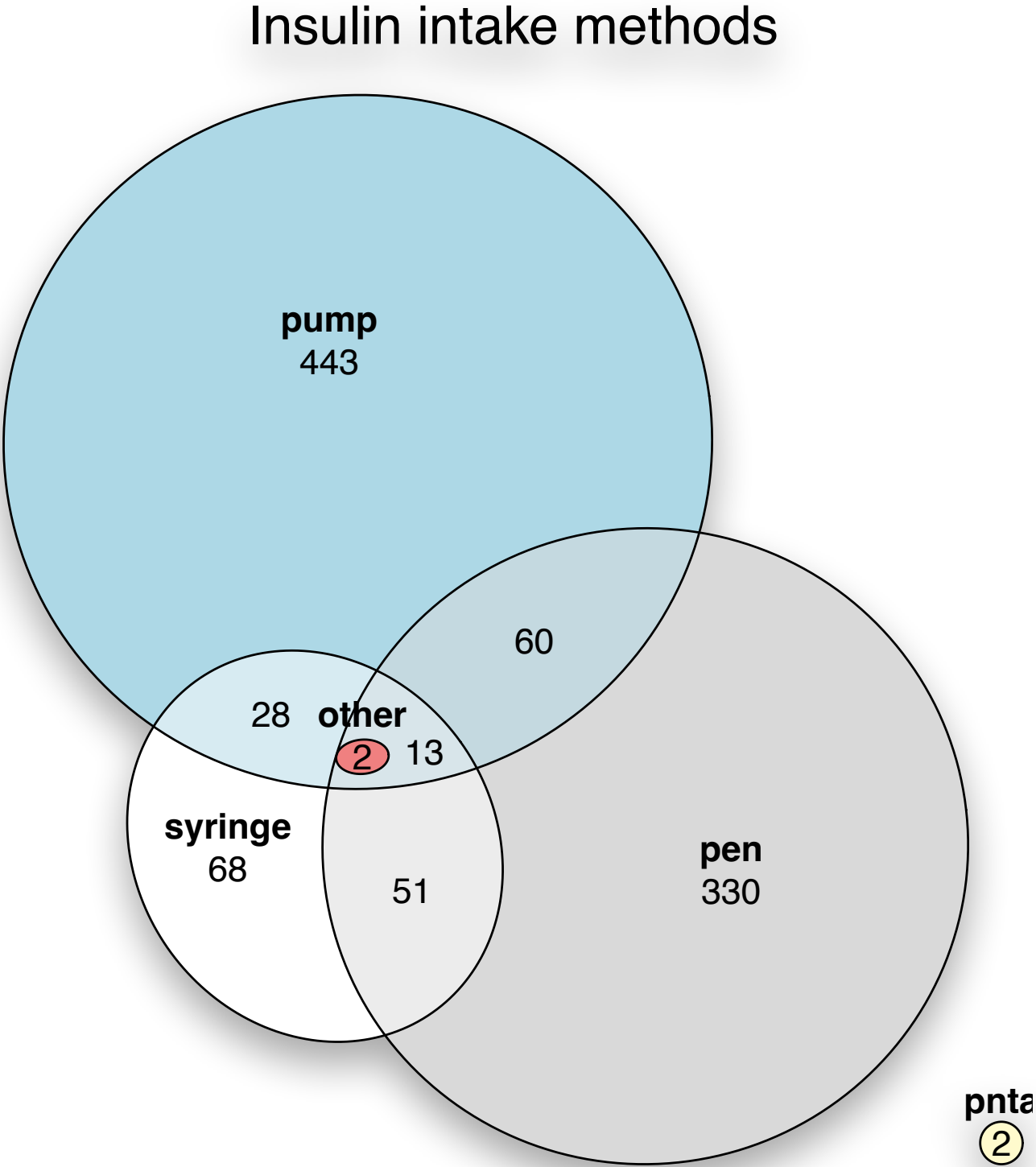
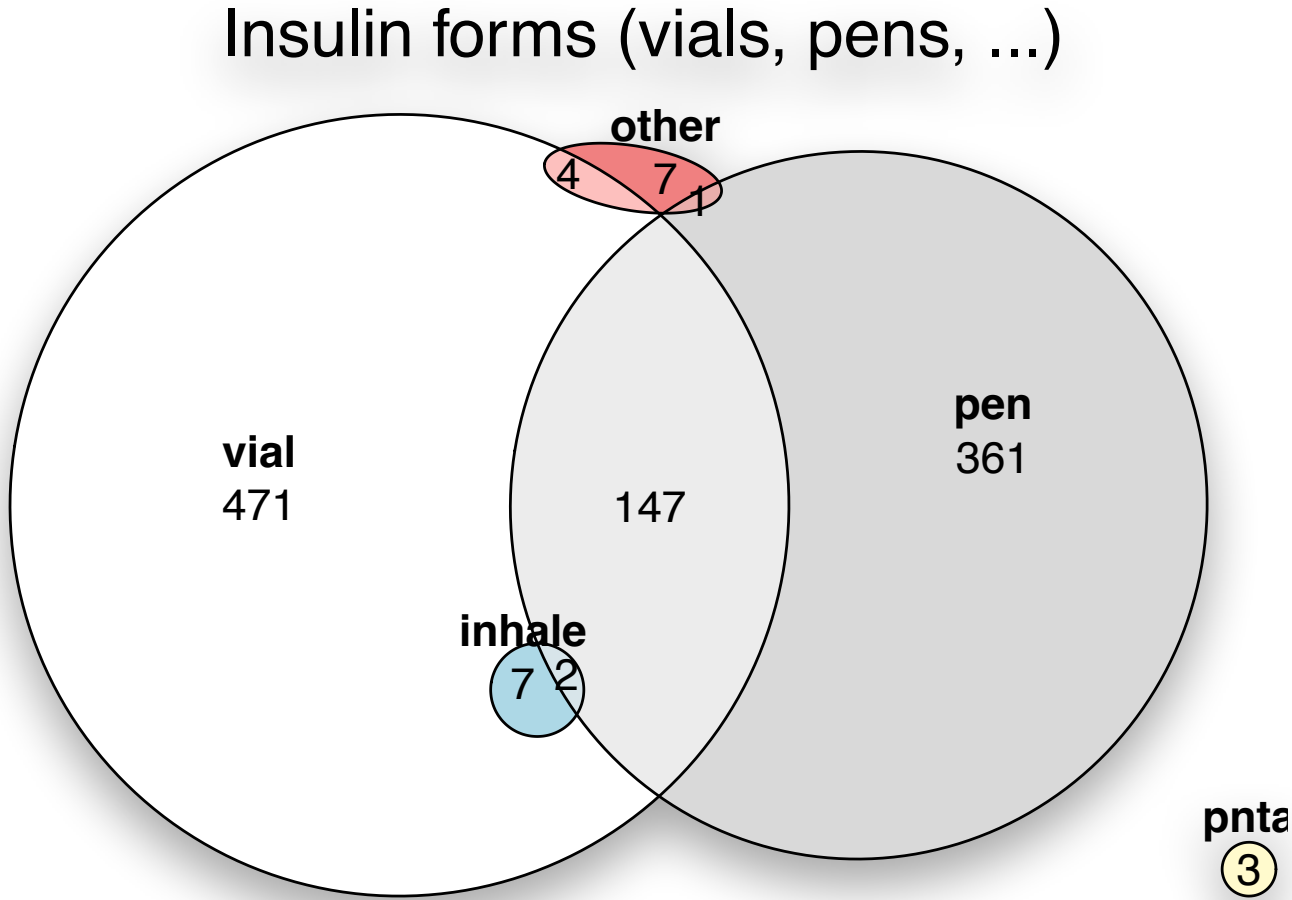


