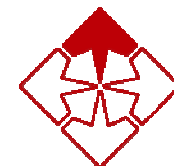ADDICTION RESEARCH DEVELOPMENT IN GEORGIA PROJECT

The Randomized Response Technique (RRT) application to the National Survey on Substance Use in General Population in Georgia 2015

Irma Kirtadze, MD; PhD(c)

Addiction Research Center Alternative Georgia

Objectives

- Prevalence of use of tobacco, alcohol and other psychoactive substances in the general population and various subgroups

- Gambling and its consequences

- Attitudes towards substance use and legislative measures

Study population

Target population:

- Any gender
- 18-64 years old at the moment of the interview
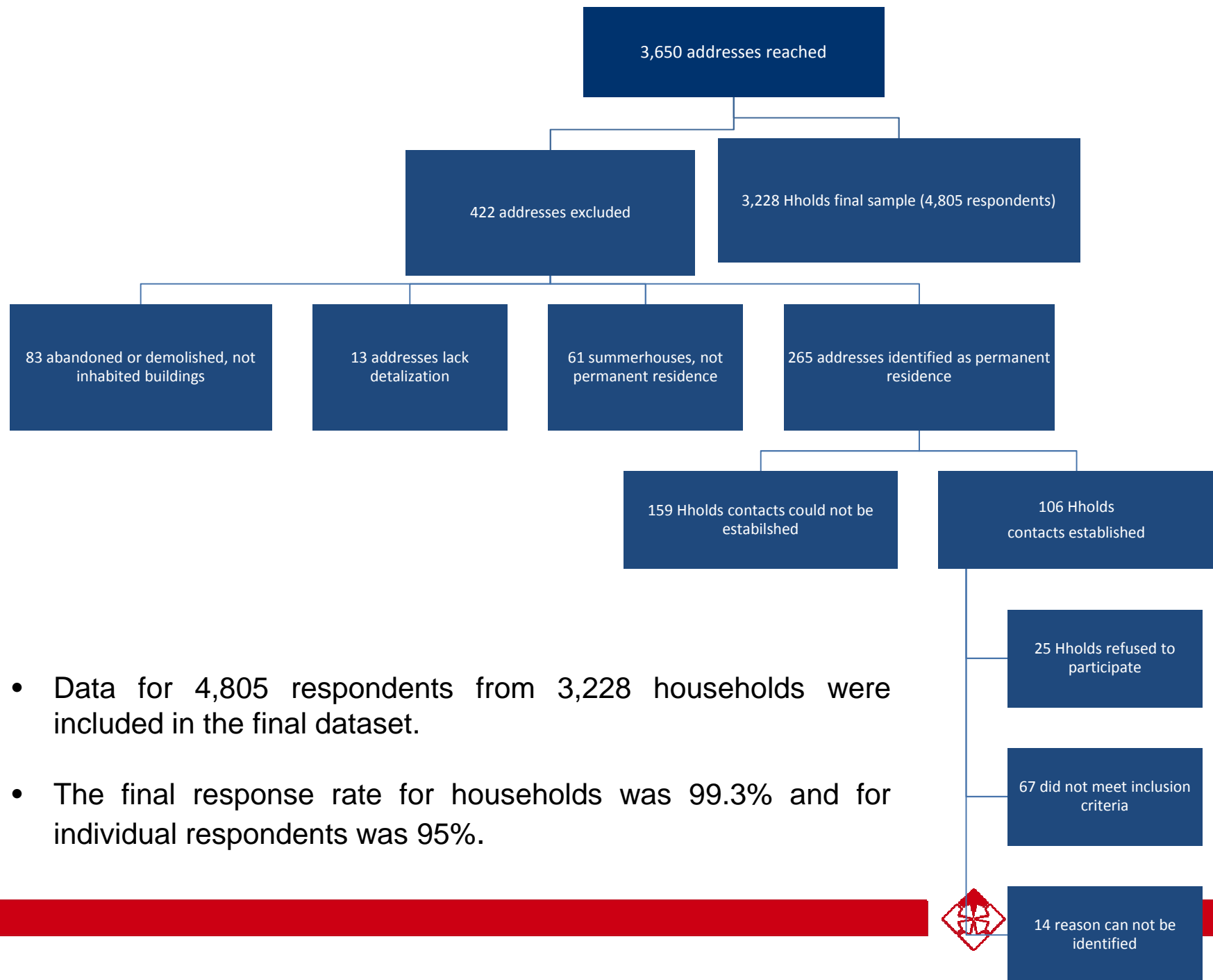- Georgian citizen
- Ability to read and write in Georgian

Exclusion criteria:

- Under 18 and above 64 years old'
- Individuals residing in territories occupied by Russia (Abkhazia and Samachablo)
- Lessee/temporary resident, who were not the members of the selected household
- Individuals, who already took part in the survey
- Presence of mental, physical or any other kind of disability, that interfered with ability to participate in the survey independently and fully
- Institutionalized individuals (elderly homes, hospitals, penitentiary institutions);

