



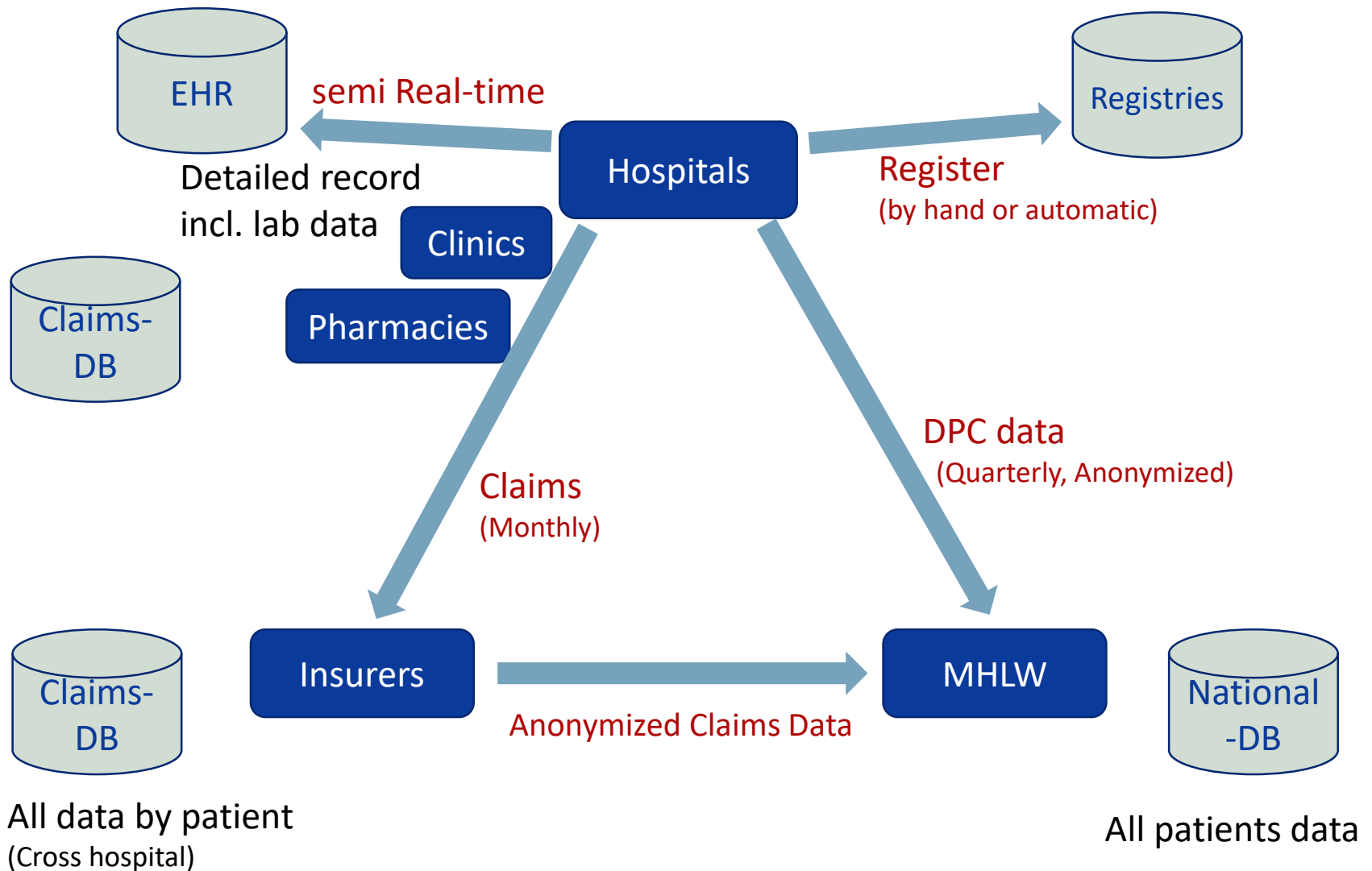
OHDSI

OBSERVATIONAL HEALTH DATA SCIENCES AND INFORMATICS

Japan data
and
OHDSI Japan



Types of clinical databases in Japan





Major Japanese databases in Japan available for clinical/pharmaco-epidemiology(1)

