



SCHOOL OF MEDICINE

North Carolina Translational and Clinical Sciences Institute

Visits & Macrovisits in N3C

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Research and Applications



OXFORD

Research and Applications

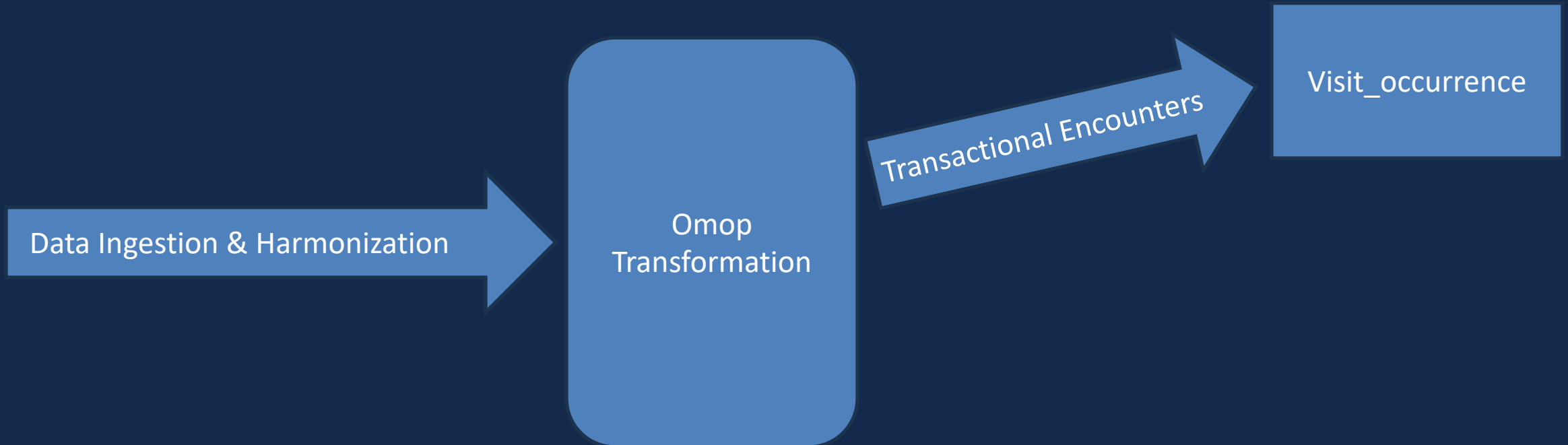
Clinical encounter heterogeneity and methods for resolving in networked EHR data: a study from N3C and RECOVER programs

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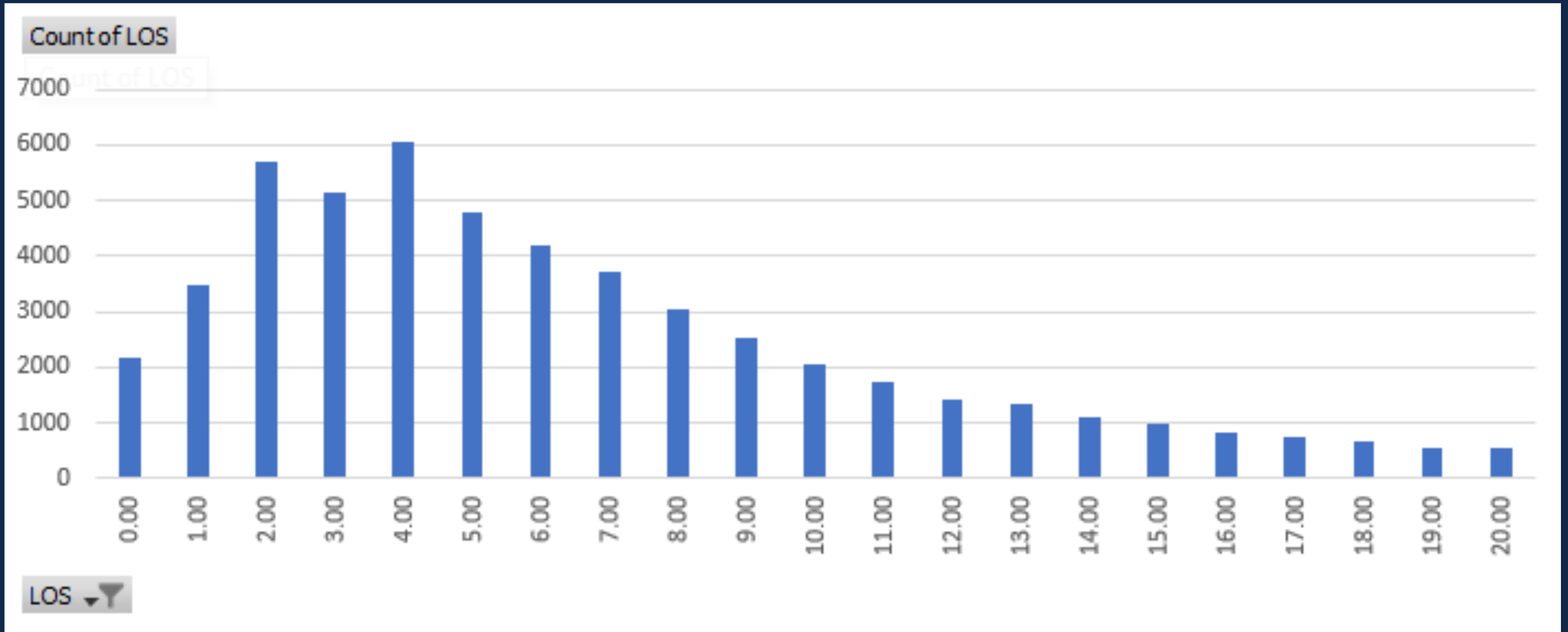
N3C Background & Overview

