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MICS PLUS as a Longitudinal Data Collection Tool

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Data Collection Webinar Series
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MICS Plus is the new initiative of the MICS programme, to support countries in implementing longitudinal, representative household surveys with interviews conducted over the phone

To collect data on the situation of children, families, and households on a frequent basis, and with near real-time reporting

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Call center, data management system

Household sample frame

Any representative household frame, including a register, or a completed household survey such as MICS

Representative (sub)sample

Representative (sub)sample selected from the frame

Waves of direct calls and data entry

Direct calls to households, CATI data entry, data transferred to the cloud, captured by the data management system

Analysis & reporting

Data exported to SPSS, analyzed, tabulated, Results presented as a statistical snapshot or through a dashboard

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Any representative household frame, including a register,
or a completed household survey such as MICS

with at least one telephone number can
be used as the sample frame

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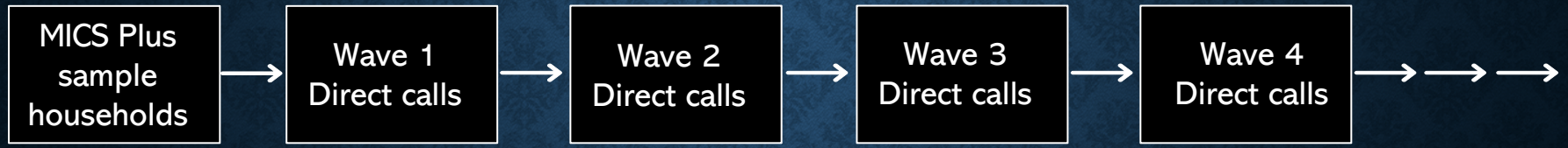
Any household frame, including a register, or a completed household survey such as MICS can be used

Regular (monthly, bi-monthly etc) calls to the same households, over a period of one year



MICS Plus can be used

- To generate longitudinal data
- To collect specific program indicators
- For opinion polling
- For crisis monitoring
- *For question testing*

MICS Plus does not use MICS questionnaires, but benefits from the validated and tested modules on MICS, as needed

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1. Expert Consultation, October 2018
2. Pilot test in Belize (11 waves)
   Toledo & Belize City South Side
3. Implementation in Mongolia and Georgia

Targeting the same household member in every wave increases attrition rates

More time consuming, more sophisticated than anticipated

Good planning of resources necessary

Can shorten MICS modules and apply in MICS Plus

Needs to start soon after consent and updating of telephone numbers

Household sample frame

Representative (sub)sample

	Georgia	Mongolia
Sample frame	MICS 2018	Population and Household Registration Database (PHRD)
Phone coverage	95 percent	95 percent
Desired and selected sample size	Desired 2000, Selected 2118	Desired 2000, Selected 2200
Stratification	Based on MICS 2018	Urban/rural in 4 regions + Ulaanbaatar
Estimation domains for the majority of indicators	National, urban and rural areas	National, urban and rural areas, and regions
Sample selection	Random selection of 3 households from each of the 706 MICS 2018 clusters	Systematic random selection in each stratum – no clustering effect, sample households widespread across the country
Waves completed (so far)	2	4
Response rates	87 percent	91 – 97 percent

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Testing sample frame options in Mongolia

Household sample frame

- 200 households from 2018 Mongolia MICS
- 200 households from the PHRD

62 percent interviewed

2018 frame

VS

67 percent interviewed

2020 frame

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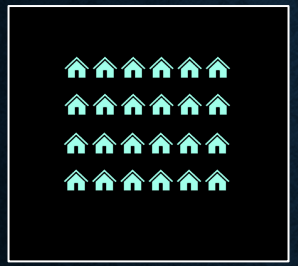
COVERAGE AND NON-RESPONSE

Representative Sample



There are several possible sources for non-coverage and non-response especially in surveys conducted by phone

- Households without phone numbers – distribute phones?
- Non-valid phone numbers
- Non-answering phone numbers
- Switched off phones
- Households and/or persons moved to another address
- Refusals

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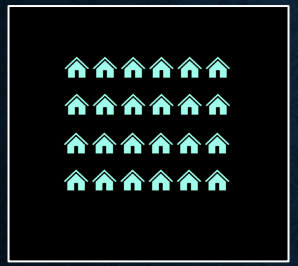
ADDRESSING NON-COVERAGE & NON-RESPONSE IN (PHONE) SURVEYS

Representative Sample



- Post-data collection
  - Classical Non-Response adjustment
  - Propensity score weighting (PSW)
- Simple substitution procedures such as “very next case” substitutes, cases drawn by “hot/cold deck” approaches or haphazard procedures
- We use “model-based substitution”…

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Household sample frame

Representative (sub)sample

Model based substitution

	Georgia	Mongolia
Substitution approach	Model-based, conditional substitution	Model-based, conditional substitution
Method	Euclidean distance analysis	Euclidean distance analysis
Processing	“Nearest neighbor” (SPSS)	“Nearest neighbor” (SPSS)
Number of indicators	20	16
Households replaced	731	344
Percentage replaced	36	16

