

2021 POPULATION and HOUSING CENSUS (Towards a Register-Based Census)

Online Training Course on 'Conducting a Census Based on Administrative Records'



TURKISH STATISTICAL INSTITUTE
Demographic Statistics Department

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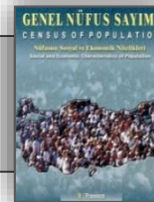
Alper ACAR,
Expert

Mehmet řaban UCARI,
Expert

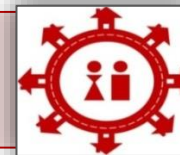
Content

DAY 1

✓ **HISTORY OF POPULATION CENSUSES (1927-2000) & DATA SOURCES FOR POPULATION STATISTICS**



✓ **ADDRESS BASED POPULATION REGISTRATION SYSTEM (2007-2021-...) CURRENT POPULATION FIGURES**



✓ **2011 POPULATION and HOUSING CENSUS**



DAY 2

✓ **LEGAL BASE**



☀ **2021 POPULATION and HOUSING CENSUS**
"POPULATION CHARACTERISTICS DATABASE (PCDB)" (for census and beyond)



SURVEY ON BUILDING & DWELLING CHARACTERISTICS



QUALITY ASSURANCE





2021 POPULATION and HOUSING CENSUS

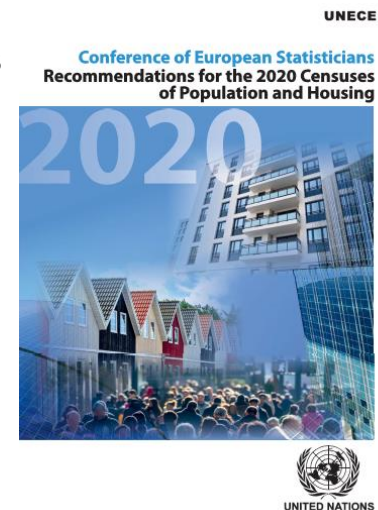


2020 Population and Housing Census Round

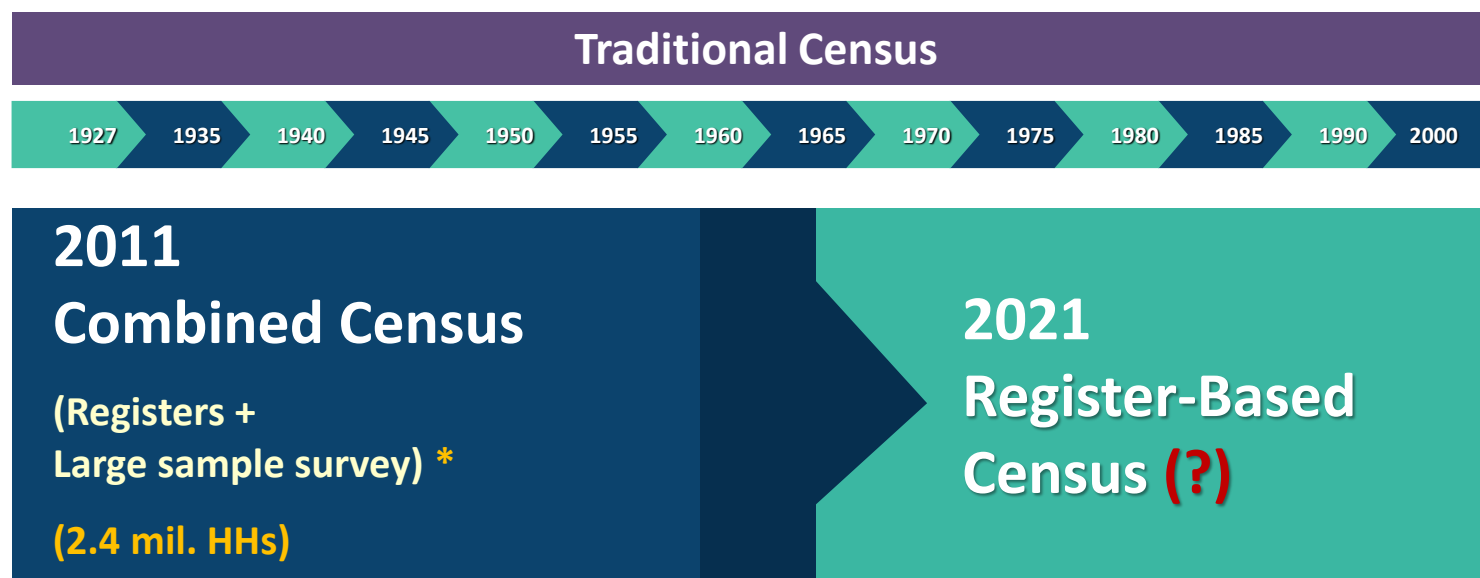
- ❑ The United Nations (UN) and European Union (EU) recommend that countries make a "population and housing census" in years close to years ending in "0" in order to obtain comparable statistics on population.
- ❑ In this context, studies on "2021 Population and Housing Census (PHC)" are ongoing by TurkStat based on the following international references:

- **UNECE Conference of European Statisticians Recommendations for the 2020 Censuses of Population and Housing**
- **UNSD Principles and Recommendations for Population and Housing Censuses**
- **EU Regulations:**

Regulation (EC) No 763/2008 of the European Parliament and of the Council on population and housing censuses (CFR) calls for implementing measures on:					Regulation (EC) No 223/2009 allows a 'direct temporary statistical action':
Tech. specifications for the census topics and their breakdowns	Reference year	EU census programme and metadata	Quality reporting	Technical format for data transmission	Selected census topics geocoded to a 1 km ² grid
Regulation (EU) 2017/543 (CIR-1)	Regulation (EU) 2017/712 (CIR-2)	Regulation (EU) 2017/881 (CIR-3)	Regulation (EU) 2018/1799 (CIR-4)		



Population and Housing Census Methodology



Main census types:

traditional census: full field enumeration, whether in person or online; registers and administrative sources may be used to support the enumeration but not directly to obtain census data.