Pay for OoPEs



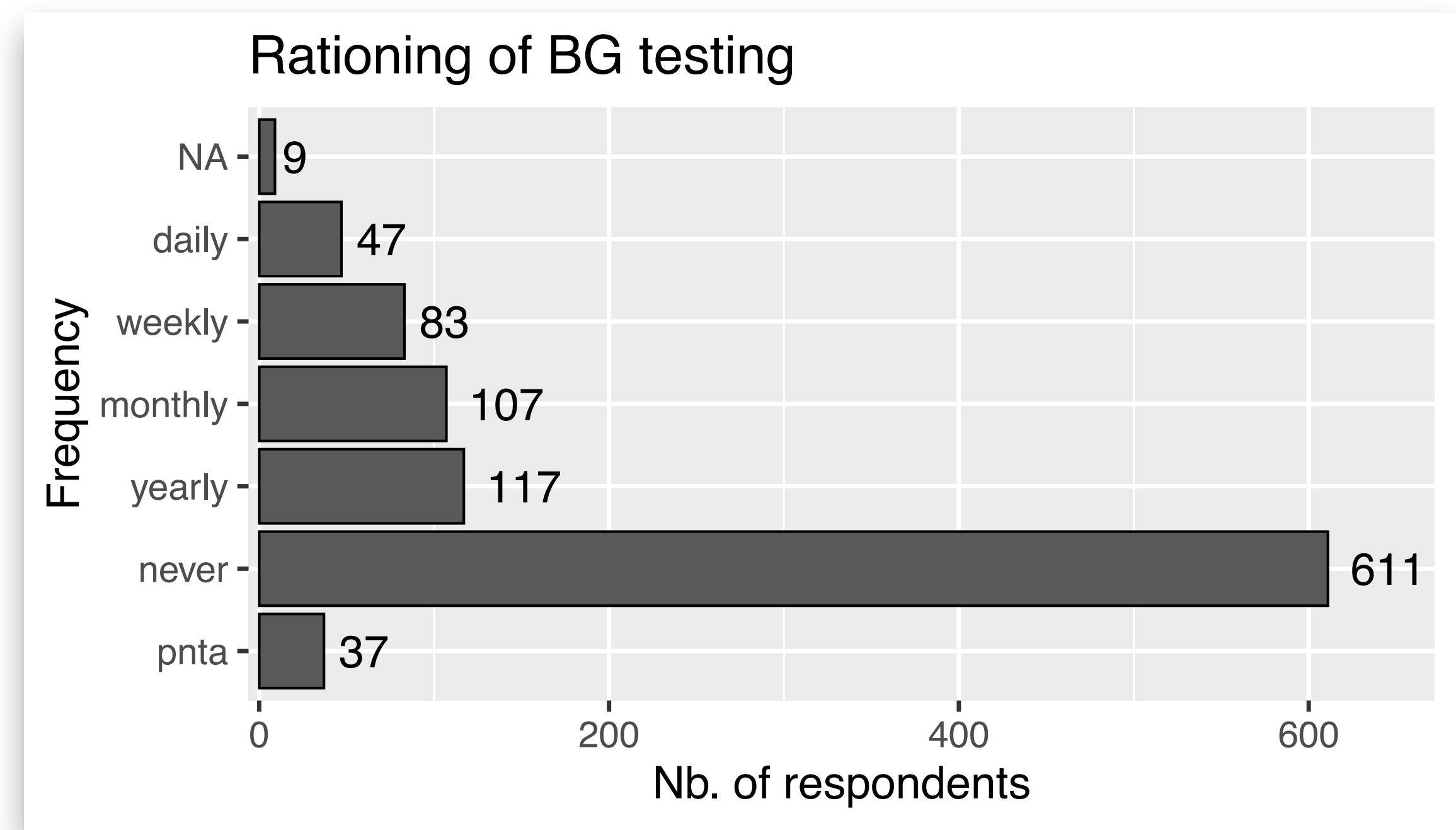