■ Hospital-based

DB name	admin	# uniq ID	Data Source	
MID-NET	PMDA	>5M	SS-MIX2, DPC, Claims	High Quality
EBM Provider	MDV Co.,Ltd.	30M	DPC, Claims, Lab, others	Major in HB
RWD-DB	RWD Co.,Ltd.	20M	DPC, Claims, EMR, Lab	
MIA	NHO	20M	DPC, Claims	1 stop service
NCD	NCD	12M	Surgery information	
JMDC C. DB	JMDC	8.8M	DPC, Claims	
NCDA	NHO	1.9M	SS-MIX2, Lab, etc.	1 stop service

Reference:

Pharmacoepidemiology & Database Taskforce, Japanese Society for Pharmacoepidemiology.
Survey of Japanese databases in Japan available for clinical/pharmacoepidemiology.



Major Japanese databases in Japan available for clinical/pharmaco-epidemiology(2)

■ Insurance-based

DB name	admin	# uniq ID	Data Source	
NDB	MHLW	All Patients	Claims	The Big One
JMDC C. DB	JMDC	7.4M	Claims	Major in IB
MinaCare	MinaCare	6.3M	Claims, others.	
Medi-Scope	Kyowa Kikaku	6.6M	Claims, others	

Reference:

Pharmacoepidemiology & Database Taskforce, Japanese Society for Pharmacoepidemiology.

Survey of Japanese databases in Japan available for clinical/pharmacoepidemiology.



Major Japanese databases in Japan available for clinical/pharmaco-epidemiology(3)

■ Pharmacy-based

DB name	admin	# uniq ID	Data Source
IQVIA NPA	IQVIA Sol. JP	32M	Pharmacy Claims
JMIRI	JMIRI	39M	Pharmacy Claims
Medi-Trend	Kyowa Kikaku	6.5M	Pharmacy Claims
NihonChouzai	Nihon-Chouzai	16M	Pharmacy Claims, others
PFR	PFR(CCT K.K.)	8.2M	Pharmacy Claims

Reference:

Pharmacoepidemiology & Database Taskforce, Japanese Society for Pharmacoepidemiology.

Survey of Japanese databases in Japan available for clinical/pharmacoepidemiology.



Act on the Protection of Personal Information in Japan

Passing PHI to third parties is highly restricted.

- Individual agreement → OK
- Gov's execution under a law → OK (without individual agreement)
- Opt-out permission → forbidden for PHI
- Usual anonymized data → Virtually impossible
(Most anonymized data are possible to identify individuals by matching with some additional information)

Instead, "**TOKUMEI KAKOU**" (anonymous processing) is provided in the PIP law.

- By following specific procedures and rules, anonymized data can be passed.
- Identifying individuals is banned.



Medical Big Data Law

“Next Generation Medical Infrastructure Act”

- It partially overwrites the PIP act.
- Certified corporations can collect non-anonymized PHI from hospitals with the “careful opt-out” permission.
- These corporations are allowed to merge the data using personal identifiers and pass the extracted TOKUMEI KAKOU data to third parties.
- The first operator is finally certified in Dec. 2019.