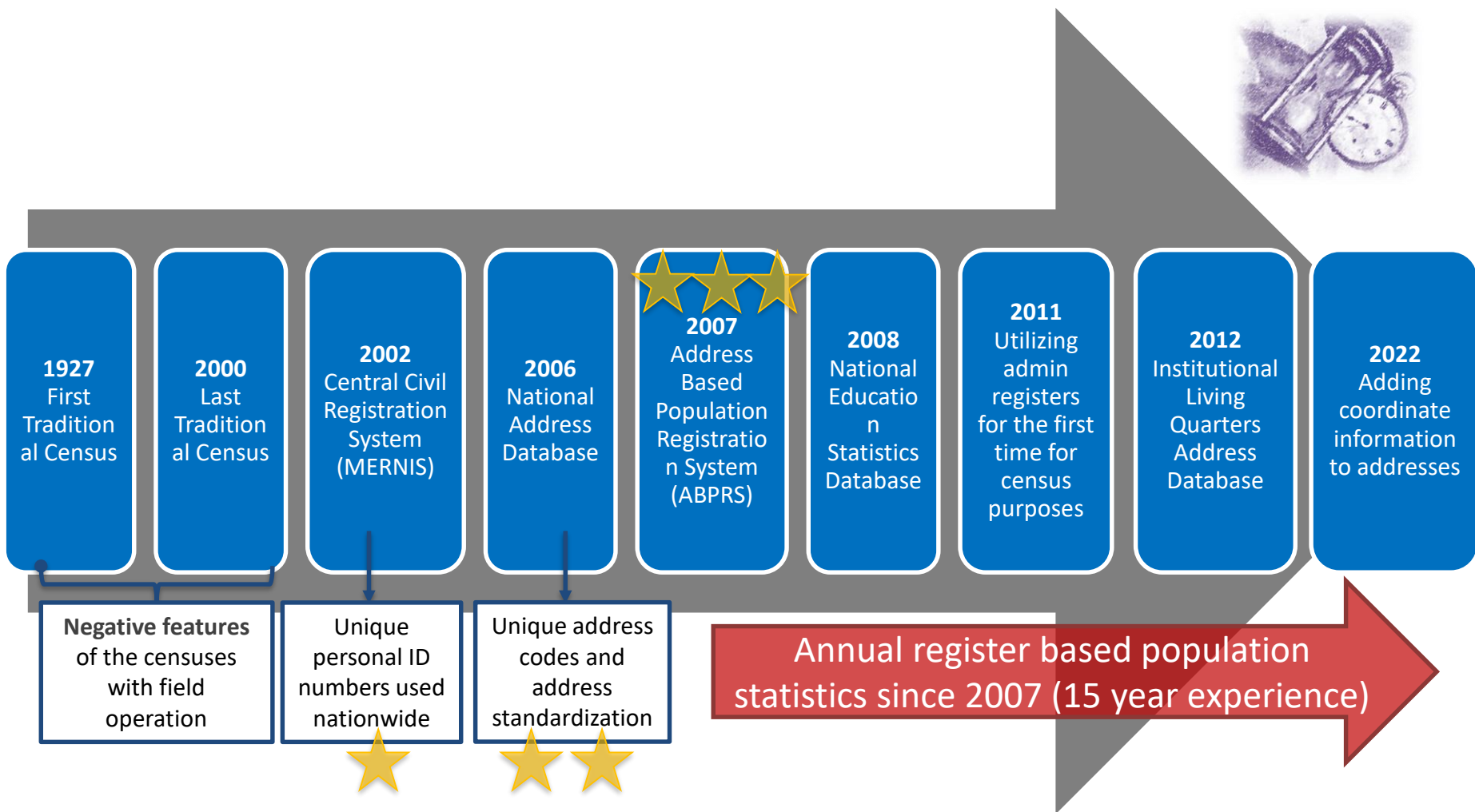
register-based census: census based on data from registers and administrative sources, with no field data collection; may also include data from existing surveys not conducted for census purposes.

combined census: some data obtained directly from registers or administrative sources, while other data are collected through field data collection conducted specifically for census purposes, covering the whole population or only a sample.

rolling census: based on cumulative continuous sample survey covering whole country over an extended period.

Source: <https://statswiki.unece.org/display/censuses/Censuses+of+the+2020+round>

Driving Forces for a Register Based Census



Driving Forces for a Register Based Census

□ The global tendency in the further use of administrative registers:

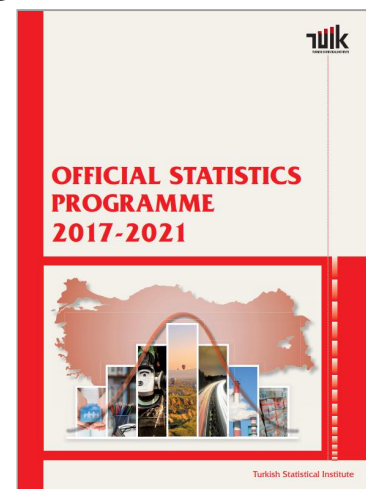
Source:
<https://statswiki.unece.org/display/censuses/Censuses+of+the+2020+round>

Census Method in 2010 Round	Census Method in 2020 Round				UNECE	EU
	Traditional	Combined	Register-Based	To be determined		
Traditional	United States of America	Kazakhstan	North Macedonia		34	14
	Albania	Kyrgyzstan	Southern Cyprus			
	Azerbaijan	Turkmenistan	Czechia			
	Canada	Malta	Italy			
	Bosnia and Herzegovina	Republic of Moldova	Luxembourg			
	Bulgaria	Portugal	Montenegro	San Marino		
	Georgia	Russian Federation	Romania			
	France (rolling)	Serbia	Belarus			
	Croatia	Tajikistan	Armenia			
	Greece	Monaco	Hungary			
	United Kingdom		Ireland			
Combined			Slovakia		10	6
			Liechtenstein			
			Germany			
			Israel	Latvia		
			Poland	Lithuania		
			Switzerland	Spain		
Register-Based			Estonia	TÜRKIYE (?)	9	7
				Austria		
				Belgium		
				Denmark		
				Finland		
				Iceland		
				Netherlands		
			Norway			
			Slovenia			
			Sweden			
(Not Carried out)	Ukraine			Andorra	3	-
	Uzbekistan					
UNECE	23	18	13	2	56	
EU	6	11	10	-		27

Legal Base/Access to Administrative Registers

- ❑ TurkStat has been implementing all statistical activities (including census) according to the **Official Statistics Programme**, based on the **Statistics Law of Türkiye**.
 - Thus, **TurkStat does not need a special census law**.
 - 2021 PHC and related issues were added to 2022-2026 term Official Statistics Programme.

- ❑ According to the mentioned Law:



In order to be used for the production of official statistics, the **institutions and organizations are obliged to submit or open to use of the TurkStat the records and other data files** they compile, process and store...