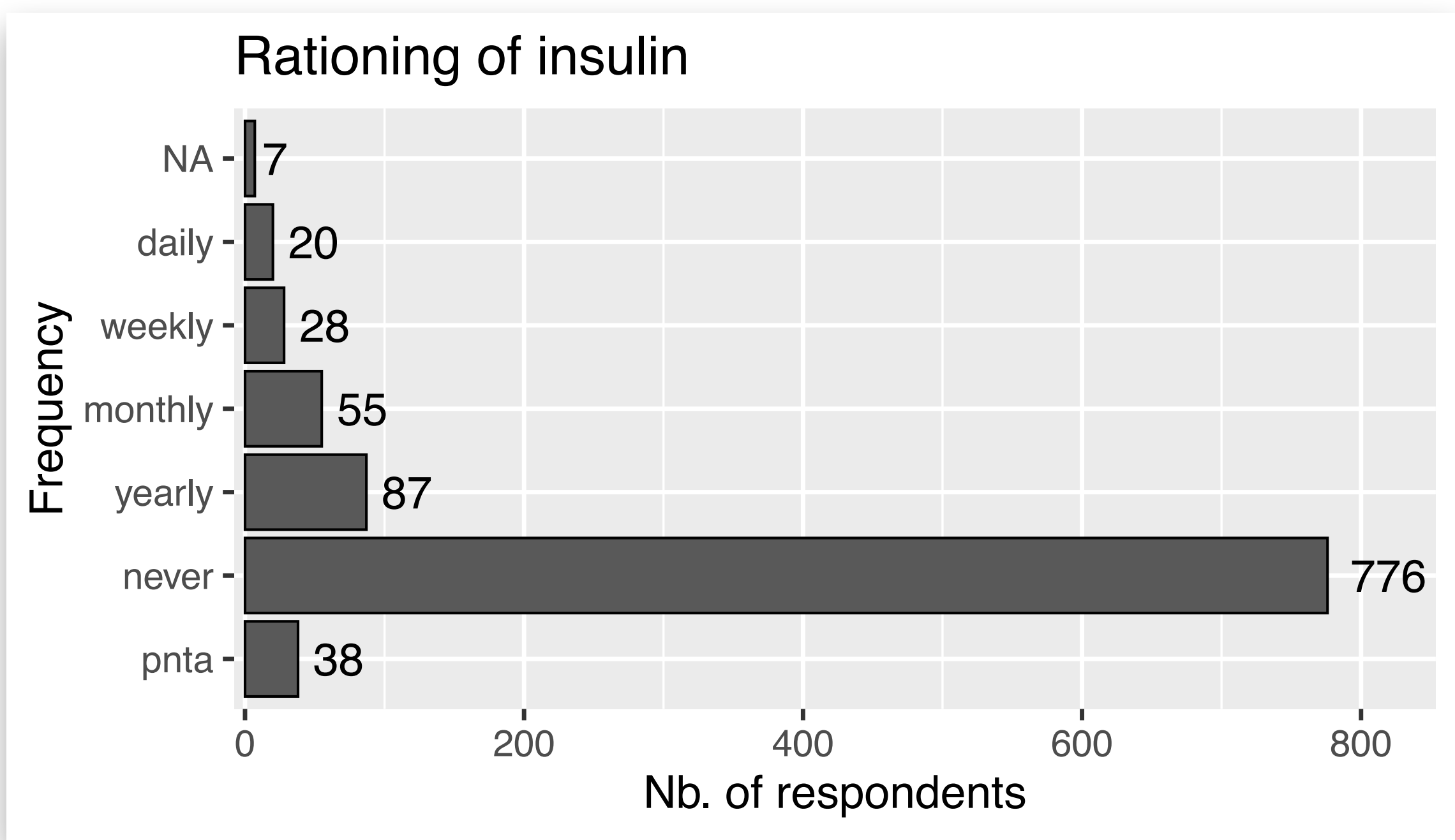
Silo analyses