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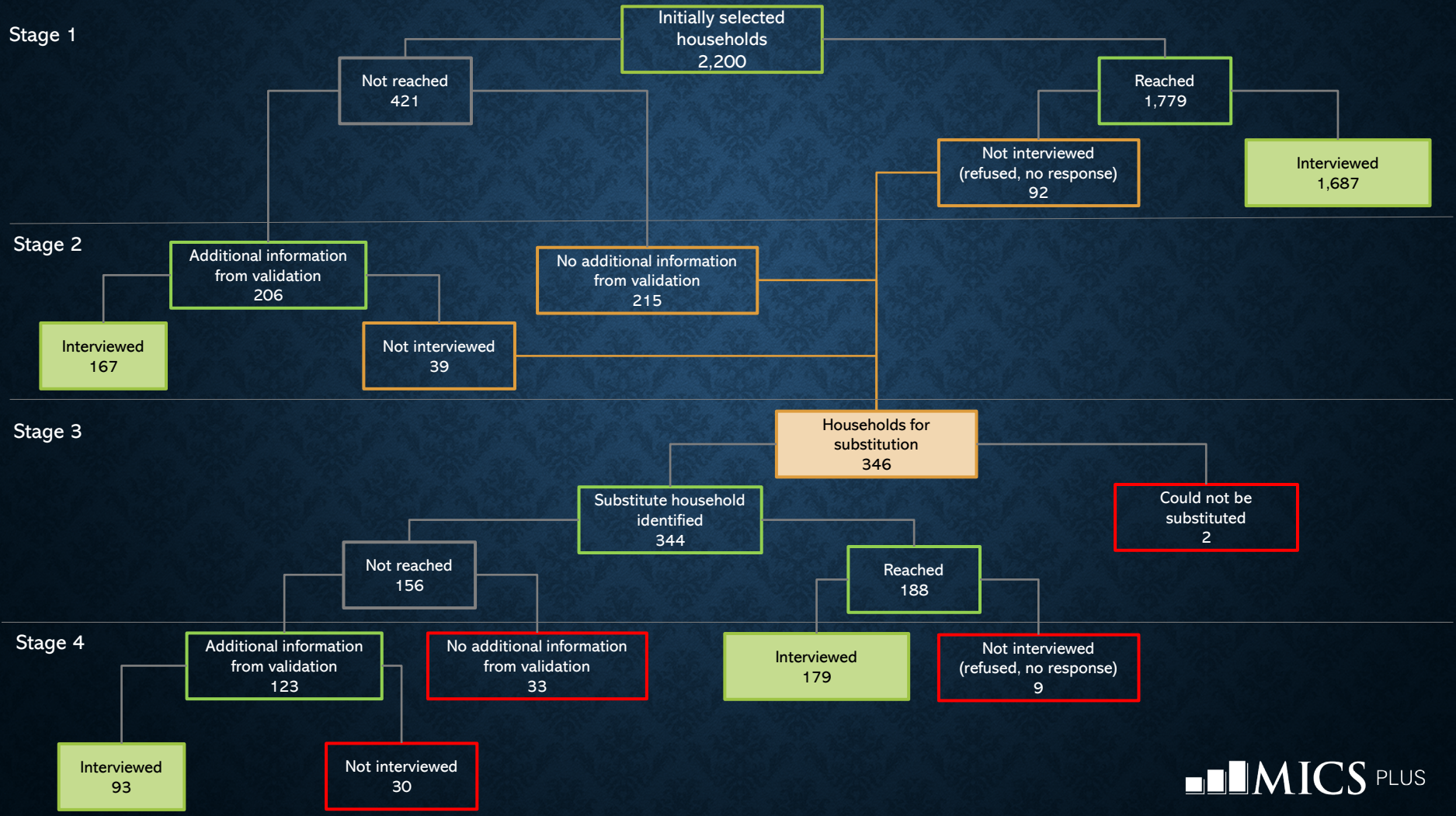
Stage 1
Initially selected households 2,200
Not reached 421
Reached 1,779
Not interviewed (refused, no response) 92
Interviewed 1,687
Stage 2
Additional information from validation 206
No additional information from validation 215
Interviewed 167
Not interviewed 39
Stage 3
Households for substitution 346
Substitute household identified 344
Could not be substituted 2
Not reached 156
Reached 188
Stage 4
Additional information from validation 123
No additional information from validation 33
Interviewed 179
Not interviewed (refused, no response) 9
Interviewed 93
Not interviewed 30
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INDICATORS OF SAMPLE IMPLEMENTATION

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MICS PLUS DATA COLLECTION

Wave	Mongolia	Georgia
	Data collection	
1	18 September – 25 October 2020*	24 November – 21 December 2020*
2	1 – 14 December 2020	19 March – 1 April 2021
3	15 February – 1 March 2021	June 2021
4	13 – 24 April 2021	
5	June 2021	

** Includes all stages of the first wave and substitution*

RESPONSE RATES

MONGOLIA

GEORGIA

**Preliminary results for Wave 2 in Georgia and Wave 4 in Mongolia*

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MONGOLIA: RESULT CODES

Result Codes	1st Wave				2nd Wave		3rd wave		4th wave	
	Before Substitution		After Substitution							
	N	%	N	%	n	%	n	%	n	%
Completed	1854	84	2126	97	1987	92	1956	91	1960	91
Refusal	90	4	17	1	40	2	47	2	53	2
No eligible respondent	0	0	2	0	1	0	1	0	0	0
Respondent does not live in the registered address	24	1	8	0	0	0	0	0	0	0
Telephone number is not active	9	0	1	0	3	0	6	0	4	0
Respondent busy / not available – rescheduled	14	1	3	0	16	1	26	1	22	1
No answer / phone turned off	85	4	22	1	107	5	118	5	102	5
No any phone number(s) available	27	1	6	0	0	0	0	0	0	0
Currently vacant	95	4	15	1	0	0	0	0	0	0
Other	2	0	0	0	0	0	0	0	13	1
Total	**2200**	**100**	**2200**	**100**	**2154**	**100**	**2154**	**100**	**2154**	**100**