OHDSI Japan

1st Meeting

June 20th ,2019



2nd Meeting

Sep 5th - 6th ,2019



Mini-meet #1
Oct 29, 2019

3rd Meeting

Nov 19th ,2019

Mini-meet #2
Dec 17, 2019

Mini-meet #3
Jan 21, 2020



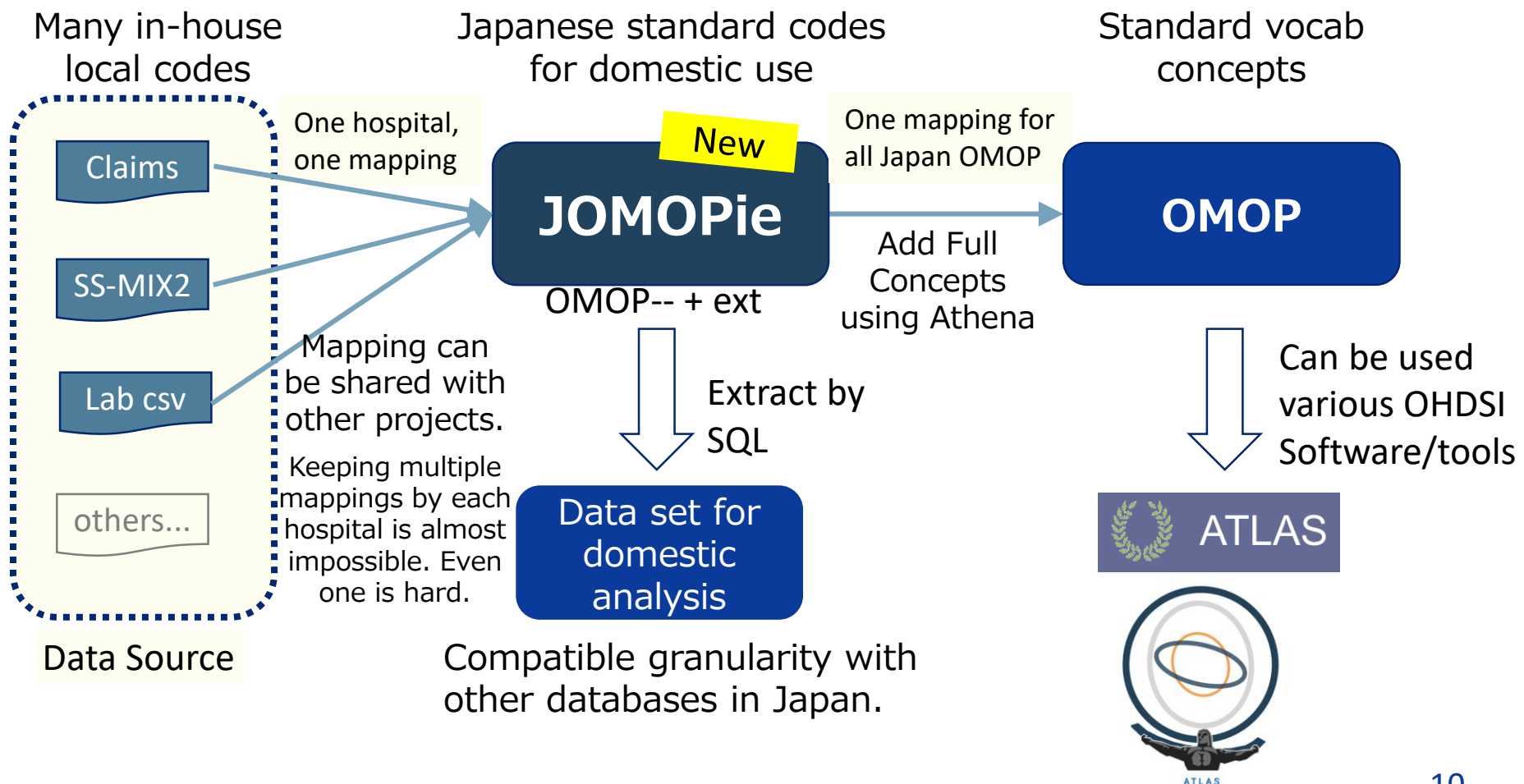
Main attendee affiliations:

University hospitals, Pharmaceutical companies,
IT vendors, Data vendors



JOMOPie -> gradual vocab approach

Multi-stage OMOPize method with useful intermediate stage data.