Insulin



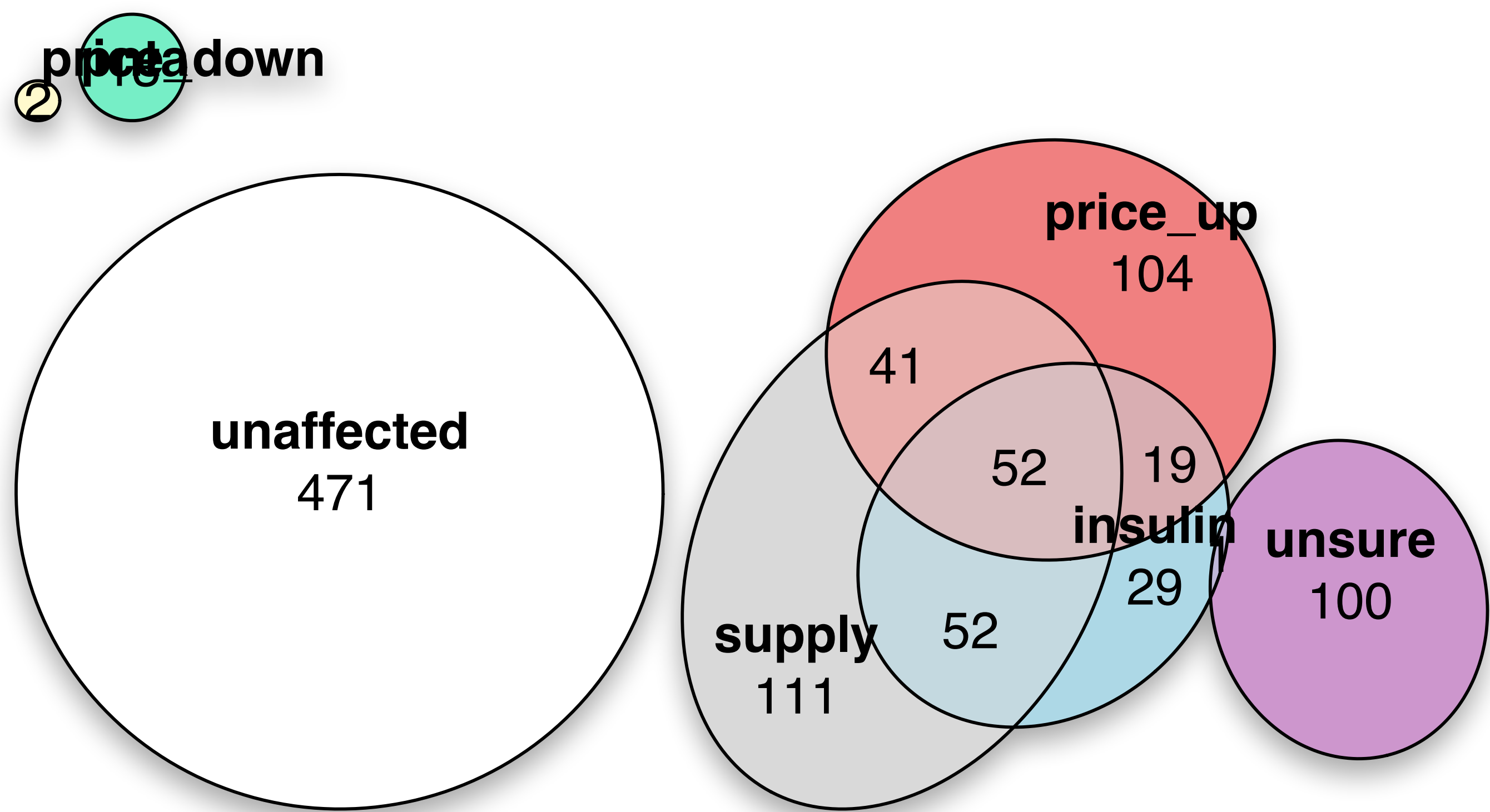
Silo analyses

