Session VII: Time-use international standards and recommendations
Methodological considerations

International Workshop on Time-Use Statistics

Xi'an, 25 -27 June 2024

Iliana Vaca Trigo
Statistician
United Nations Statistics Division

United Nations | Statistics Division

Scope and coverage of time-use data

🕐 Activity and time

Activity: the human behavior in terms of *what* is being done and may be characterized by the context in which it occurs, its timing, duration, sequence and the frequency with which it takes place.

Reference period: is the time frame for which survey respondents are asked to report their activities.

- **Length of time (day vs week)**
- **Type of day (single day vs multiple days)**
- **Method for assigning the day/week**

Scope and coverage of time-use data

🕐 **Contextual information**

Features of the environment in which a specific activity episode takes place (e.g. location, with whom), additional defining characteristics of the activity (e.g. for whom, paid/unpaid), or subjective aspects (enjoyment, stress and wellbeing).
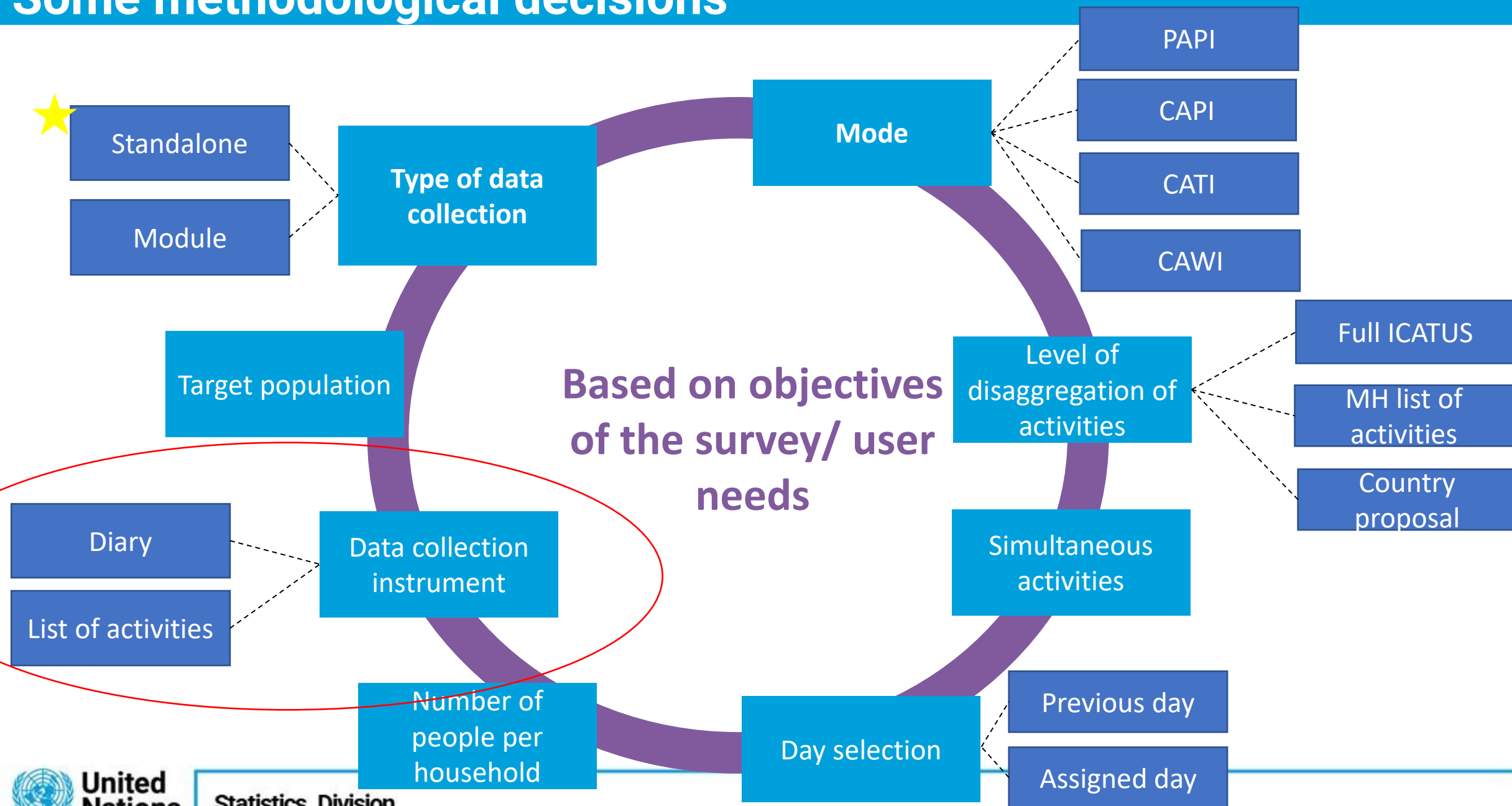
🕐 **Background information**

Background characteristics of respondents and their household composition, are critical to support the analysis, interpretation and uses of time-use data.