JOMOPie – features

1. Field expansion in clinical data tables for multiple Japanese standard codes, which is not for global use but is for domestic use where compatibility with other Japanese databases is important. Vocab tables are intact.
 - ※ *_source_value fields are for original local codes/names.
2. *_concept_id fields whose corresponding extended fields have values can be left as empty (or zero) for domestic use.
 - ※ Therefore, SNOMED issues can be set aside. Japan is not SNOMED member.
 - >Data holders in Japan are easy to participate**
3. Empty *_concept_id fields can be filled anytime when/where possible. Mapping from representative Japanese standards to OHDSI standards will be in Athena so that everyone can use it.
 - ※ In fact, mapping except to SNOMED can be done from the beginning.
 - >Coexist with global OMOP**
4. Limitation: Standard tools such as Atlas cannot be used without filling required *_concept_id fields.

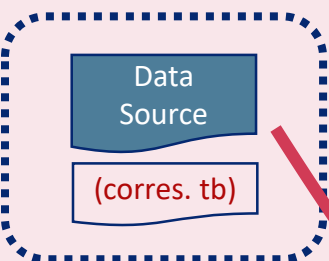


A free ETL tool in Japan

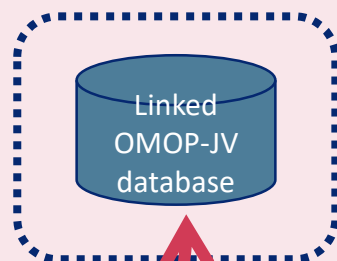
Prof Hiramatsu has developed a tool that can easily perform ETL using Oracle VirtualBox virtual machine.

VirtualBox Shared Folder

INfiles



dbfiles



LOGfiles



OUTfiles



JV-ETL VM



ETL Operation

<http://localhost:8500/>

browser

連結構OMOP-JVへ取り込み (検査CSV)

レセプト取込 検査CSV取込 ID管理

レセプト匿名化 検査CSV匿名化 SS-MIX2取込

格納データ件数 (レセプト)

INFO

取得処理中...

Phase1: (16.71%)

取得したレセプト年月と種類

年月	種類
2018-05	医科

※通常は国保と社保で2個づつある。

MENU

- 取込前検査CSV一括確認
INfiles/LabCSV内にある検査CSVファイルの一覧を確認します。
- 連結構OMOP-JVへ取込処理(検査CSV)
取込処理を実行します。すぐ時間がかかります。既存の連結構OMOP-JV(検査CSV)があるとき一旦全削除されます。
- 取込結果の確認
連結構OMOP-JV(検査CSV)内の人数やレコード数を表示します。

- 再実行の準備
取込処理をリセットし、INfiles/LabCSVの検査CSVファイルを入取込処理を行うことができます。

OMOP-JVテーブル件数

テーブル名	総件数
person	576
visit_occurrence	622
condition_occurrence	2,314
drug_exposure	3,236
procedure_occurrence	5,685
measurement	0
concept	1,112

person (人数)