Some "incomplete" households in the 1st wave re-called in the 2nd wave

Main elements of non-response:

- No answer / phone turned off
- Respondents busy / not available

**Preliminary results for Wave 4*

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GEORGIA: RESULT CODES

Result Codes	1st Wave				2nd Wave	
	Before Substitution		After Substitution			
	N	%	N	%	n	%
Interviewed	1384	65	1836	87	1739	87
Refused	104	5	29	1	74	4
No eligible respondent	5	0	1	0	3	0
Phone number does not belong to the household in 2018 MICS	85	4	33	2	20	1
Phone number inactive	187	9	65	3	113	6
Respondent busy after repeated call attempts	0	0	0	0	6	0
No response after repeated call attempts	204	10	93	4	39	2
No phone number available	145	7	60	3	0	0
Other	4	0	1	0	2	0
Total	**2118**	**100**	**2118**	**100**	**1996**	**100**

Some "incomplete" households in the 1st wave re-called in the 2nd wave

Main elements of non-response:
- No response after repeated call attempts
- Inactive phone numbers

**Preliminary results for Wave 2*

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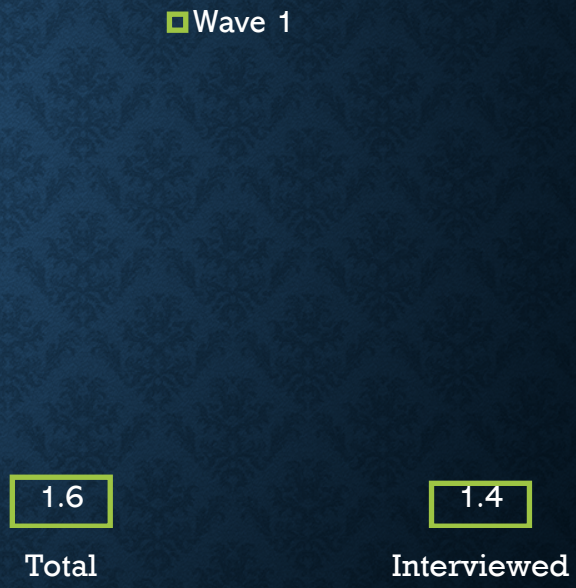
AVERAGE NUMBER OF CALLS

MONGOLIA

GEORGIA



*Preliminary results for Wave 4 in Mongolia

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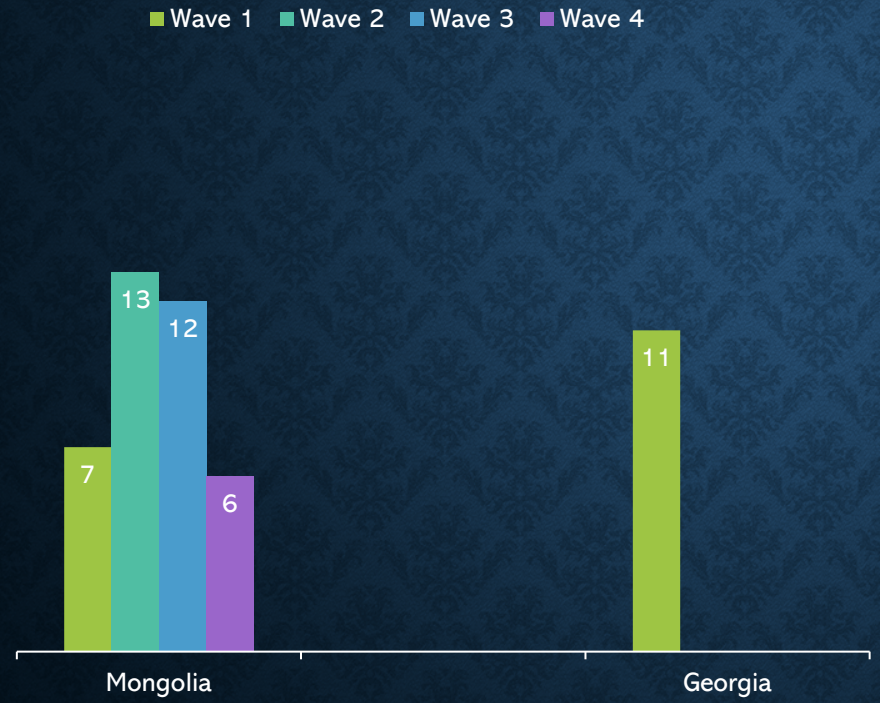
MEDIAN DURATION OF INTERVIEWS (MINUTES)



The median duration of the interviews will primary depend on:

- Number of modules/questionnaires
- Number of household members, especially when modules/questions for selected household members and/or children are part of the questionnaire