Legal Base/Access to Administrative Registers

- ❑ According to the **Personal Data Protection Law** No. 6698 in Türkiye, production of official statistics is accepted as an “**exception**”.The Law mandates that
 - *Provisions of this Law shall not be applied in the case of processing of personal data for the purposes of official statistics and, through anonymization, research, planning, statistics and similar.*
- ❑ On the other hand, according to the Statistics Law of Türkiye:
 - *The confidential data compiled, processed and preserved for the production of official statistics **cannot be delivered to any administrative, judiciary or military authority or person**, can not be used for purposes other than statistics or as an instrument of proof.*

Therefore, administrative registers which were obtained only for statistical purposes by TurkStat cannot be shared with any institution or organization at microdata or record level.



2021 Population and Housing Census: Preparations

- ❑ Steering Committee was established (June 2018):
 - Consists of a vice president and 5 related heads of departments of TurkStat
- ❑ Objectives of Census Steering Committee:
 - To coordinate all processes of 2021 PHC
 - To decide the working groups
 - To decide the registers to be used
 - To determine the needs (budget, IT infrastructure)
- ❑ Working groups on «**Labor Force Statistics**» and «**Quality**» were established.
- ❑ Local consultancy service (from academia and private sector) on «Missing Data Estimation» is provided.



EU & UNECE Census Core Variables

35 core variables in total:

No	EU CORE and UNECE CORE/CORE DERIVED VARIABLES
Population to be enumerated	
1	Place of usual residence
Geographic characteristics	
2	Locality
3	Location of place of work/ Location of school, college or university
Demographic characteristics	
4	Age
5	Sex
6	Legal Marital Status
Educational characteristics	
7	Educational attainment
Migration	
8	Country/place of birth
9	Country of citizenship
10	Previous place of usual residence and date of arrival in the current place; or Place of usual residence one year prior to the census
11	Ever resided abroad and year of arrival in the country
Economic characteristics	
12	Current activity status
13	Industry (branch of economic activity)
14	Status in employment
15	Occupation

No	EU CORE and UNECE CORE/CORE-DERIVED VARIABLES
Household and family characteristics	
16	Family status
17	Type of family nucleus
18	Size of family nucleus
19	Household status
20	Type of private household
21	Size of private household
22	Tenure status of households

Housing characteristics	
23	Number of occupants
24	Type of living quarters
25	Housing arrangements
26	Occupancy status of conventional dwellings
27	Dwellings by type of building
28	Type of ownership (tenure arrangements under which the dwelling is occupied)
29	Useful floor space and/or Number of rooms of housing units
30	Density standard
31	Water supply system
32	Toilet facilities
33	Bathing facilities
34	Type of heating
35	Dwellings by period of construction

Registers Needed for a Register Based Census-1

Available: ✓

- Population (ABPRS): Demography, migration, household/family
- Address (NAD)
- Education (National Education Statistics Database)

Not available/complete: ⚠

- Employment and Unemployment
- Buildings and Dwellings



Registers Needed for a Register Based Census-2

- ❑ 2021 PHC was **actually planned to be fully register-based** and studies were carried out in this direction.
- ❑ However, it is seen that there is **no single and complete (all requested attributes for all units) administrative data source available** for the census type statistics on housing and labour force (employment/unemployment).
- ❑ Therefore, separate studies has been carried out for these two topics.
 - One of these studies is setting up an integrated “**Population Characteristics Database (PCDB)**”. This database will be the substructure of the forthcoming register based census (*particularly for labour force and disability statistics*) and will also serve as an invaluable data source for the post-2021 PHC.

Registers Needed for a Register Based Census-3

- ❑ For housing characteristics, setting up a registration system for buildings and dwellings has been one of the institutional targets of TurkStat.
 - However, establishing a such a registration system will take time. It is obvious that the planned registration system will not be available during census period.
- ❑ To solve those problems, a **Survey on Building and Dwelling Characteristics, 2021** was carried out by TurkStat in order to eliminate the lack of administrative registers in this area.



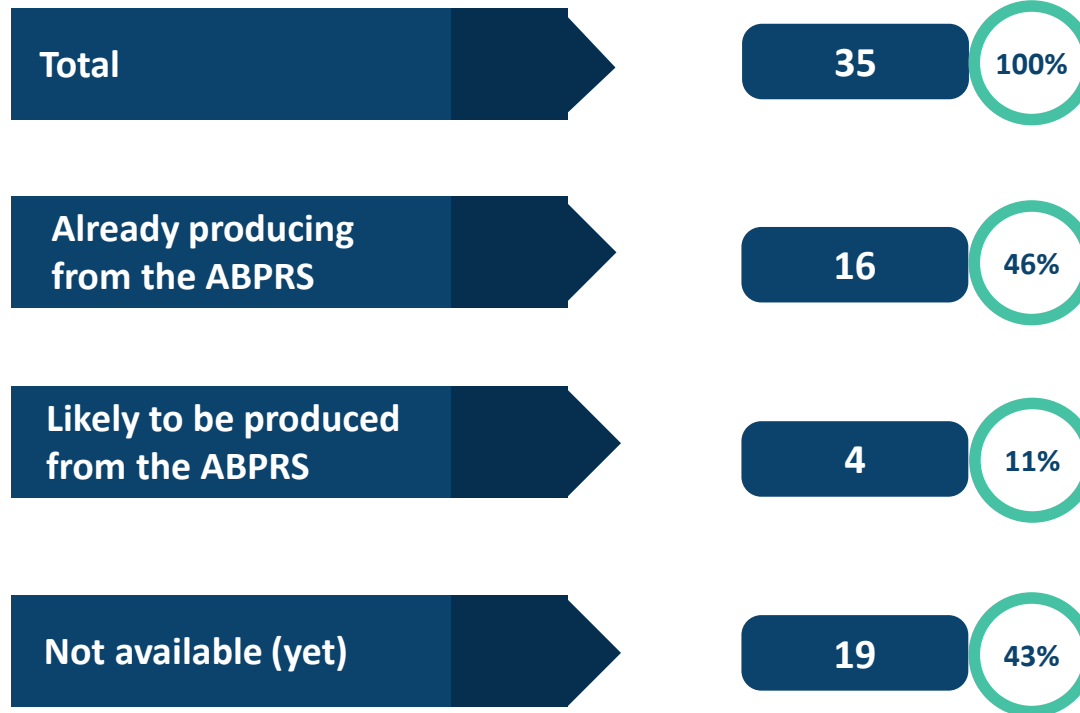
Population and Housing Census Methodology



Ultimate target: Changing the system from combined method to **fully (100 %) register-based census** (ongoing efforts)