Rationing



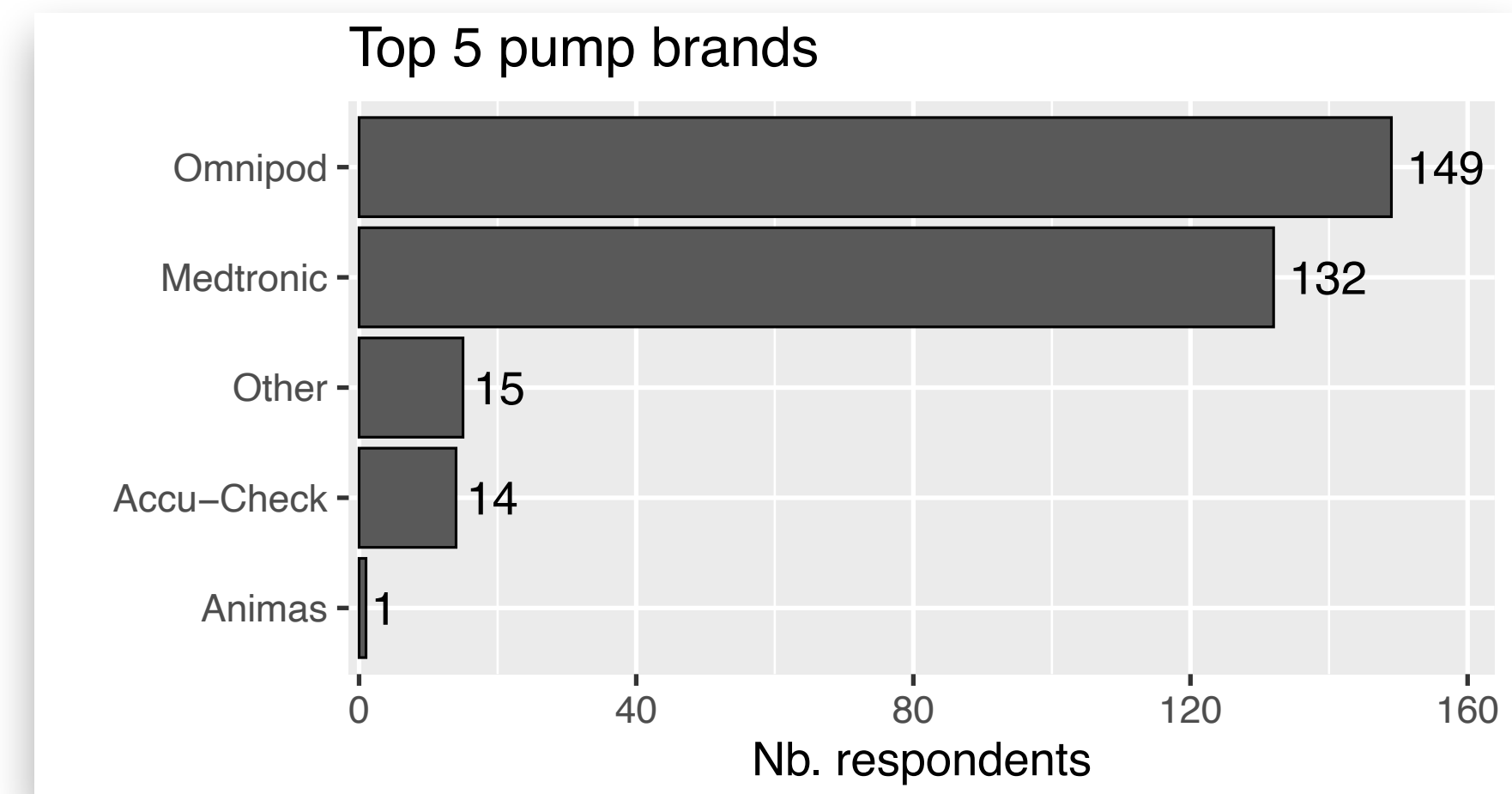
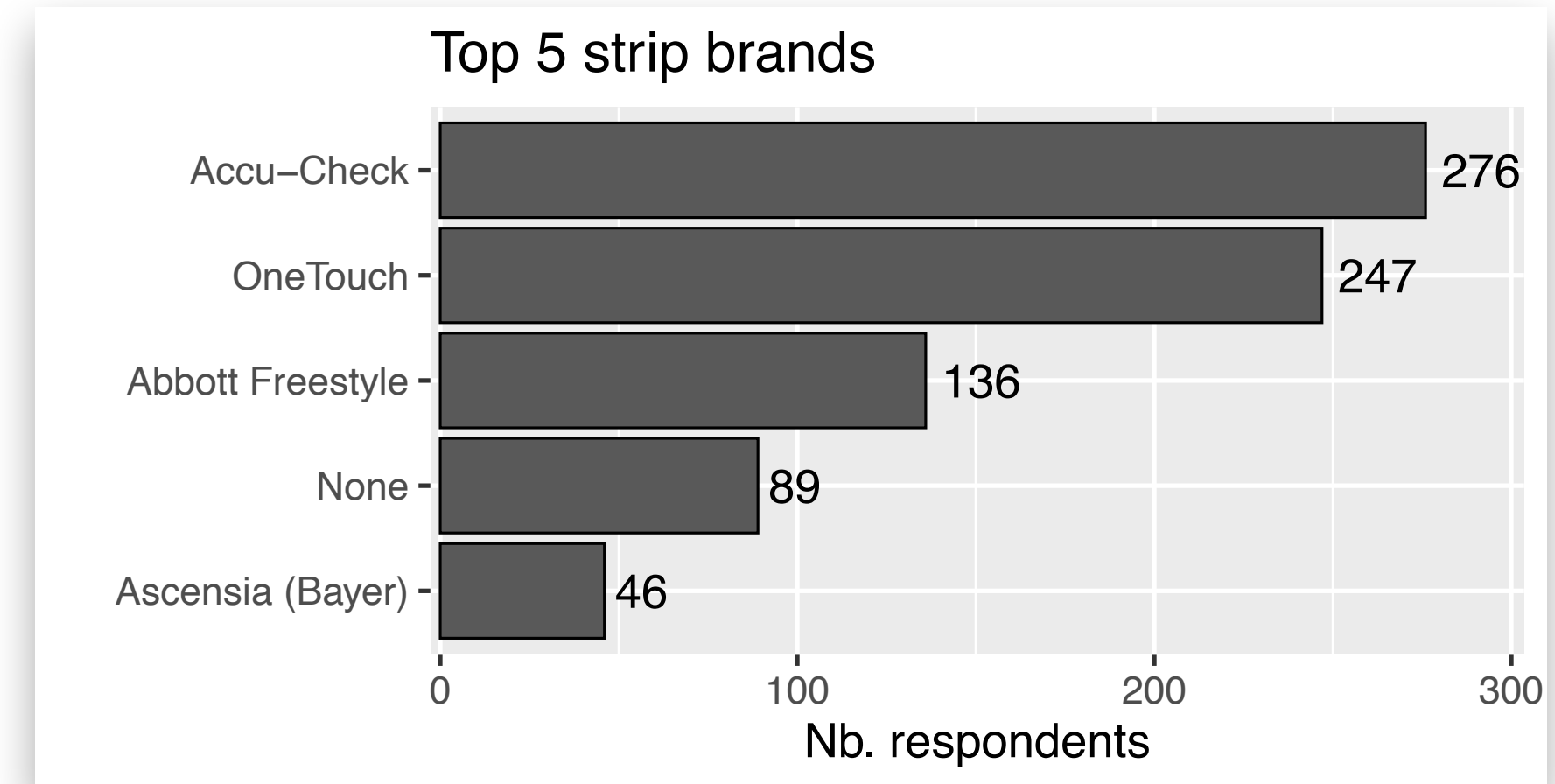