*Preliminary results for Wave 4 in Mongolia

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DIGITAL DATA COLLECTION AND ANALYSIS SYSTEM

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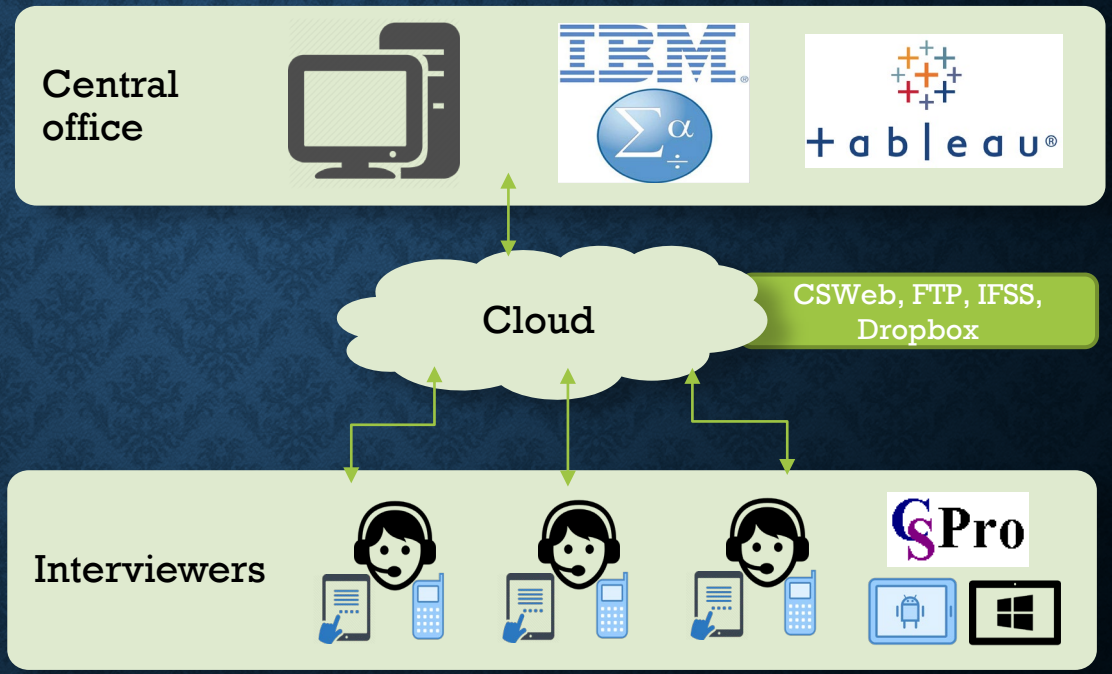
Two subsystems:

Central office for centralized data processing

- Efficient project administration
- Real time data monitoring
- Advance data quality check and reporting tools

Interviewers for data collection

- Default household assignments
- Remote voice interviews / calls
- Data capture
- Synchronization with the central office via cloud service



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QUESTIONNAIRES

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QUESTIONNAIRES

Mongolia

Wave 1	Wave 2	Wave 3	Wave 4
Household characteristics	*Household characteristics**	*Household characteristics**	*Household characteristics**
	*Water and sanitation**	*Water and sanitation**	*Water and sanitation**
	*Energy use**	*Energy use**	*Energy use**
COVID-19	COVID-19	COVID-19	COVID-19 (includes vaccination)
Distance learning		Distance learning/ Education	
		Child discipline	
	Child money programme		
	Nutrition, Food Insecurity		
		Child labour	
		Employment	
			Health services
			Child wellbeing and health

Georgia

Wave 1	Wave 2
Household characteristics	*Household characteristics**
	*Water and sanitation**
	*Energy use**
COVID-19	COVID-19
Distance learning	Distance learning
	Child discipline

** Only for households not asked in previous waves*

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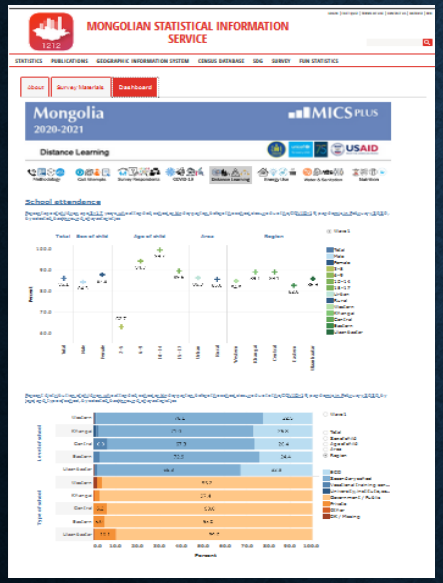
DISSEMINATION

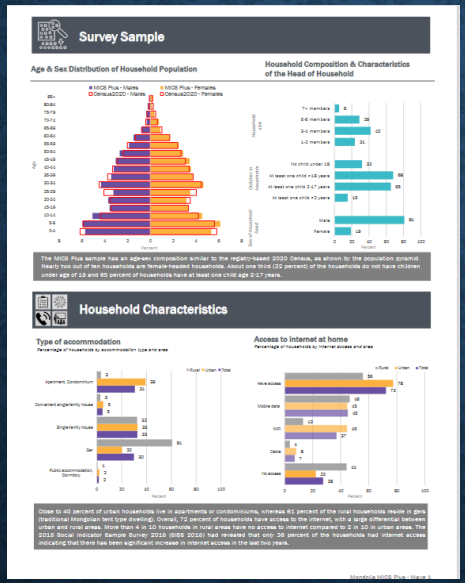
Dashboards



[Mongolia]

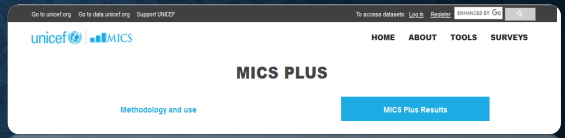
[Georgia]

Snapshots



[Mongolia]

- Further resources including the interactive dashboard are available on:
- MICS website
- https://mics.unicef.org/mics-plus



- National Statistical Offices websites

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ADVANTAGES AND LIMITATIONS

Advantages

- Longitudinal data – seasonality etc.
- Representative at national level and, for the majority of indicators for urban/rural areas
- Flexibility in topics
- Low cost
- Real-time results
- Emergency monitoring, polling, non-MICS topics