Current Situation

Core Topics



No	EU CORE and UNECE CORE/CORE-DERIVED VARIABLES	Status	Data Source	No	EU CORE and UNECE CORE/CORE-DERIVED VARIABLES	Status	Data Source
Population to be enumerated				Household and family characteristics			
1	Place of usual residence	✓	ABPRS	16	Family status	✓	ABPRS
Geographic characteristics				17	Type of family nucleus	✓	ABPRS
2	Locality	✓	ABPRS	18	Size of family nucleus	✓	ABPRS
3	Location of place of work/ Location of school, college or university	X	?	19	Household status	✓	ABPRS
Demographic characteristics				20	Type of private household	✓	ABPRS
4	Age	✓	ABPRS	21	Size of private household	✓	ABPRS
5	Sex	✓	ABPRS	22	Tenure status of households	X	?
6	Legal Marital Status	✓	ABPRS	Housing characteristics			
Educational characteristics				23	Number of occupants	✓	ABPRS
7	Educational attainment	✓	ABPRS	24	Type of living quarters	X	Derivable from the ABPRS
Migration				25	Housing arrangements	X	Derivable from the ABPRS
8	Country/place of birth	✓	ABPRS	26	Occupancy status of conventional dwellings	X	Derivable from the ABPRS
9	Country of citizenship	✓	ABPRS	27	Dwellings by type of building	X	Derivable from the ABPRS
10	Previous place of usual residence and date of arrival in the current place; or Place of usual residence one year prior to the census	✓	ABPRS	28	Type of ownership (tenure arrangements under which the dwelling is occupied)	X	SBDC
11	Ever resided abroad and year of arrival in the country	X	?	29	Useful floor space and/or Number of rooms of housing units	X	SBDC
Economic characteristics				30	Density standard	X	SBDC
12	Current activity status	X	PCDB	31	Water supply system	X	SBDC
13	Industry (branch of economic activity)	X	PCDB	32	Toilet facilities	X	SBDC
14	Status in employment	X	PCDB	33	Bathing facilities	X	SBDC
15	Occupation	X	PCDB	34	Type of heating	X	SBDC
				35	Dwellings by period of construction	X	SBDC

ABPRS: Address Based Population Registration System; **PCDB:** Population Characteristics Database; **SBDC:** Survey on Building and Dwelling Characteristics

First Outputs of 2021 PHC

- ❑ In Türkiye, **almost half** of census-type variables:
 - *Information on population size, age and sex structure, legal marital status, education level, migration, country of citizenship, place of birth, type and structure of households*
 are already obtained annually from ABPRS.

- ❑ 2021 PHC has the same reference date with the ABPRS:

31 December 2021.

- *Basic source and frame of 2021 PHC will be the ABPRS data.*

Thus, greater part of the information to be produced within the scope of 2021 Census were already disseminated on February 4, 2022.



TURKISH STATISTICAL INSTITUTE

INFO REQUEST

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MINISTRY OF POPULATION, FAMILY POLICY AND CIVIL REGISTRATION
DIRECTORATE GENERAL OF
CIVIL REGISTRATION
AND CITIZENSHIP AFFAIRS

RELEASE DATE :04 February 2022
HOURS : 10:00
NUMBER: 45500



The statistical tables and results in this press release have been produced by solely collecting and editing data in the administrative registers of the relevant institution.