Background characteristics of household members may be necessary to identify eligible respondents (e.g. persons aged 15 years and older).

Background information can also aid validation and quality assessment of the time-use data (e.g. enable checks or by linking information such as unpaid care time with children or adults with disabilities listed in the household roster)

United Nations | Statistics Division

Some methodological decisions

Based on objectives of the survey/ user needs

Type of data collection → Standalone, Module

Mode → PAPI, CAPI, CATI, CAWI

Level of disaggregation of activities → Full ICATUS, MH list of activities, Country proposal

Target population

Simultaneous activities

Data collection instrument → Diary, List of activities

Number of people per household

Day selection → Previous day, Assigned day

Survey instruments for collecting time-use data

🕐 **Stylized questions**

Ask respondents the total amount of time they spent on selected activities during a specific reference period. May use categories covering all possible activities or may be limited to a specific subset or subsets of activities (such as only unpaid domestic and care work). The respondent totals the amount of time they spent on the activity category during the reference period, over all episodes. This gives a total amount of time. It does not capture the timing of the activities, nor the sequence of activities, nor the number of activity episodes during a given reference period.

COMPRAS PARA EL HOGAR

6.8 Durante la semana pasada, ¿usted...

6.8 During last week, did you…

1. **look for or buy spare parts, tires, construction tools, or materials, for the car, house, or land?**

2. **look for or do grocery shopping, stationery, medicines, or cleaning supplies?**

3. **search for or buy items or goods for your household, such as dishes, tablecloths, furniture, clothing, footwear, or others?**

6.8.a Including the transfer, how much time did you spend…

from Monday to Friday? *HOURS MINUTES*

Saturday and Sunday? *HOURS MINUTES*

Survey instruments for collecting time-use data

🕐 Time-use diaries

Capture the full sequence of activity episodes performed during a specific reference period together with the starting and ending time of each activity. The respondent reports each activity episode, in chronological order together with additional information for the episode. Time-use diaries provide information on the duration, timing, sequence, and number of episodes of specific activities during the reference period.

Full diary

Writing verbatim descriptions of activities that are coded later on to an activity classification

Day 1		6 am - 9 am		2
1 **What was your main activity?** (Please record all activities, even if they only lasted a few minutes)	**2** **Who did you do this for?** (e.g. self, family, work, friend, a charity, the community)	**3** **What else were you doing at the same time?** (e.g. childminding, watching television, listening to the radio)	**4** **Where were you?** (e.g. at work, home, on a bus, driving the car)	**5** **Who was with you at home, or with you away from home?** (e.g. no-one, family, friends)
6.00 Sleep	Self	Passive child care	Home	Family
.05				
.10				
.15				
.20 Toilet				
.25 Had shower				
.30				
.35 Got dressed				
.40 Put on a load of washing	Family			
.45 Made breakfast		Talked to family		
.50				
.55 Ate breakfast	Self	Read newspaper		
7.00				
.05				
.10 Hung washing on line	Family	Nothing		

United Nations
Statistics Division

Survey instruments for collecting time-use data

🕐 Time-use diaries

Capture the full sequence of activity episodes performed during a specific reference period together with the starting and ending time of each activity. The respondent reports each activity episode, in chronological order together with additional information for the episode. Time-use diaries provide information on the duration, timing, sequence, and number of episodes of specific activities during the reference period.

Light diary

Restricts activity descriptions to a limited categorization of "pre-coded" activities

Figure 4. Illustration of a light diary

Activity categories		04.00-05.00	05.00-06.00	06.00-07.00	07.00-08.00	08.00-09.00	09.00-10.00
Sleeping and resting	1						
Eating	2						
Personal care	3						
School (also homework)	4						
Work as employed	5						
Own business work	6						
Farming	7						
Animal rearing	8						
Fishing	9						
Shopping/getting services	10						
Weaving, sewing, other textile care	11						
Cooking	12						
Domestic work (washing, cleaning)	13						
Care for children/adults/elderly	14						
Commuting	15						
Travelling	16						
Watching TV	17						
Reading	18						
Sitting with family	19						
Exercising	20						
Social visits	21						
Practising hobbies	22						
Other, specify	23						

Survey instruments for collecting time-use data

⏱ **Time-use diaries**

> Recording time

⏱ **Fixed intervals:** non-overlapping segments of uniform length -> Interval length?