Limitations

- Respondent bias - “knowledgeable adult household member”
- Tests and observations cannot be covered (measurements, biomarkers, violence, salt testing, etc.)
- Limited time for interview
- Low phone coverage
- Coverage of the most vulnerable
- Ethics – not all questions can be asked

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DEVILS AND DETAILS

1. Telephone numbers
   - Quality of information on phone numbers from the frame
   - Frequent changes in phone numbers

2. Moving households
   - Sample weights?
   - Do we assign the original domain or te new one?

3. Dissolving/splitting households
   - Who do we follow?
   - What does “splitting” mean, exactly?

4. Ethics of collecting/confirming phone numbers
   - Collecting only respondents private or communal number
   - Impact on response rates

5. Duration of interview
   - Net or overall duration of the call?
   - Interrupted interviews

6. Time to think, amount of data, longitudinal or multiple, cross-sectional rapid surveys?
   - Topics – longitudinal data
   - Human recourses
   - Time necessary for each activity

HOW DO RESULTS COMPARE?

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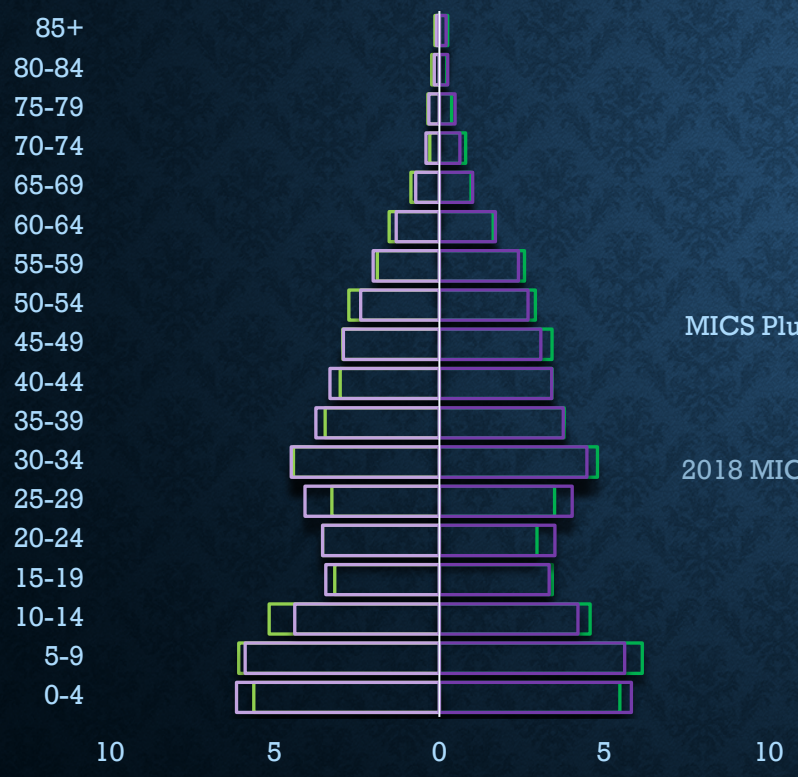
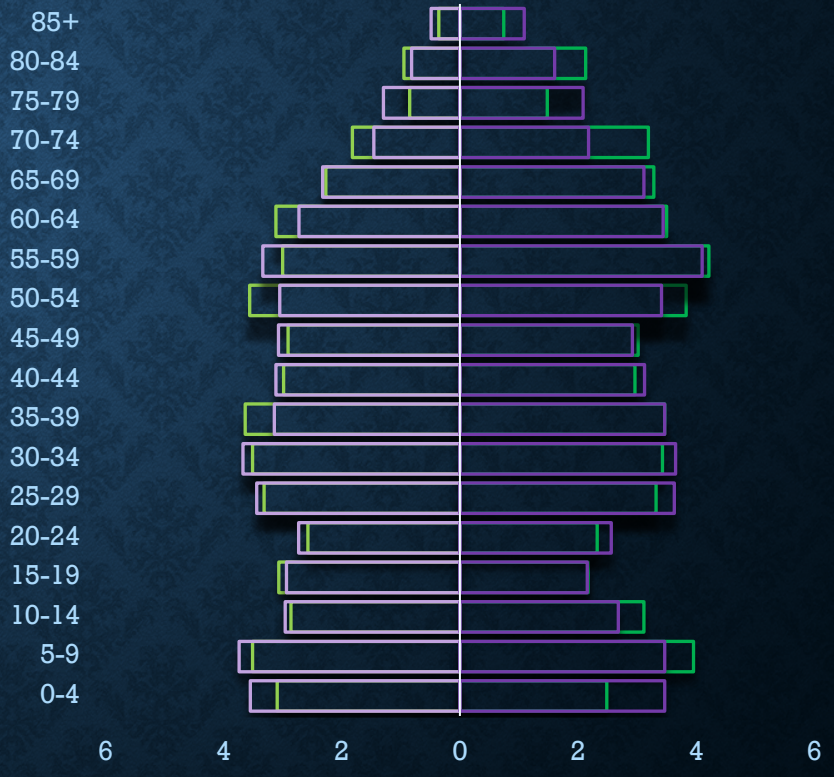
MONGOLIA: MICS PLUS VS 2018 MICS



GEORGIA: MICS PLUS VS 2018 MICS



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MONGOLIA: HOUSEHOLD AND PERSONAL ASSETS