The Results of Address Based Population Registration System, 2021

The population of Turkey became 84 million 680 thousand 273 people

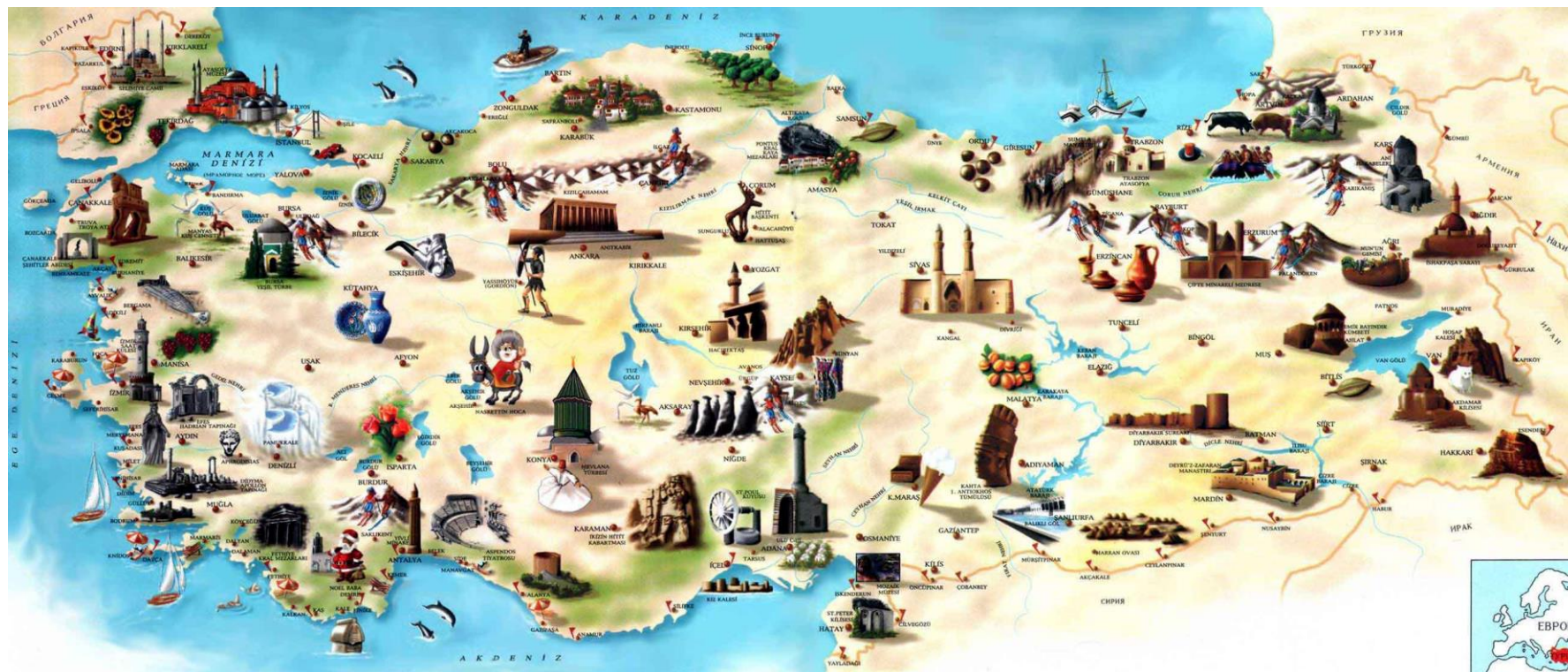
PRESS RELEASE



INITIAL RESULTS of 2021 PHC BASED on 2021 ABPRS



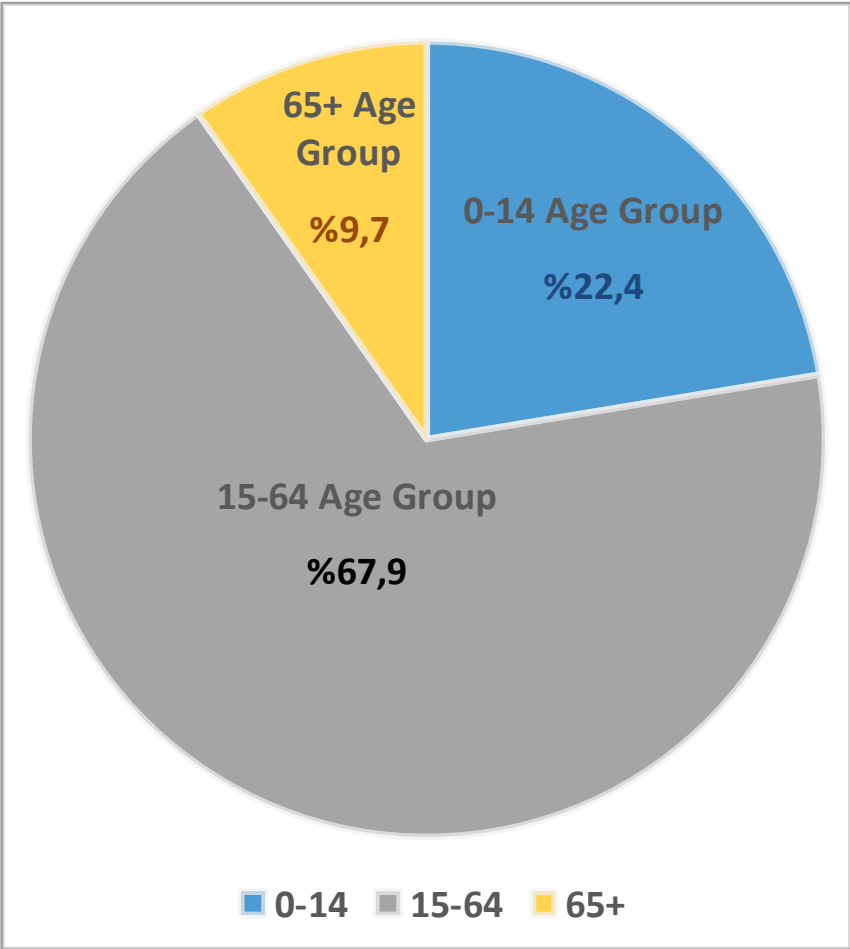
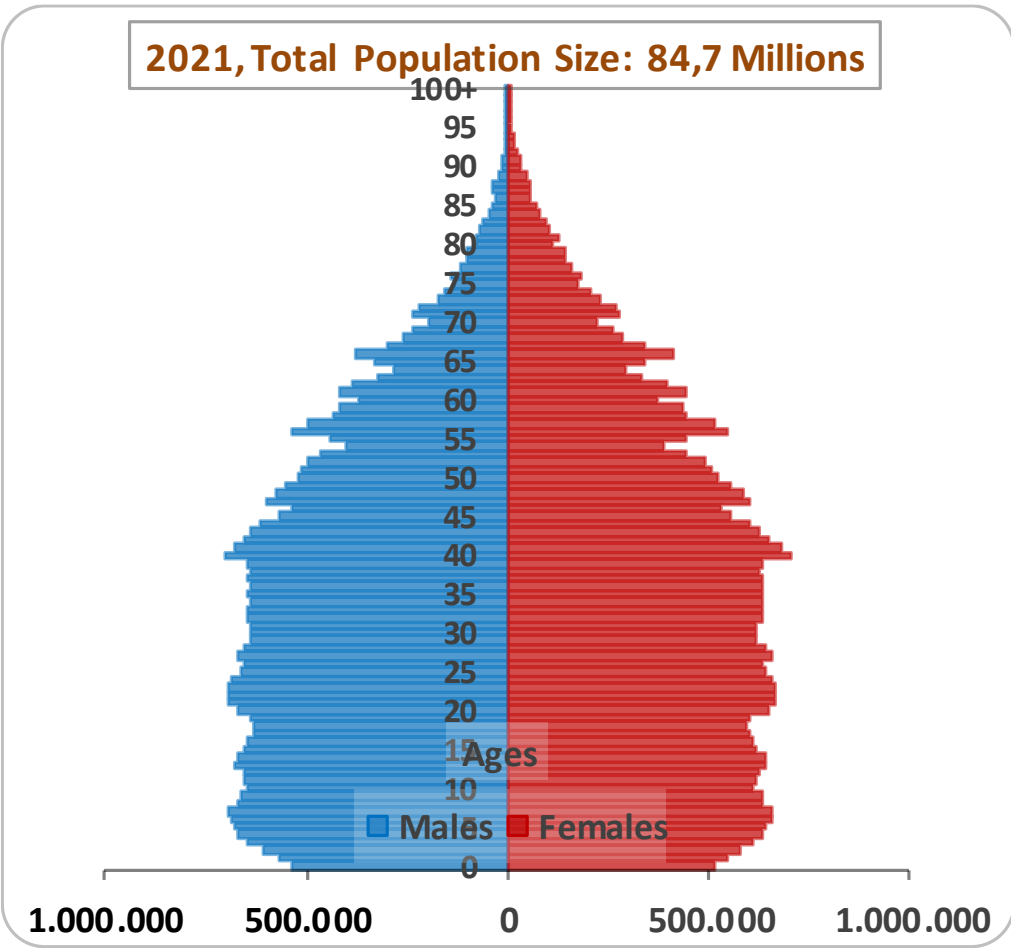
First Outputs of 2021 PHC



2021	Administrative Divisions	Population	Annual Pop. Growth Rate	Median Age	Surface Area (km ²)	Density (per km ²)
Turkey	81 provinces, 973 districts	84 680 273	12.7 %	33.1	769 604	110