Survey Instrument

- General physical and mental health (12 questions)
- Alcohol Use (3 questions)
- AUDIT (10 questions)
- Tobacco use, including e-cigarettes (6 questions)
- Use of psychotropic substances without doctor's prescription (7 questions);
- Cannabis (marijuana/hashish) use (8 questions)
- Use of NPS (8 questions)
- Other illegal substances (7 questions about 12 substances): inhalants, ecstasy, LSD, cocaine, meth/amphetamine, homemade stimulants (Vint, Jeff), heroine, opium, other opiates, buprenorphine, methadone and hillarine (non existing drug)
- Gambling and gaming (9 questions)
- HIV testing; treatment experience (alcohol and other substances) (8 questions)
- Attitudes towards marijuana, injecting drug users and drug policy (6 questions)
- Demographic data (9 questions)
- **RRT (6 pairs of questions)**

```
                         ┌─────────────────────────────────┐
                         │      3,650 addresses reached     │
                         └─────────────────────────────────┘
                             │
              ┌──────────────┴──────────────────┐
┌──────────────────────────┐          ┌──────────────────────────────────────────┐
│  422 addresses excluded   │          │ 3,228 Hholds final sample (4,805 respondents) │
└──────────────────────────┘          └──────────────────────────────────────────┘
```

| 83 abandoned or demolished, not inhabited buildings | 13 addresses lack detalization | 61 summerhouses, not permanent residence | 265 addresses identified as permanent residence |

| 159 Hholds contacts could not be establshed | 106 Hholds contacts established |

25 Hholds refused to participate

67 did not meet inclusion criteria

14 reason can not be identified

- Data for 4,805 respondents from 3,228 households were included in the final dataset.

- The final response rate for households was 99.3% and for individual respondents was 95%.

Randomized Response Technique

- Proposed as a survey technique to reduce potential bias due to nonresponse and social desirability when asking questions about sensitive behaviors and beliefs (Warner, 1965)

- Use of randomization device (outcome unobserved by the interviewer) conceals individual responses and protects respondent privacy

Basic RRT designs with known probability

- <u>Mirrored Question Design</u> *(randomize whether or not a respondent answers the sensitive item or its inverse)*

- <u>Forced Response Design</u> *(randomization determines whether a respondent truthfully answers the sensitive question or simply replies with a forced answer, "yes" or "no")*

- <u>Disguised Response Design</u> *(modification of Forced Response Design)*

- <u>Unrelated Question Design</u> *(randomization determines whether a respondent should answer a sensitive question or an unrelated, nonsensitive question)*

ALTƎRNATIVE GEORGIA

Randomized Response Technique in Georgian GPS

- We used RRT as an additional tool to validate data collected with standard questionnaire

- Was used in a GPS and on such a big sample for the first time globally

Critical assumption:

(1) the randomization distribution is known and is accurate

(2) respondents comply with the instructions and answer the sensitive question truthfully

Answer if HEAD	Answer if TAIL
RRT1. Have you ever taken hashish or marihuana yourself?	Have you completed University?
	1☐ Yes 2☐ No
RRT3. Have you ever taken new synthetic drugs yourself?	Where are you insured by state health care universal insurance last year?
	1☐ Yes 2☐ No
RRT4. Have you ever taken home-made stimulants yourself?	Are you employed?
	1☐ Yes 2☐ No
RRT5. Have you ever taken heroin yourself?	Are you smoker?
	1☐ Yes 2☐ No
RRT6. Have you ever taken Subutex yourself?	Did you get new ID card last year?
	1☐ Yes 2☐ No
RRT7. Have you ever taken Krakadil yourself?	Did you get new passport last year?
	1☐ Yes 2☐ No

RRT application to cannabis use

- RRT1: Have you ever used hashish or marijuana?

- 4,758 responses (47 missing), 1,806 "yes"

- Our estimate: 4,758 /2 = 2,379 answered question about education

- 46% of this answers belongs to the question about education (2,379*46% = 1,094)

- After calculation, we have 712 "yes" answers to marijuana consumption (1,806 - 1,094 = <u>712</u>)

    712 / 2,379 = <u>29.9%</u>

- RRT result: lifetime prevalence of marijuana use is around 30%, which is <u>almost twice as much </u>compared to the results gathered with the standard questionnaire – <u>15.9%</u>

RRT Results

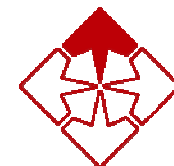| Substance	Standard Questionnaire %	RRT %
Marijuana (LTP)	15.9	29.9
Heroine (LTP)	0.7	9
Homemade Stimulants (LTP)	0.5	2
Buprenorphine (LTP)	0.9	3
NPS (LTP)	1.5	7.3

ALTƎRNATIVE GEORGIA

Conclusions

- Without exception, the GPS+RRT approach produced estimates that were larger than corresponding estimates from the standard GPS approach, or produced estimates when the standard GPS approach did not yield a useable estimate other than a working approximation.

- We suggest that the RRT approach to the GPS context should be refined and improved upon, and might become a useful adjunct to the now-standard GPS methods

Thank you!

irma@altgeorgia.ge

www.altgeorgia.ge