	12-06-2021	4-20-2023
Data Partner Sites	~66	76
Total patients	9.4M +	18.9M
Covid+ patients	3.3M+	7.4M
Approved projects	303	478
Rows of data	10.6B+	23B+
Observations		2.1B
Labs		11.2B
Medications		3.6B
Procedures		1B
Visits		1.3B

Visit Pipeline in N3C (as they were)

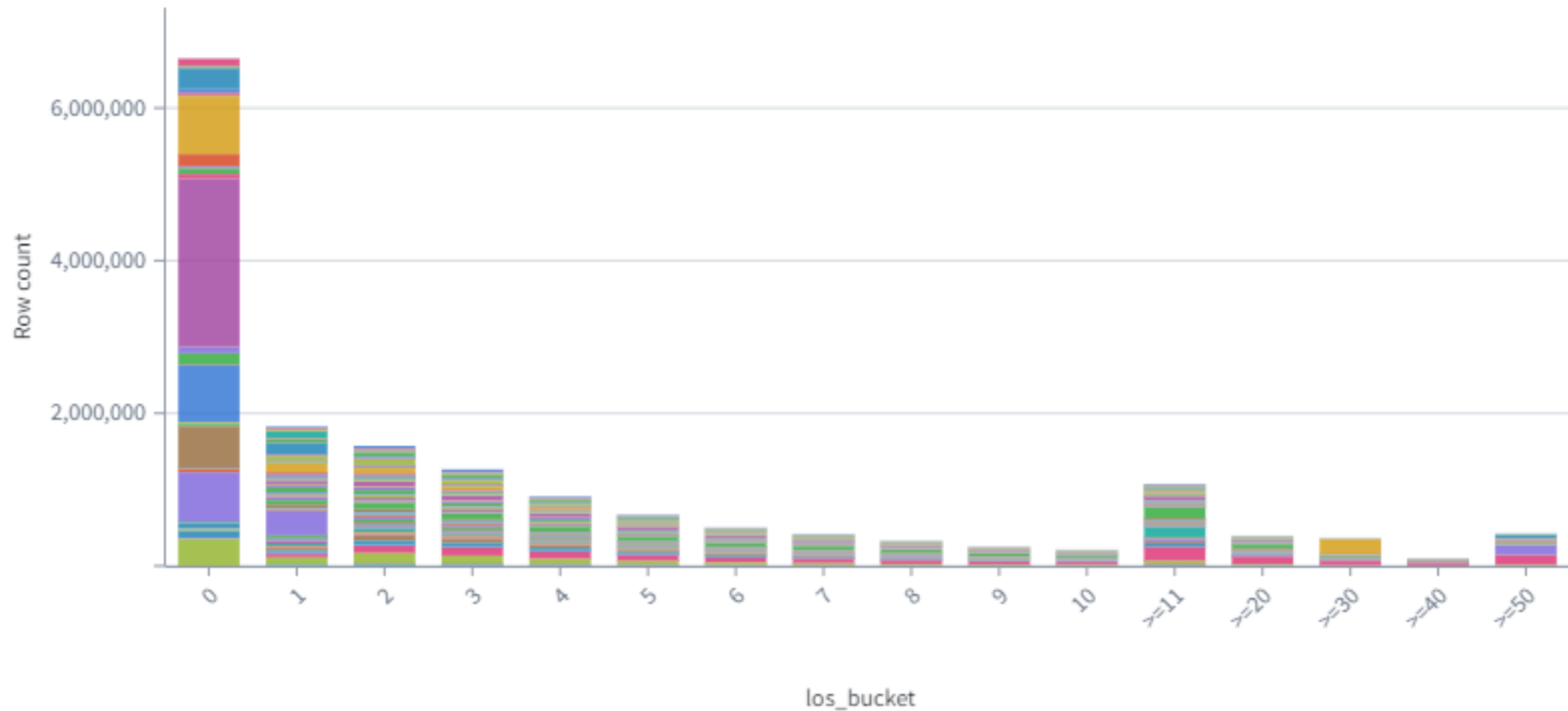


IP LOS from MIMIC III



N3C Visit Occurrence for IP visit concepts

LDS Visit LOS



What is going on?

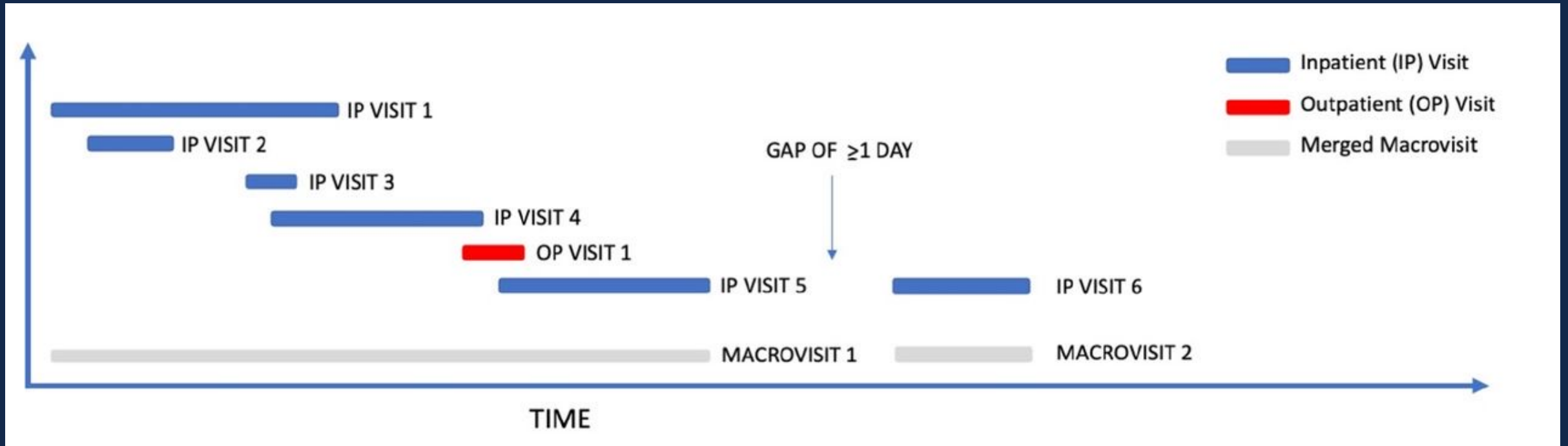
Large Heterogeneity between sites

- Intentional
 - Disaggregation: breaking IP & ICU stays into sequential 0-day visits; call prof component IP
 - Variation in how facility professional performed and encoded (Clinical variation)
 - Different uses & interpretations of visit concepts (encoding variation)