First Outputs of 2021 PHC

2021, Total Population Size: 84,7 Millions



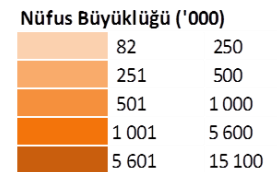
First Outputs of 2021 PHC



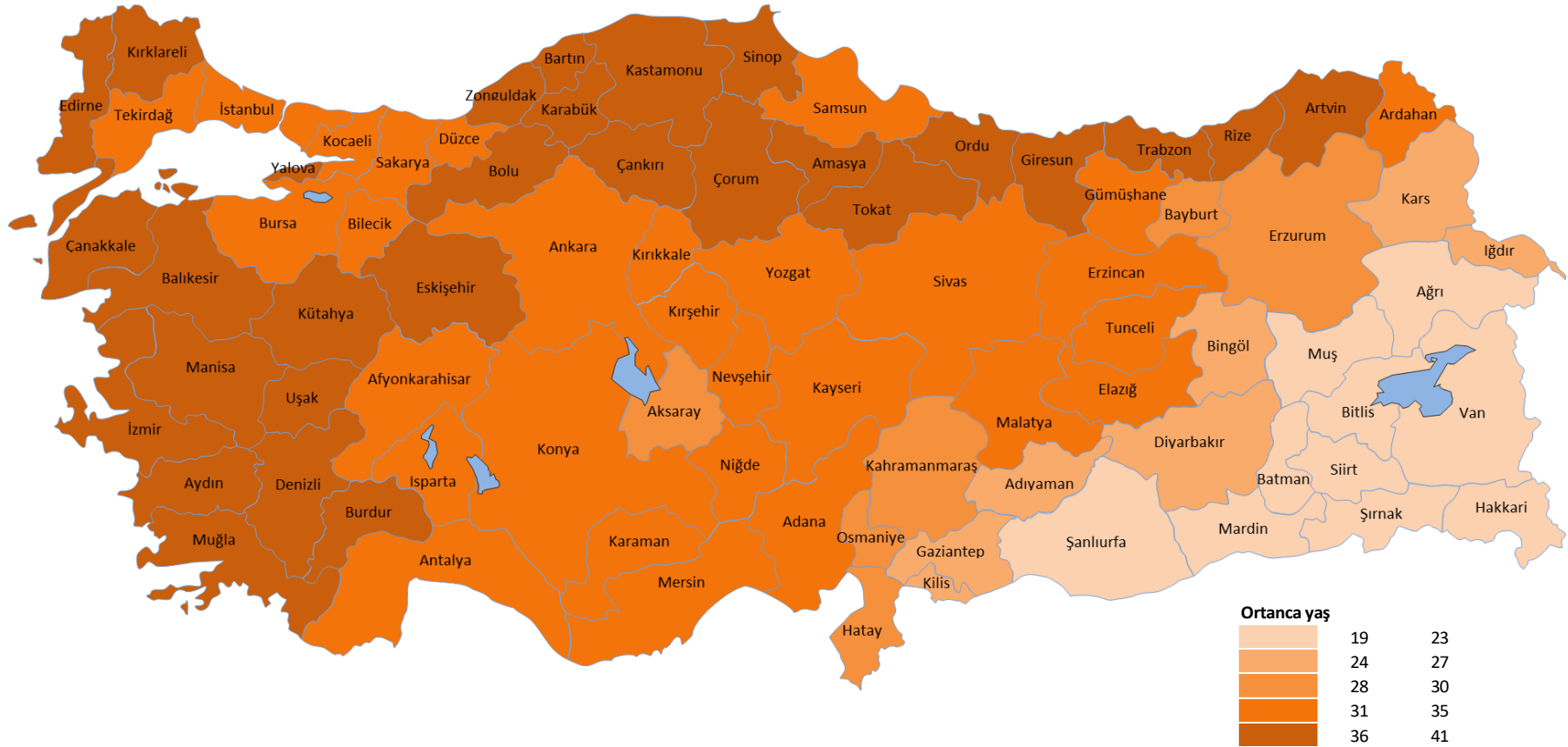
İstanbul
Pop: 15 840 900

İzmir
Pop: 4 425 789

Ankara (Capital)
Pop: 5 747 325



Median Age, 2021 (Total: 33.1 / Male: 32.4 / Female: 33.8)



Average Household Size, 2021 (3.30)



What is the PCDB?

Population Characteristics Database (PCDB):
provides integrated information at individual level
such as

- age-sex structure,
- nationality,
- disability,
- education,
- employment status,
- marital status,
- property,
- migration,
- family structure.



Aim:
To produce

- high quality,
- low cost,
- timely,
- sustainable
and comprehensive statistics

for PHCs and other data users.

1st Pilot Study
(2019)

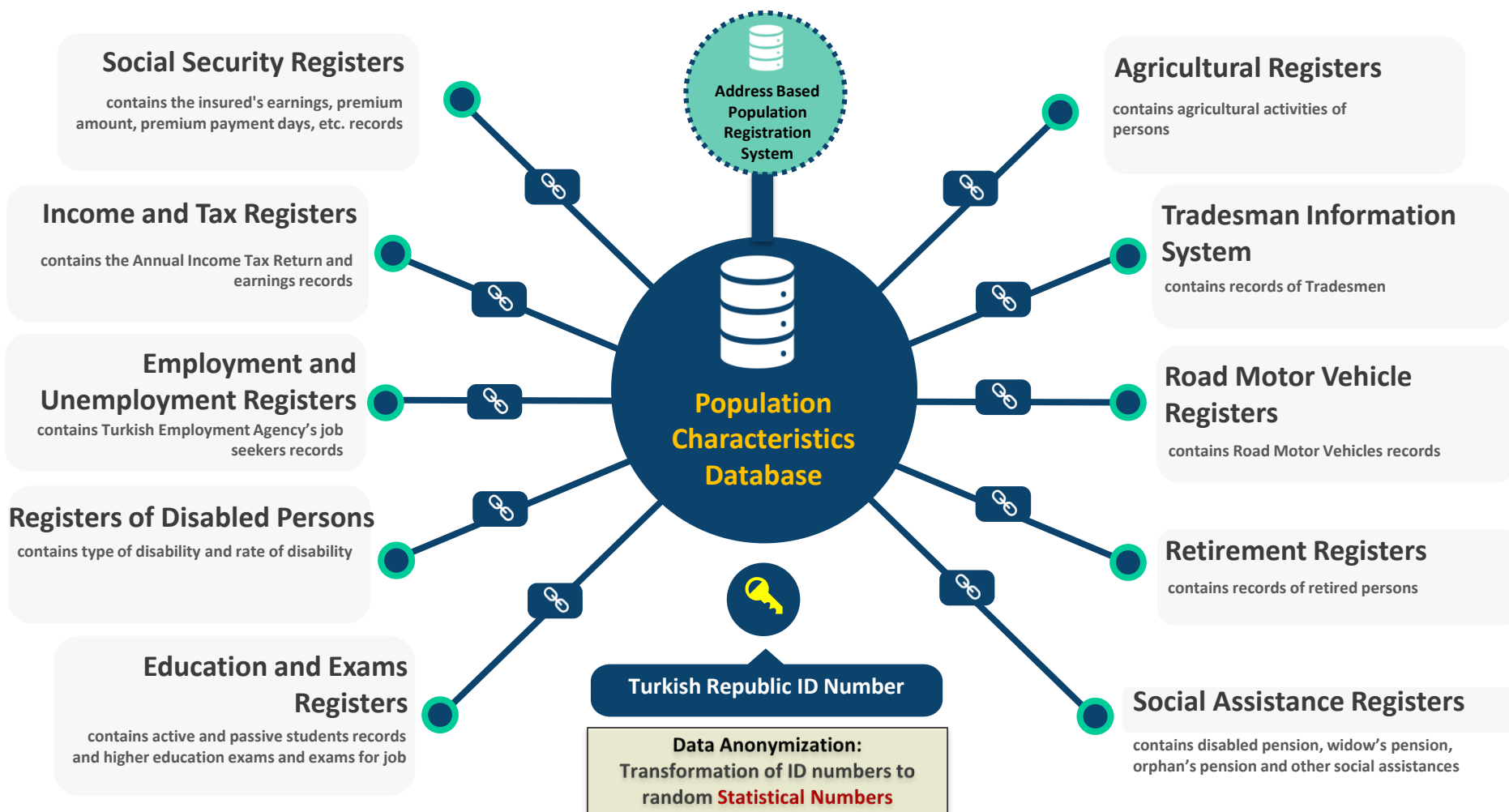
3rd Pilot Study
(2021)