⏱ **Open recording:** the respondent reports start and finish times of each activity

> Context

> Layout

Survey instruments for collecting time-use data

🕐 **Time-use diaries**

1

Fecha del día: 12 de enero de 2021			
	Actividad 1	Actividad 2	Actividad 3	Observaciones

2

Trabajo | Cuidado | Doméstica | Personal | Ocio | Voluntarias

Seleccione la actividad

	Trabajar en una ocupación		Realizar una pasantía no remunerada
	Buscar trabajo o iniciar un negocio		Viajar para ir y volver del trabajo
	Trabajar para consumo propio del hogar		Otras actividades sin clasificar

3

Defina el rango horario

Desde: 0:0   Hasta: 0:10

Layout

Scope and coverage of time-use data

🕐 **Simultaneous activities**

A simultaneous activity is one that is carried out at the same time as another.

Concurrent activities (cooking and taking care of a child, reading while riding a bus, watching television while eating)
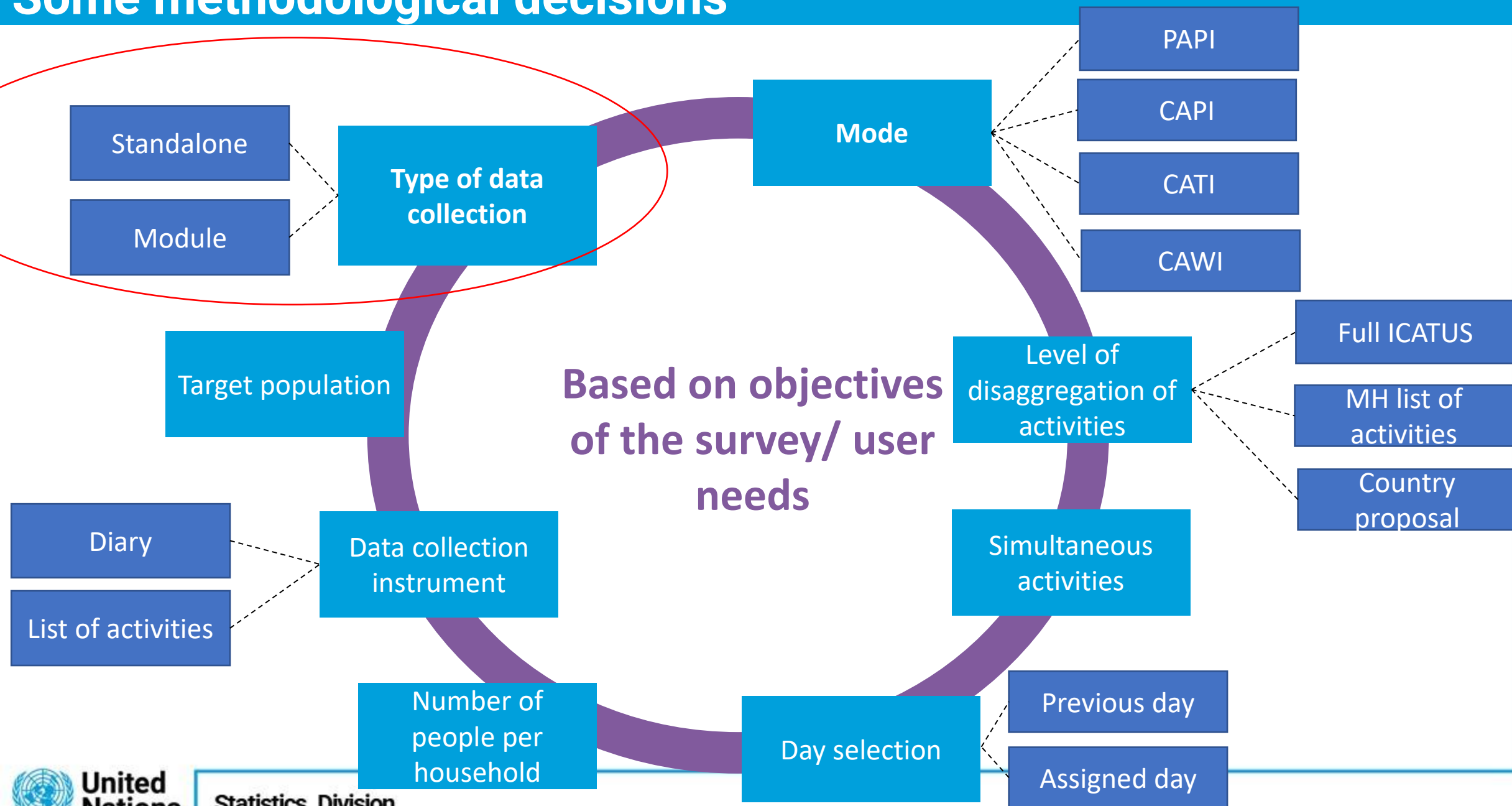
Sequential activities sequentially, frequently switching back and forth between activities (gardening and doing laundry).