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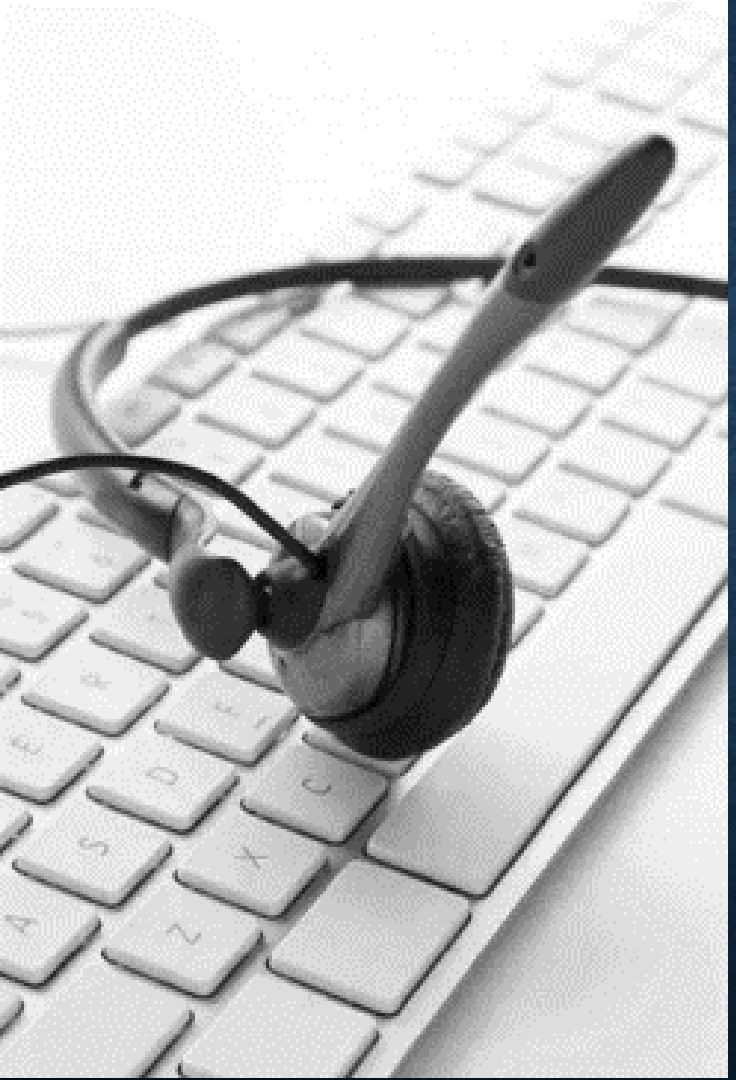

SOME FINDINGS MONGOLIA

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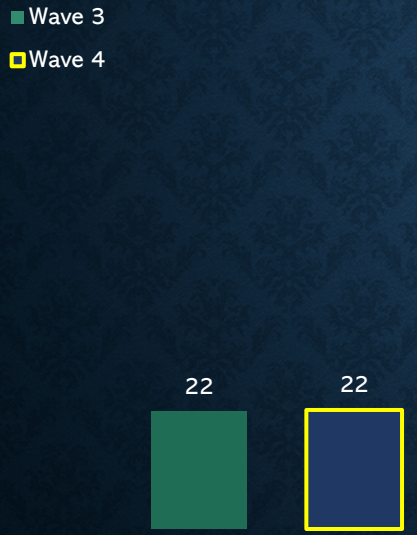
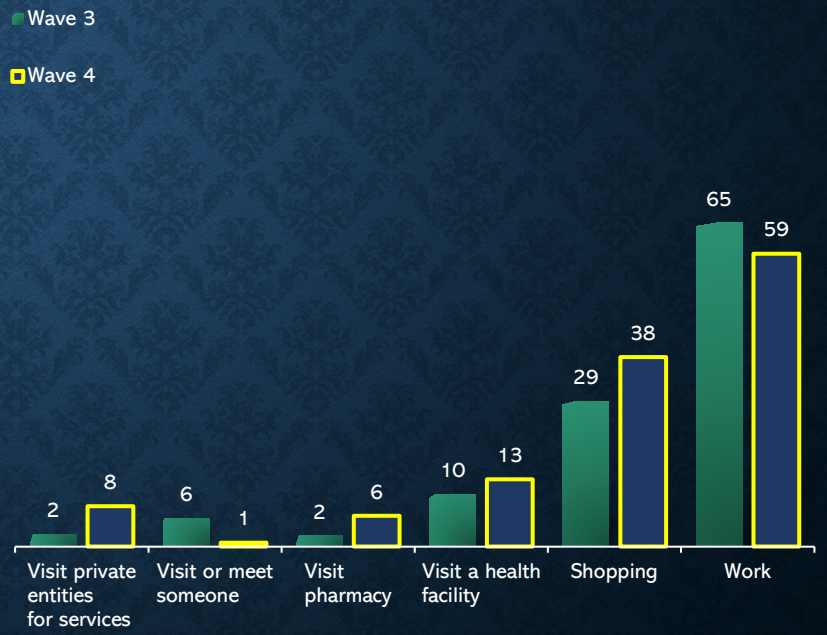
COVID-19 SELF-PROTECTION MEASURES: AVOIDING PUBLIC SPACES

Percentage of respondents by whether they were able to avoid public spaces during the last week, Wave 3 and 4



Percentage of respondents who were rarely or never able to avoid public places in the last week by top five reasons for going to public spaces, Wave 3 and 4



*Multiple answer categories where allowed for question about reasons for going to public spaces