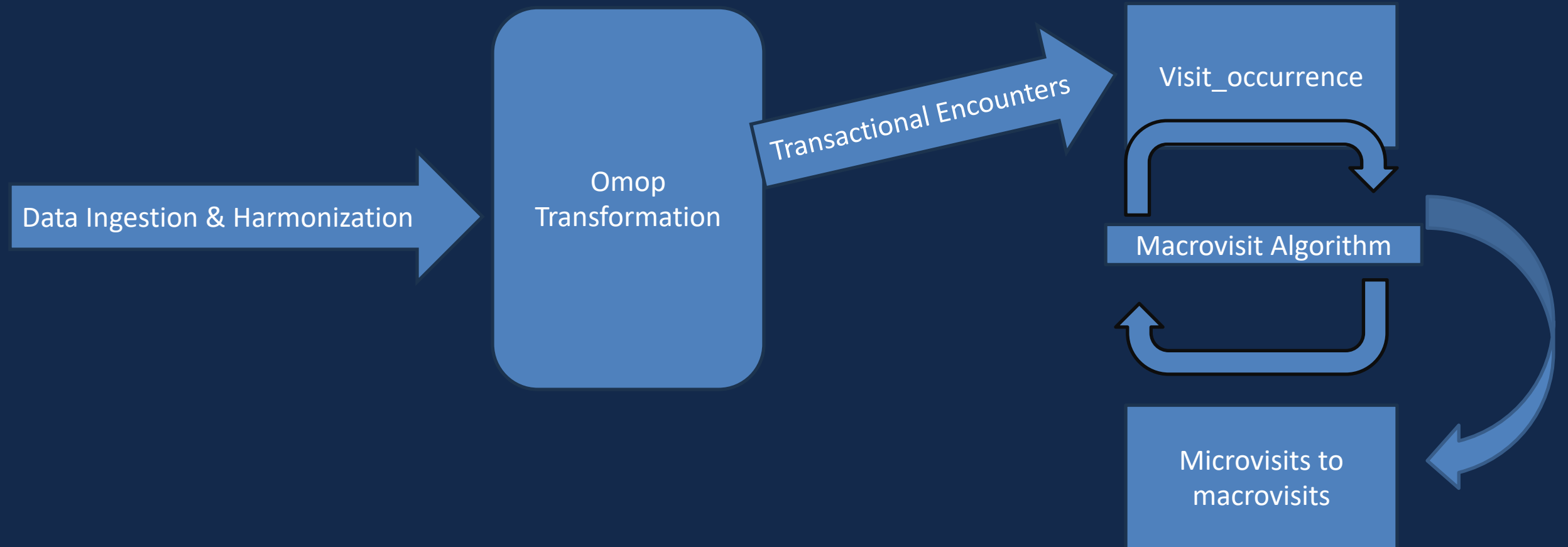
- Unintentional
 - Pandemic pandemonium (waves of extended ER stays, etc)
 - Encoding / mapping problems that are subtle (outpt facility -> inpt)
 - Encoding / mapping problems that are not subtle (ECMO performed in 0 day outpt)
 - Wrong or missing dates (Average IP LOS > 1,000+ days)
 - Not including metadata that would help to rectify these issues (related procs, diagnoses, DRGs, etc)

Enough heterogeneity, one approach can't fix

Macrovisit process (post-hoc remediation)

