

# National-Level Estimates from RWE: Producing Fast Projected Outcomes of Drug Exposure Based on Pharmacy and Medical Claims using OMOP CDM.

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## **Abstract**

*This study aims to assess the reproducibility of National-Level Estimates using RWE (Real Word Evidence).*

*Our goal is to use datasets converted to OMOP (Observational Medical Outcomes Partnership) CDM (Common Data Model) and being able to project to the national population in a fast, coherent and reliable way. The case study selected for this project is influenza immunization analysis run on IQVIA Claims database, in particular, influenza vaccination during the 2017 - 2018 flu season. In order to execute the analysis, it was necessary to map the source codes to OMOP CDM standard codes, apply the projection factor obtained by source data and then compare the results.*

*The outcome of the study showed that profiles of the two methods are comparable. This will lead to further analysis with the calculation of a projection factor directly derived from OMOP data.*

## **Introduction**

This project relates to the reproducibility of National-Level Estimates using RWE (Real Word Evidence).

Our goal is to use datasets converted to OMOP (Observational Medical Outcomes Partnership) CDM (Common Data Model) and being able to project to the national population in a fast, coherent and reliable way.

The case study selected for this project is influenza immunization analysis run on IQVIA Claims database, in particular, influenza vaccination during the 2017 - 2018 flu season.

## **Materials and Methods**

Running the study across the IQVIA database, it was possible to define the data as belonging to two classes: LRx and Dx.

The LRx, characterised by Pharmacy claims, covers the retail channel with coverage of 92-94%, therefore projections are not needed, while the Dx, containing the medical claims, are needed for the outcomes due to the incomplete capture of both patients and medical claims.

The methodology has been characterized by the use of projection factors calculated with the use of source data (Advance Analytics team).

The first step was to map the source codes to OMOP CDM standard codes especially observing Drug exposure, procedure occurrence or device exposure which may held records of flu vaccines. Afterward, it was obtained the number of patients that have been administered an influenza vaccine during the 2017-2018 flu season, by month. The projections were then applied at the claim level matching the month, physician ID and claim ID.

Finally, there were checked raw and projected patients by age group against the source data results. These estimates are based on the same data (Dx claims) and method (panel physician projections at claim level).

## **Results**

The calculation showed that Dx data projected are comparable with the results based on source data. The Advanced Analytics method obtained 53.8 million of patients with projected data, while our estimation based on OMOP data (OMOP Data Science) showed 52,04 million of patients, with a difference in between the two profiles of approximately 3%.

In the figure below there are represented estimations based on the different methodologies, in particular, the one executed with source data (by Advanced Analytics team) and the two strategies based on OMOP data (month\_id) and OMOP data (claim\_id), all of them stratified by age group.

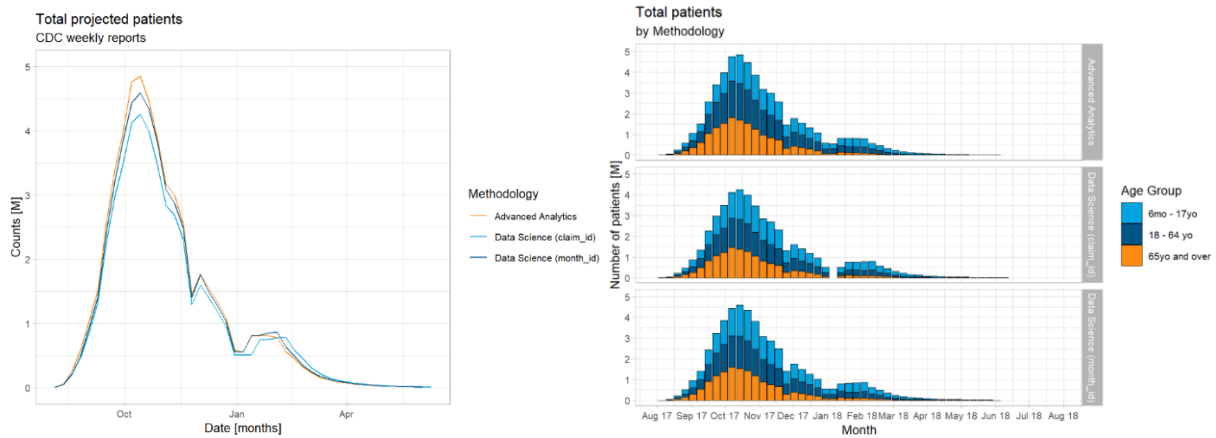


Figure 1. The profile of estimation based on source data is comparable to the one executed with the use of OMOP data on claims and months.

### Conclusions

We believe that it should be possible now to provide not only prognosis information, but also comparative effectiveness' estimates as well as patient level assessment of treatment options.

Next step will be implementing methodology in order to generate projection factors with OMOP CDM and to apply it for further investigations.

## References

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