*Preliminary results Wave 4

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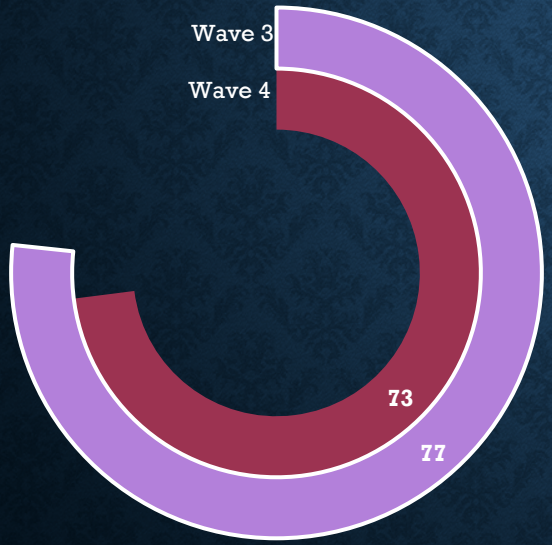
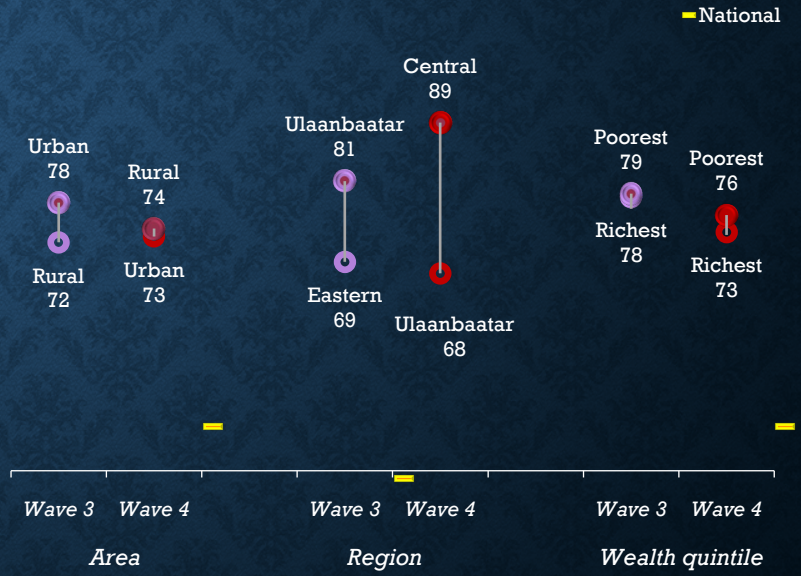
COVID-19 SELF-PROTECTION MEASURES: KEEPING DISTANCE WHEN IN PUBLIC SPACES

Percentages of respondents who were not always able to avoid public spaces in the last week and always or very often manage to keep distance, Wave 3 and 4



Percentages of respondents who were not always able to avoid public spaces in the last week and always or very often wear masks when in public spaces by background characteristics, Wave 3 and 4



*Preliminary results Wave 4

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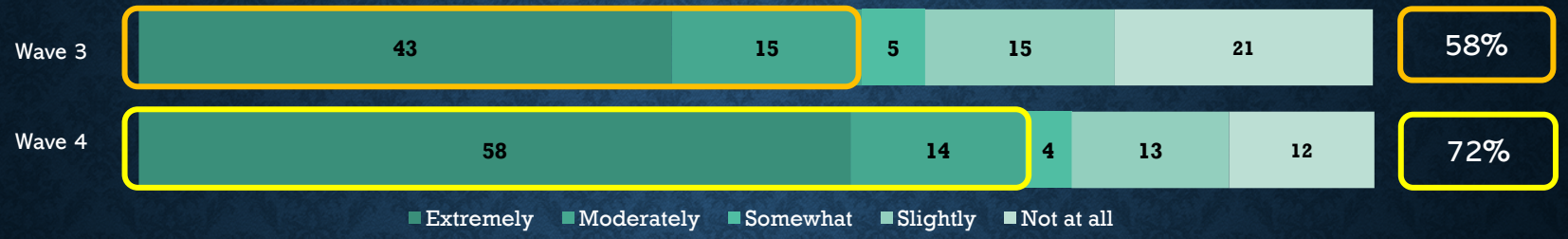
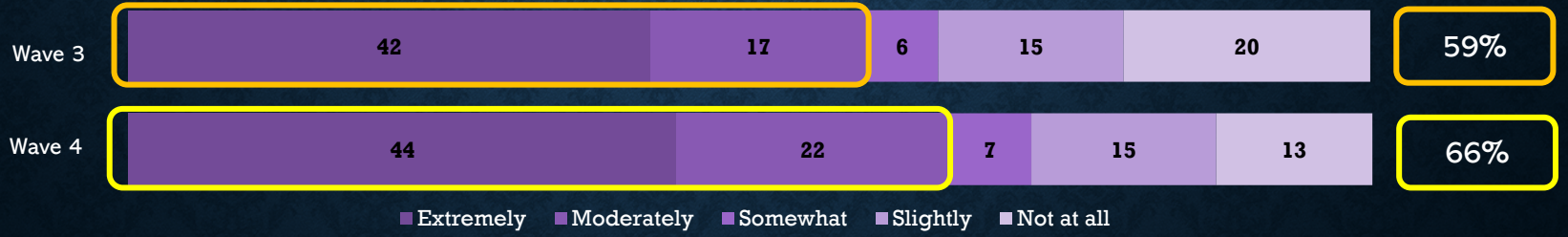
COVID-19 WORRIES