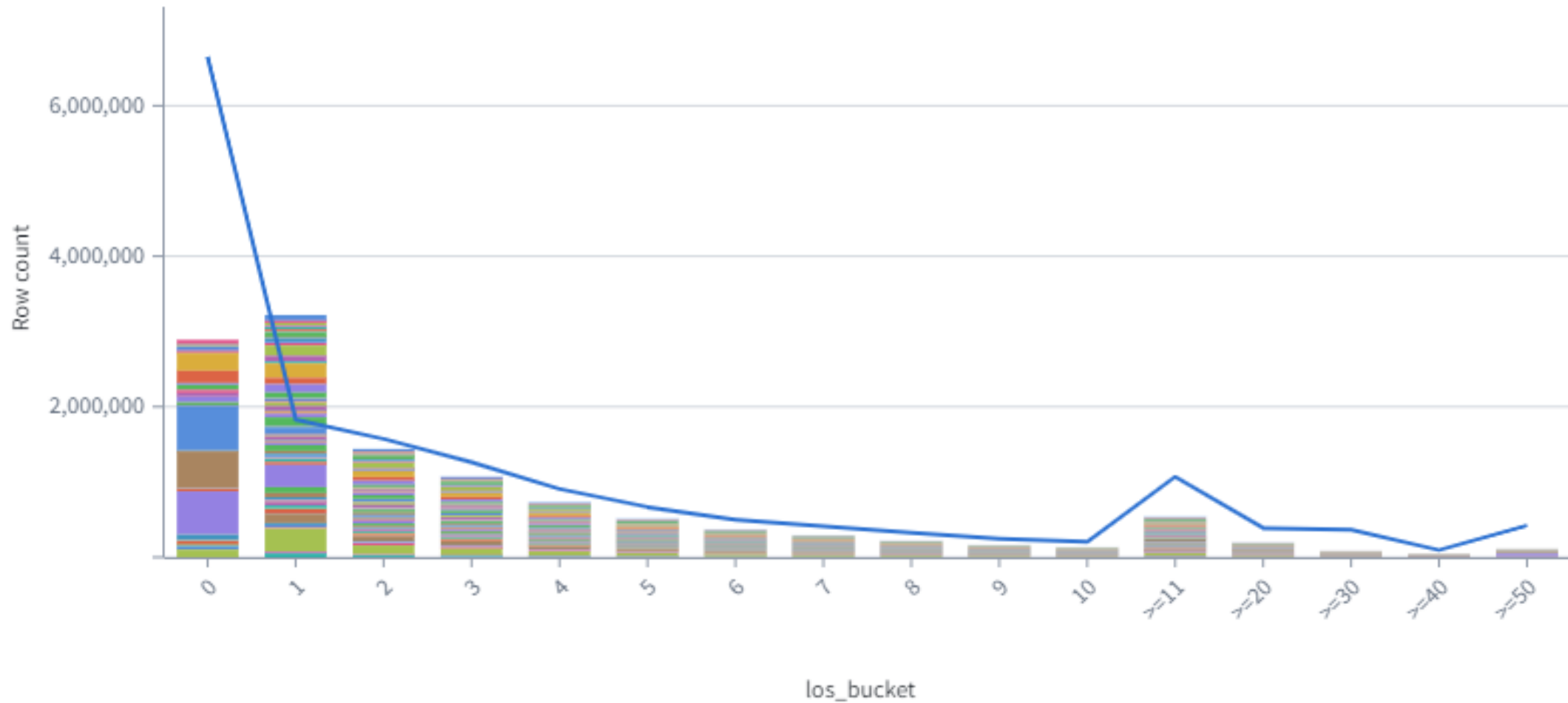


Visits in N3C (as they are today)