"Secondary" activity is generally considered to be less important, require less attention or be less intense than the simultaneous "primary" activity.

Survey instruments for collecting time-use data

Considerations	Stylized questions	Diary
Timing/sequence	Can't collect	Can collect, may help improve accuracy
Simultaneous activities	Can collect in a limited way (questions can ask about activity pairs)	Can collect at episode level
Activity context	Can collect if included in the question	Can collect at episode level
Less-frequent activities	Can include questions targeting less-frequent activities	Prone to being missed
Reference period	Can cover multiple days/week, Increasing the number of days might affect the accuracy of the total time spent on each activity	Can cover multiple days Increasing the number of days increases the burden on the respondent
Completeness	Questions about specific activities prompt memory, improving recall and reporting; these activities unlikely to be accidentally excluded. Could be over or under the number of hours of the reference period (a day could have data for more or less than 24 hours)	Some activities may be forgotten and under-reported. Activity information should add up to 24 hours (though can have missing time slots)
Simplicity	Simple to collect and process. Produces same type of output (number of minutes or hours) for all respondents.	Processing and analyzing data are more complicated in particular for full diaries. Respondents provide varying levels of detail.
Literacy and comprehension	Respondents with low literacy can have difficulties with activity categories	Respondents with low literacy can have difficulties with self-complete forms
Cost	Data processing and analysis are simpler, reducing costs. Lists with fewer activities reduce data collection time, reducing field costs.	Data processing and analysis are more complex, increasing cost. The lighter the diary, the simpler the analysis and lower the cost.
Type of survey	Suitable for a module in a multi-purpose survey, reducing costs compared to a stand-alone survey.	Diaries most often used in stand-alone surveys but light diaries feasible in modules.

Some methodological decisions

Some methodological decisions: Independent survey or module?

Independent stand-alone survey on time use			Time-use module in a multi-purpose survey
👍 Tailored to the time-use data objectives and requirements		🎯	Careful consideration needed to ensure host survey objectives, target population, number of respondents, period of reference, among others are in line with time-use data requirements 👎
👍 Background questionnaire is designed to collect information required to support time-use data analysis		📋	Background information already available from the host survey 👍
👎 Higher collection cost (difficulty to maintain frequency)		💵	Lower cost (take advantage of sampling design and field operation) 👍
👍 Data uses in line with time-use survey objectives		📊	Data uses might be limited to the possibilities of the host survey 👎
👍 More granularity of the data (population subgroups, activities)		🧩	Respondent's fatigue could compromise response rates 👎
Field challenges and training on time-use collection for interviewers			

United Nations | Statistics Division

Examples of country experiences using modular approaches to collect time-use data