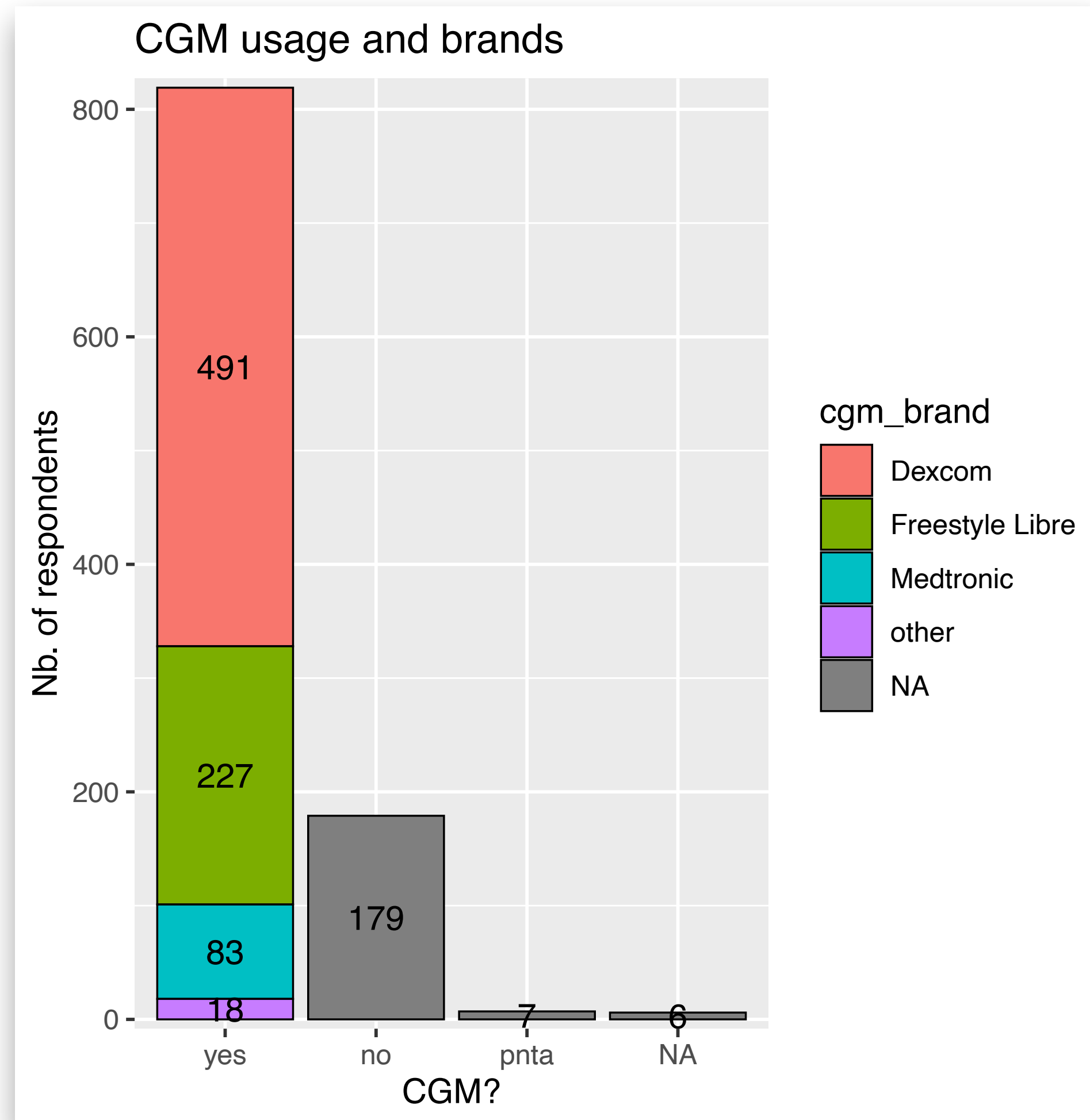
Silo analyses