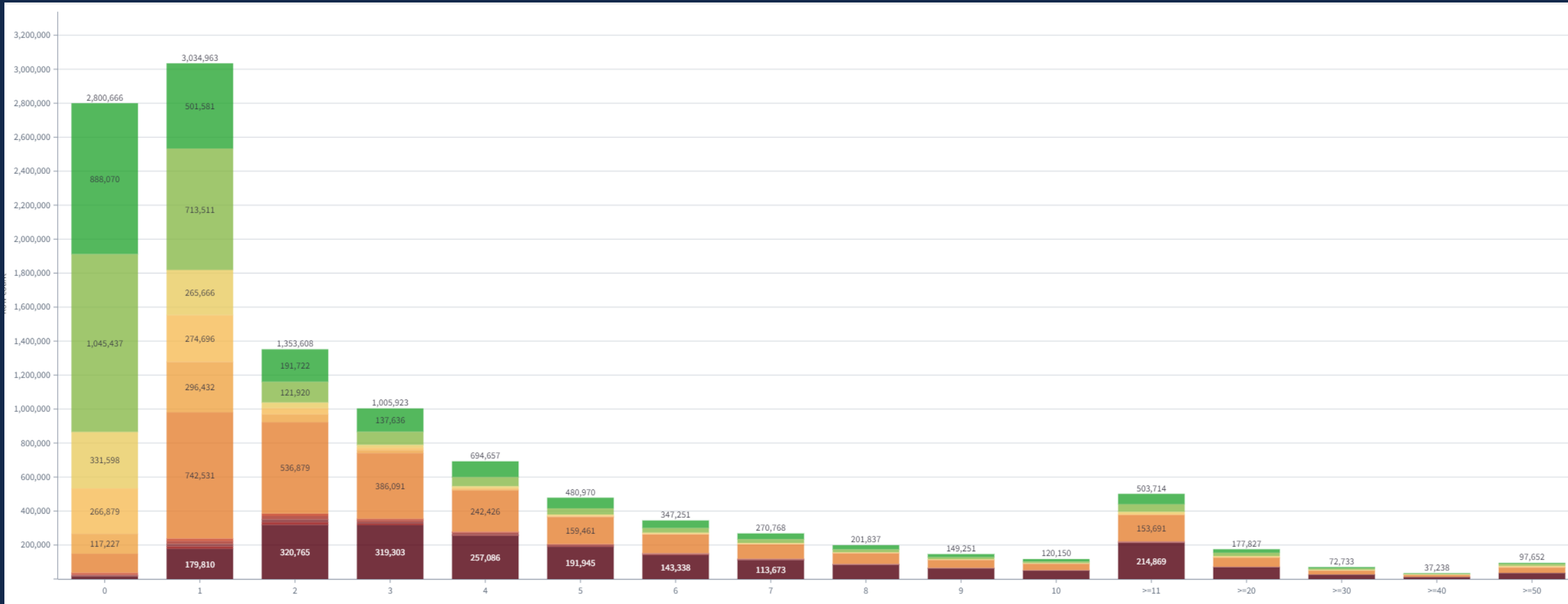


Baseline Macrovisits

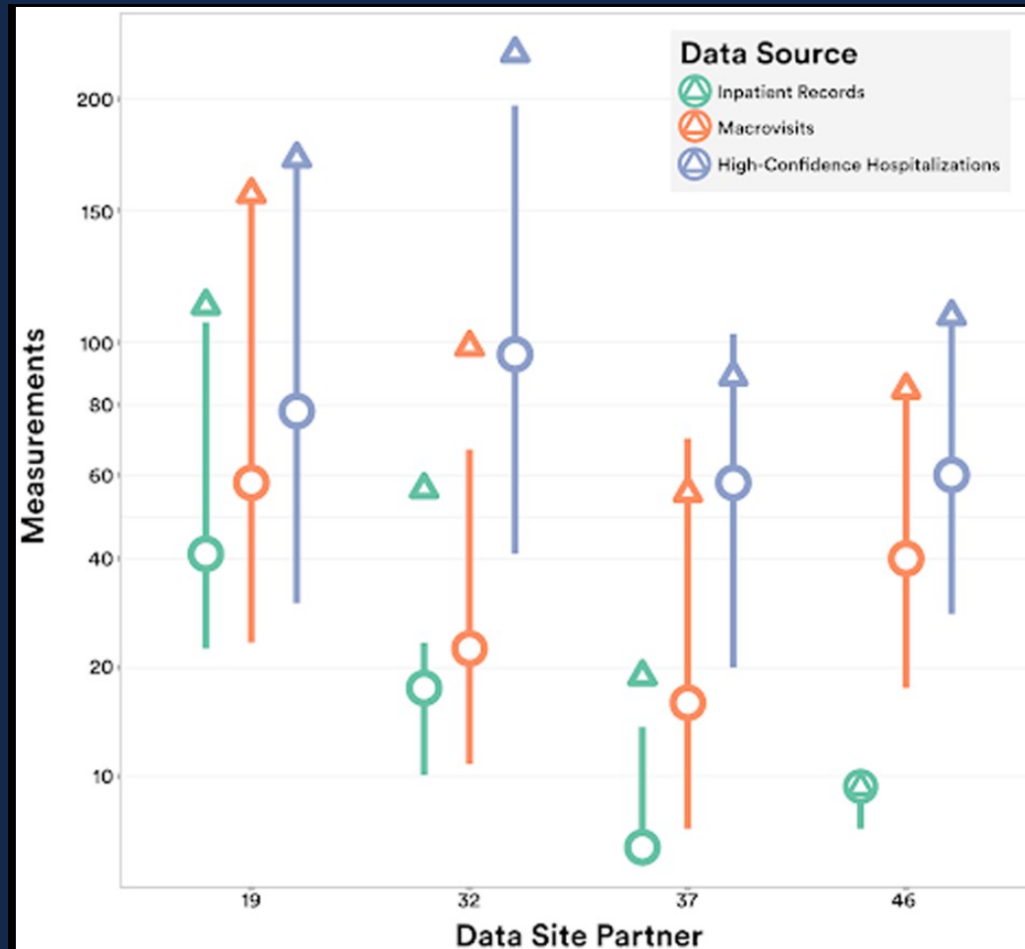
LDS Macrovisits LOS



High Confidence Hospitalizations



Visit-related data improves



Are macrovisits appending stuff or related stuff -- ECMO

	1%	25%	50%	75%	99%
Visit LOS <i>n</i> =39809	0	0	0	1	148
Macrovisit LOS <i>n</i> =9830	0	16	33	59	282
Visit Ptt <i>n</i> =39809	0	0	0	0	188
Macrovisit Ptt <i>n</i> =9831	0	9	25	60	327

Questions

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