2nd Pilot Study
(2020)

Main Study
2021 PHC
(2022)

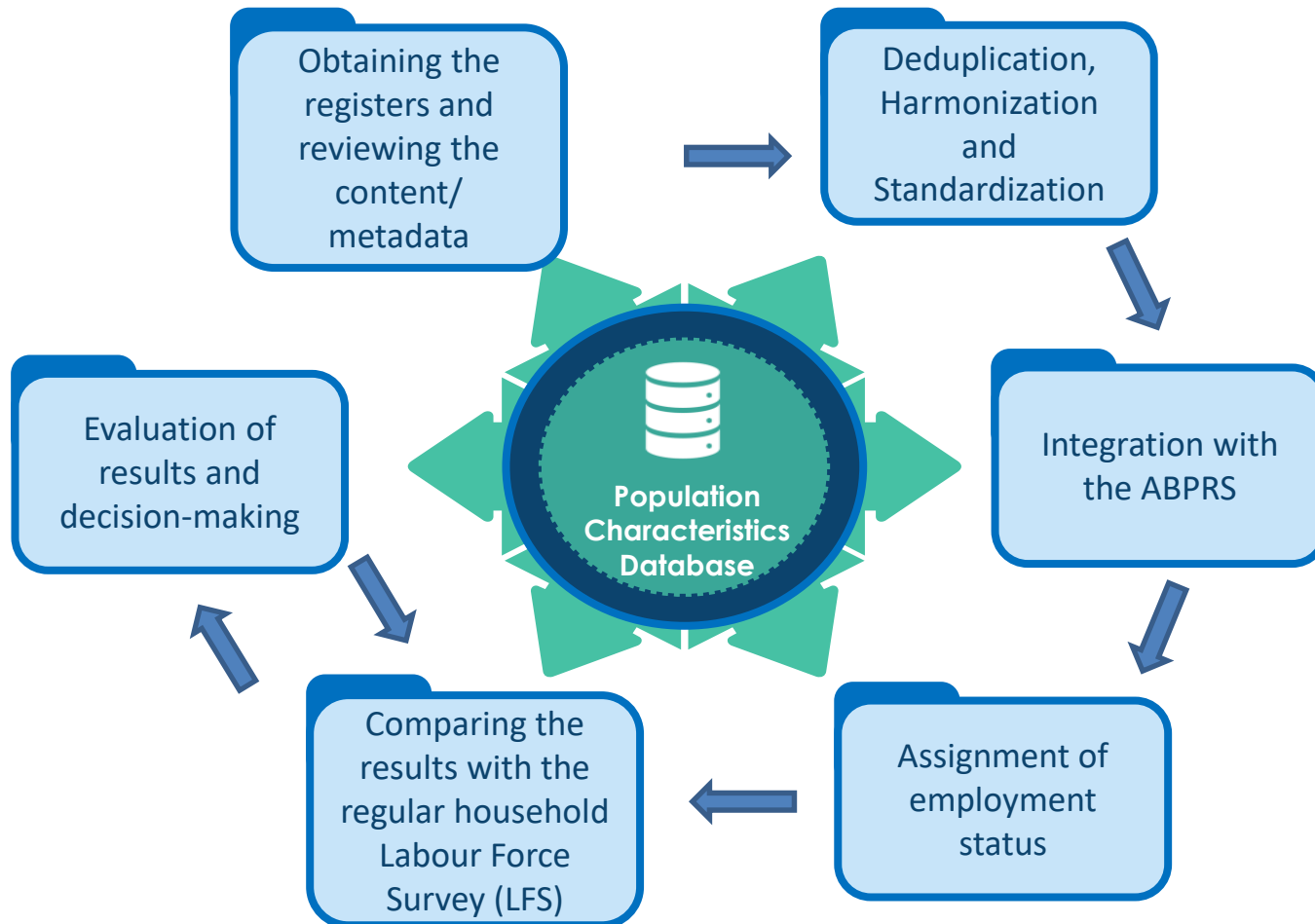


PCDB – Main Structure



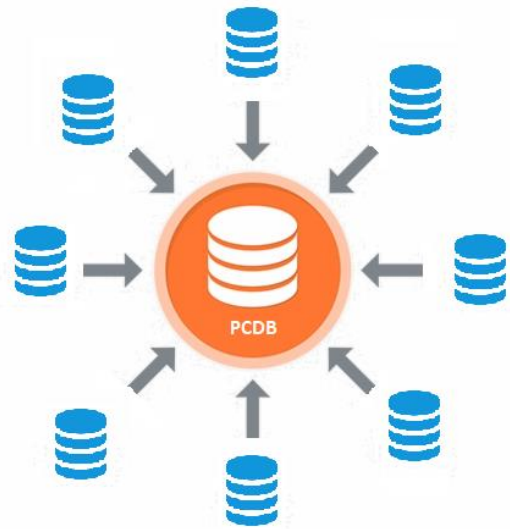
PCDB – Work Process

Population Characteristics Database (PCDB)



2021 Population and Housing Census

Targeting combined census in 2021
(register dominant census)