COVID-19 impact



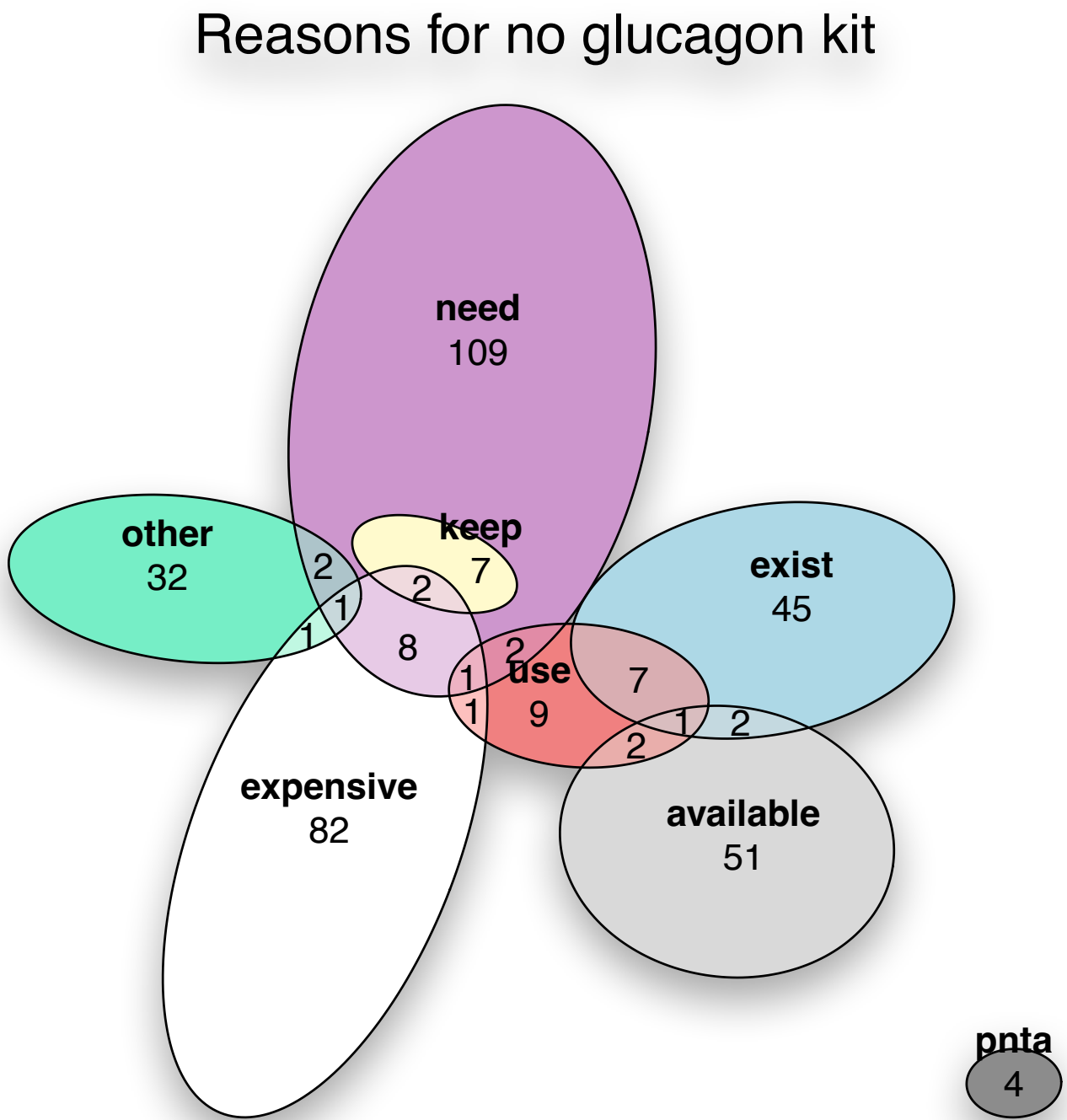
Silo analyses

CGM, test strip, and pumps