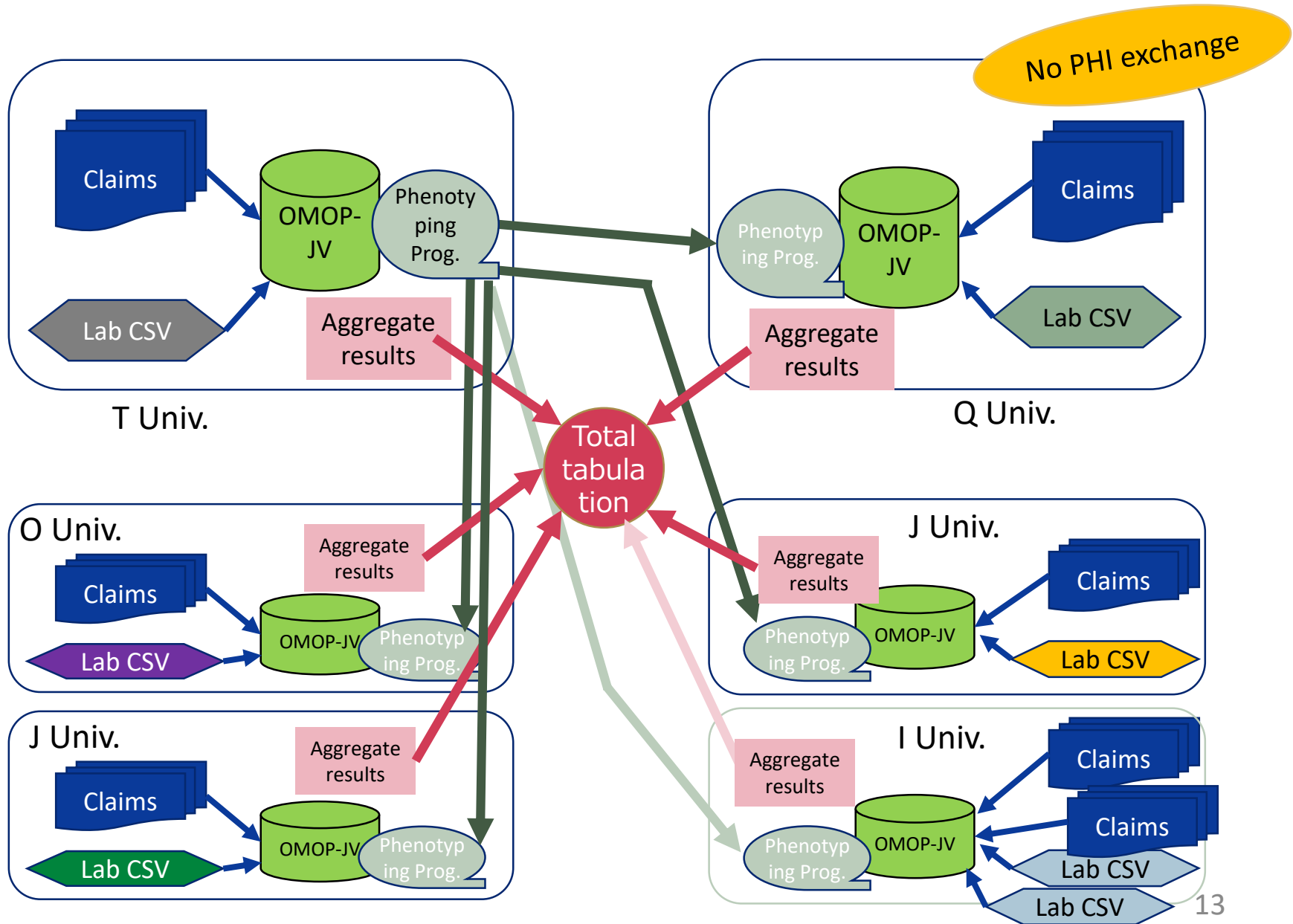
年齢層	総数	男性	女性
0-9	283	135	148
10-19	45	25	20
20-29	13	5	8
30-39	51	20	31
40-49	68	32	36
50-59	52	23	29
60-69	48	26	22
70-79	9	3	6
80-89	6	0	6
90-99	1	0	1
100-119	0	0	0
1899以前	0	0	0
2020以降	0	0	0
生年不明	0	0	0
合計	576	269	307

連結構OMOP-JV 0.91 by T.Hiramatsu, 2018.

※ JV is the previous version of JOMOPie. We are going to reconstruct the tool.



An Example of usage in Japan





Going forward

As OHDSI JAPAN, we would like to realize the spread of OMOP in Japan by promoting activities such as...

- **Translating “The book of OHDSI”**
- **Conducting various seminars**
- **Promoting implementation with Real data holders**

...etc

We really look forward to make new evidence with global healthcare data together with you!

**Asia-Pacific Symposium 2020
Dec. 2020, Shanghai**