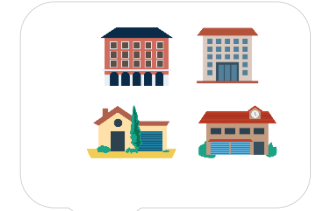
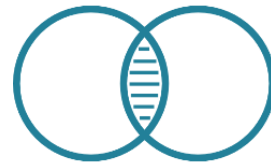


Registers

ABPRS

&

Population Characteristics Database



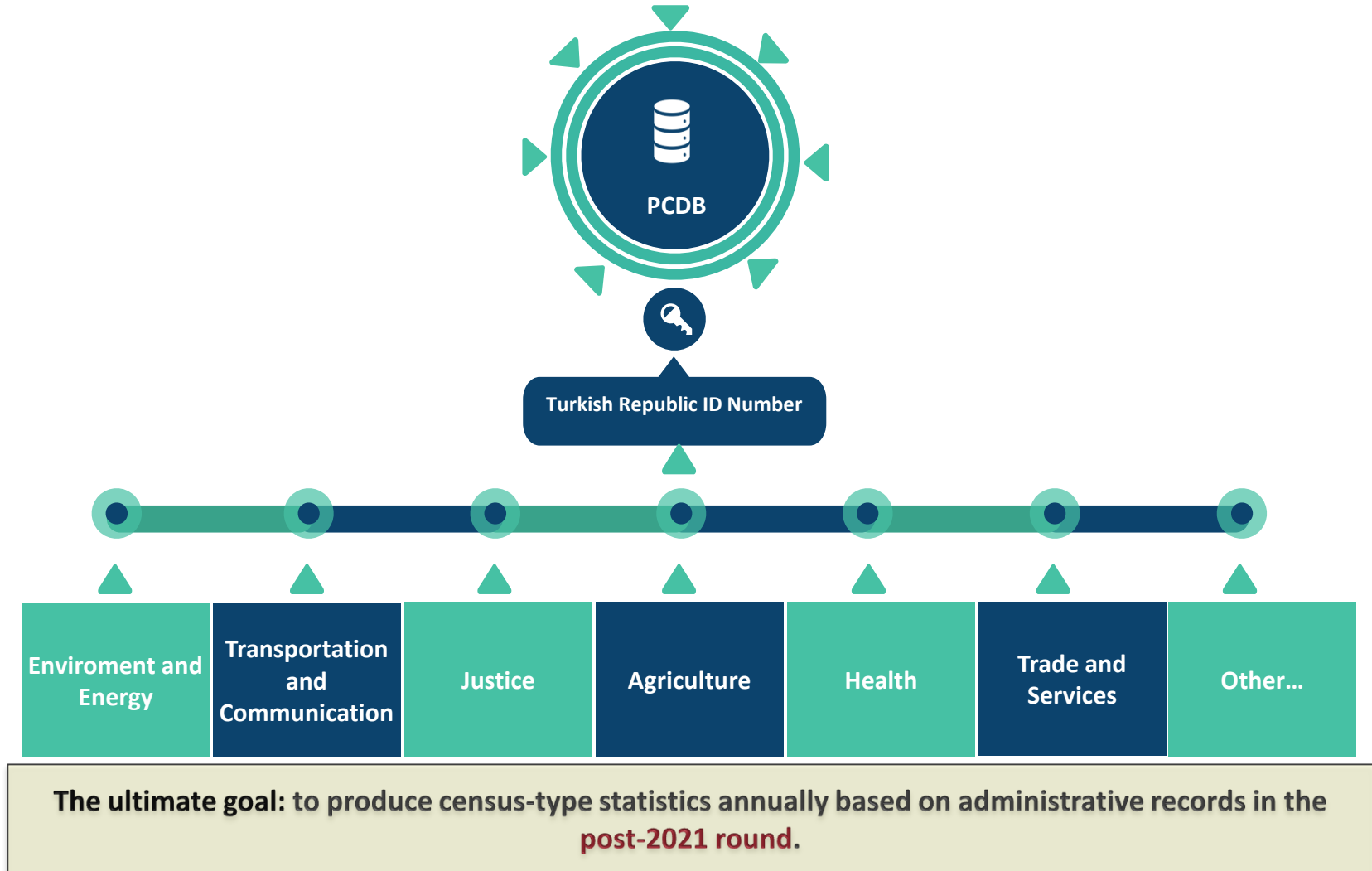
Survey

on Building and Dwelling Characteristics

with

CATI Method

PCDB beyond 2021 PHC



Advantages & Challenges in Integration of Admin Data

Advantages

- ✓ Cost efficiency
- ✓ Labor-saving statistical production
- ✓ More up-to-date and frequent statistics
- ✓ Linkage with various registers via unique keys (Personal ID Number / Address ID Code)



Challenges

- Information collected for solely administrative purposes
- Lack of metadata
- Different classifications/definitions used by data holders
- Coverage issues and missing values in registers
- Reference date discrepancies
- Multiple records – deduplication – data loss
- IT infrastructure



Challenges for PCDB Studies

- ❑ Determination of certain groups (such as **unpaid family workers** and **housewives**) that cannot be obtained directly from registers.
- ❑ Identification of sector and **economic activity** for employed persons.
- ❑ Missing observation estimation for individuals of which labour force status cannot be derived from existing registers. **Rationales for missing data estimations.**
- ❑ Overcoming the **differentiation of register-based labour force statistics from regular Household Labour Force Survey (LFS)**. Consistency/comparability issues with LFS and rationales for deviations.
- ❑ Quality management and accuracy. Quality check methods for census type labour force statistics produced based on administrative registers.
- ❑ Communication strategy for register-based labour force statistics.
- ❑ Ensuring the sustainability and maintenance of the system.



Source of Quality in Administrative Registers



❑ Official Statistics Programme:

- 5-year programme since 2007
- Based on Turkish Statistical Law
- Establishes a framework for official statistics.
- Prepared by Statistical Council, adopted by Council of Ministers.
- States the objectives, coverage, methods, frequency, work plan and dissemination principles.
- Defines the duties of the institutions and organizations regarding the compilation, evaluation and publication of data.
- **By means of regular working group meetings (consists of data holders and TurkStat), improvement of the quality of registers is ensured.**

Communication Strategy for 2021 PHC

- ❖ Census communication strategy will be designed for all parties below with different goals:
 - Other departments within TurkStat
 - Stakeholders
 - Public
- ❖ Developing a strategy for public in order to
 - Create a positive attitude and raise awareness towards the register based census
 - Explain the society what/when/why we are going to do
 - Give assurance regarding their data protection and confidentiality
- ❖ But it is expected that these activities will not be so difficult. Because Turkish people are familiar to the “register-based statistics” due to annual ABPRS results (15 years of awareness).



Questions?
Comments?



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