Percent distribution of respondents by how worried that someone in their immediate family might become seriously ill from COVID-19, Wave 3 and 4



Percent distribution of respondents by how worried about household's finance in the next month, Wave 3 and 4



*Preliminary results Wave 4

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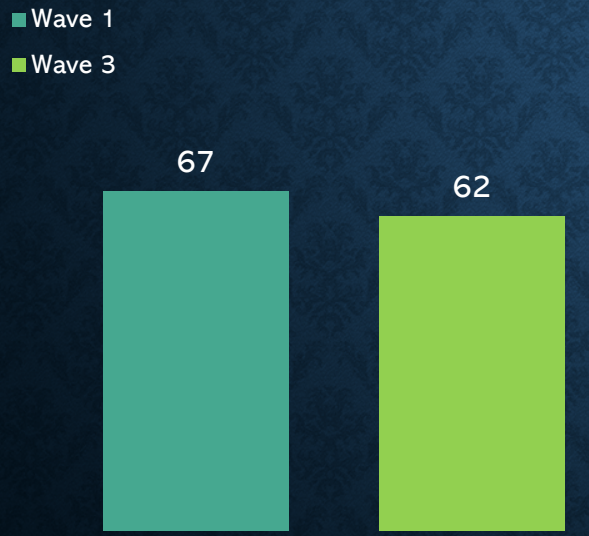
DISTANCE LEARNING

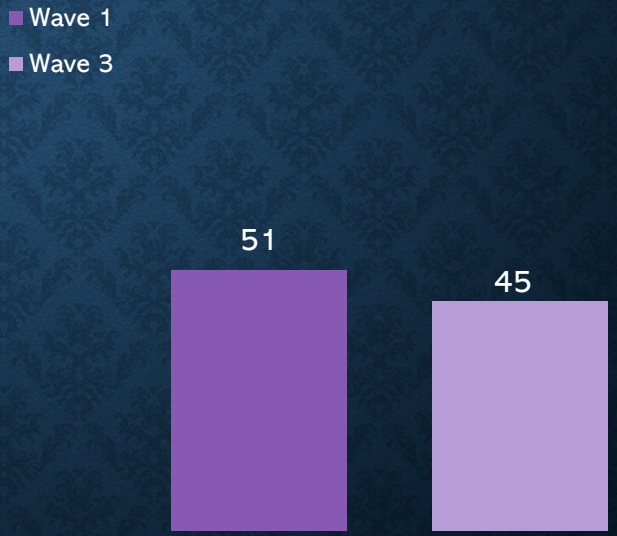
TV lessons

Percentage of children age 2-17 years who watched TV lessons
Wave 1: *after the school closure due to the COVID-19*
Wave 3: *during the previous week*



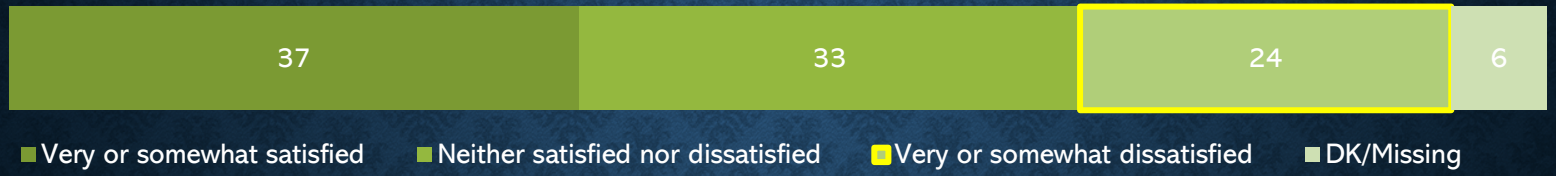
Additional online lessons

Percentage of children age 6-17 years who received additional online lessons
Wave 1: *after the school closure due to the COVID-19*
Wave 3: *during the previous week*

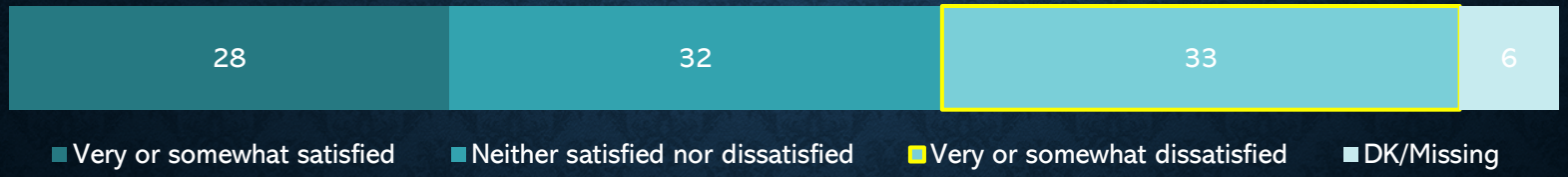


LEVEL OF SATISFACTION WITH DISTANCE EDUCATION

***Wave 1**: Percent distribution of respondents living in households with at least one child age 6-17 years who attended school/ECD before COVID-19, by respondent's level of satisfaction with distance education provided during the school closure*



***Wave 3**: Percent distribution of respondents to Education module when child age 6-17 years attended distance learning during the last 7 days, by respondent's level of satisfaction with distance education provided during the school closure since November 2020*



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WAY FORWARD

Module in MICS to obtain phone numbers and consent

Core modules for longitudinal analysis

Standard modules, a module library?

Improve timeliness, regular intervals between waves

Major report after 6 waves

Good or "good enough" data?

Further research on performance of substitution

New countries joining the programme

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THANK YOU