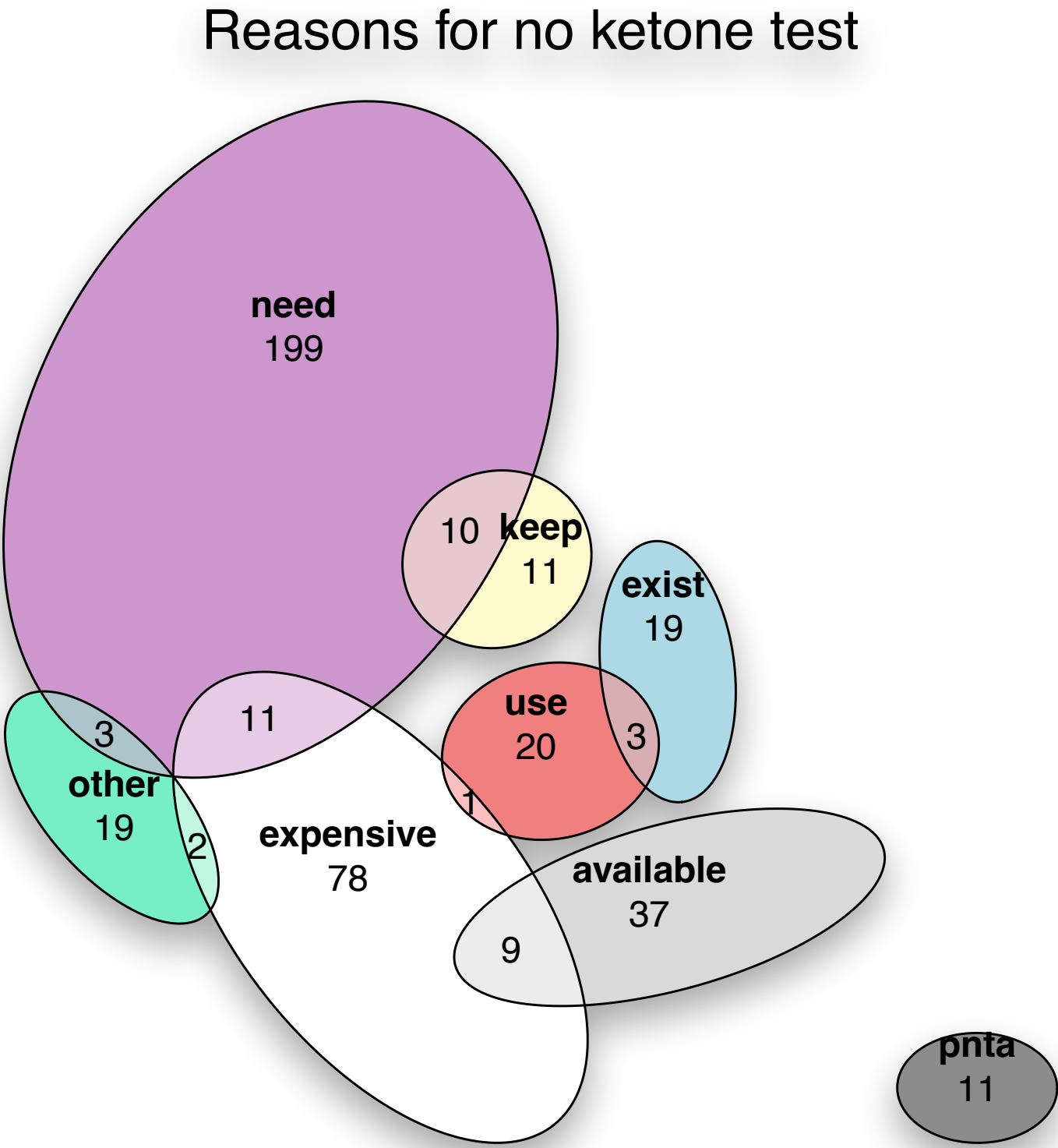
Silo analyses

Glucagon kit



Silo analyses

Ketone kit



Silo analyses

Cost distributions

