Take-Aways

1) Do DP generative models generate data in similar classes and subgroups proportions to the real data?

No, not really. DP distorts the proportions, yielding "Robin Hood" vs "Matthew" effects depending on the DP generative model

Take-Aways

2) Does training a classier on DP synthetic data lead to the same disparate impact on accuracy as training a DP classifier on the real data?

Overall yes. Smaller classes/subgroups suffer more similarly to DP classifiers. However, we do not see the rich get richer, the poor get poorer; rather, everybody gets poorer.