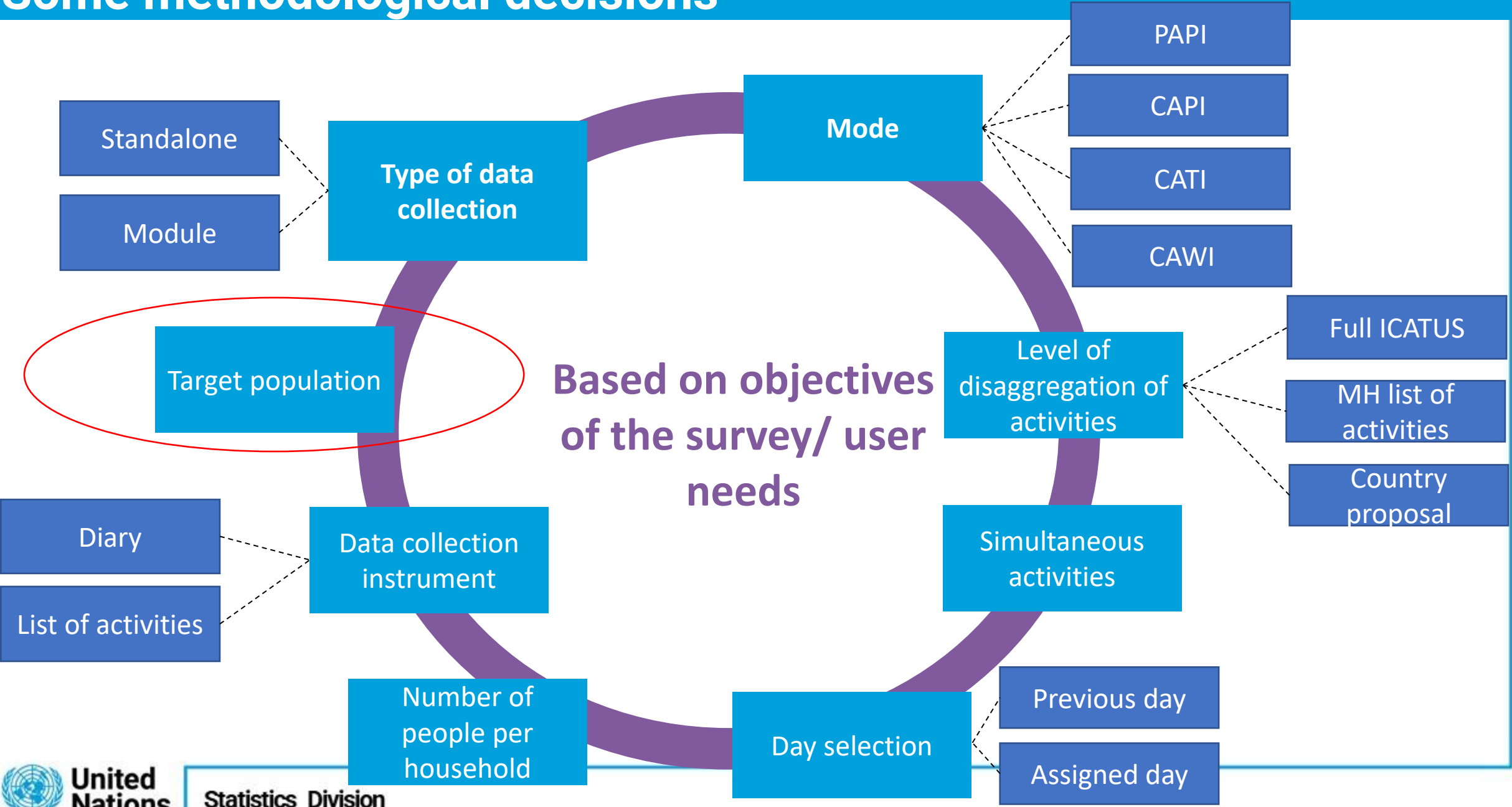| Country and most recent year	Base survey	Characteristics
Cameroon 2014	Cameroonian Household Survey	• Multipurpose survey on poverty and living conditions: health, education, labour force characteristics, agriculture, migration • Diary using one-hour intervals, up to 5 activities per interval • Mixed mode: PAPI, CAPI • Provides estimates at national and regional level (12 regions)
México 2019	National Occupation and Employment Survey	• Sociodemographic and labour force characteristics of the population aged 15 or over • Stylized questions on time use • Mode: CAPI • Provides estimates at national, state and municipal levels • Proxy respondent: One respondent aged 15 or over provides information on all the household members 15+
Switzerland 2016	Labour Force Survey	• Stylized questions on unpaid work: domestic work, care, formal voluntary and informal voluntary • Mixed mode: CAWI with CATI option • Provides estimates at national and regional level
Tanzania 2019-2020 (Zanzibar) 2017-18 (mainland)	Household Budget Survey	• Household budget survey measuring poverty and living conditions: food security, health, education, • Diary with open intervals • Mode: CAPI • Provides estimates at national and regional levels and above/below poverty level

LFS add-on module
Measuring own-use provision of services

ILO

Some methodological decisions

Based on objectives of the survey/ user needs

- Type of data collection
  - Standalone
  - Module
- Mode
  - PAPI
  - CAPI
  - CATI
  - CAWI
- Target population
- Level of disaggregation of activities
  - Full ICATUS
  - MH list of activities
  - Country proposal
- Data collection instrument
  - Diary
  - List of activities
- Simultaneous activities
- Number of people per household
- Day selection
  - Previous day
  - Assigned day

United Nations
Statistics Division

Measuring children's time use in MICS
UNICEF