

# Reclassification of COVID-19 Related ICD-10 Codes in Mexico: A Real-World Data Analysis of 1,937,360 Hospital Discharges from the Ministry of Health

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## Objectives

To estimate the reclassification of COVID-19 related ICD-10 codes from admission to discharge using Real-World Data (RWD) from the 2020 Mexican Ministry of Health (MoH) hospitals discharge dataset

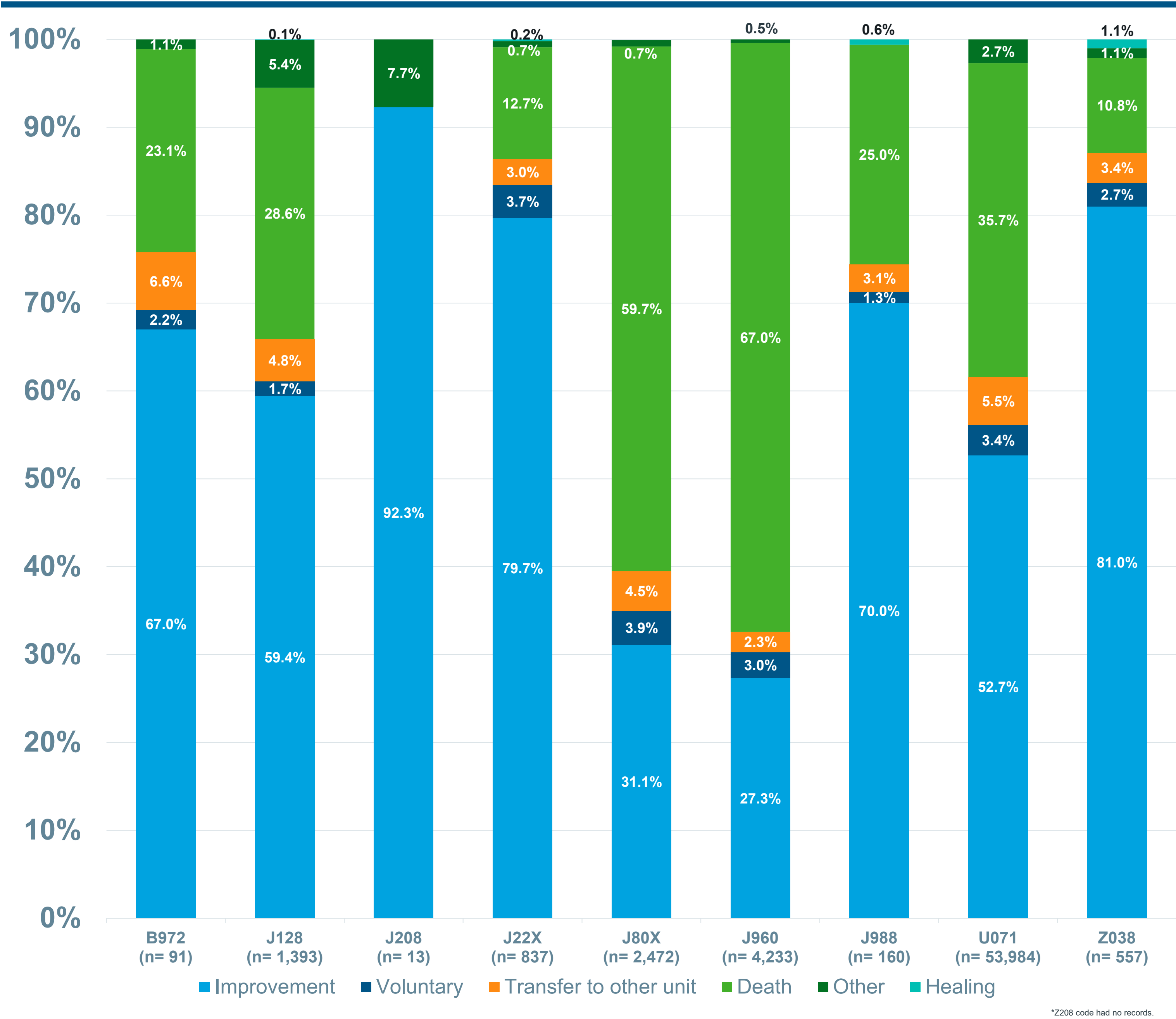
## Methods

In this retrospective study, we analyzed all COVID-19 related discharges in the 2020 MoH open database, according to ten ICD-10 codes that the WHO associated with COVID-19. Reclassification was defined as those COVID-19 related cases who were discharged with a different ICD-10 code compared to their ICD-10 admission code.

## Results

From a total of 1,937,360 discharges reported in the MoH’s 2020 database 63,740 (3.3%), mostly men (60.8%), with a median age of 56 years, were discharged with a COVID-19 related ICD-10 code and 12,945 of these were reclassified (20.3%). Although “2019-nCoV acute respiratory disease” (U071) had the greatest frequency of reclassified discharges (12,013, 22.3%), the “other coronavirus as the cause of diseases classified elsewhere” (B972) was associated with the greatest reclassification proportion (68,74.7%) followed by “pneumonia case confirmed as due to COVID-19” (J128) (26.0%). Codes with lower percentages were “acute respiratory distress syndrome due to COVID-19” (J80X) and “acute respiratory failure due to COVID-19” (J960) with 6.3% and 3.8%, respectively. From 63,740 discharges, 50.7% were due to clinical improvement, followed by death (38.2%), transfer to another unit (5.2%) and voluntary discharge (3.3%). The J960 code had the highest mortality (67%) followed by codes J80X (59.7%) and U071 (35.5%).

Variables	ICD-10 codes										
	B972	J128	J208	J22X	J80X	J960	J988	U071	Z038	Z208	Total
Hospital discharges, n	91	1,393	13	837	2,472	4,233	160	53,984	557	0	63,740
Same initial diagnosis	23	1,031	11	738	2,317	4,072	138	41,967	494	0	50,791
Reclassification	68	362	2	99	155	161	22	12013	63	0	12,945
Reclassification, %	74.7%	26.0%	15.4%	11.8%	6.3%	3.8%	13.8%	22.3%	11.3%	-	20.3%



## Conclusions

In our RWD analysis, we identified that 1 in 5 COVID-19 discharges were admitted with different diagnoses, highlighting the enormous challenges faced by the Mexican MoH during the global health crisis to establish an accurate COVID-19 diagnosis and coding. Given that this is the first reclassification analysis in Mexico, the conduction of future studies is essential to gain more insights on the consequences of reclassification at a health system level.