

Sub-provincial trends in key COVID-19 pandemic indicators in Saskatchewan

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How was this research identified as a priority?

The healthcare system has been negatively impacted worldwide due to the unusual nature of the COVID-19 pandemic. In light of the fact that the trajectory of COVID-19 pandemic indicators varies by province, it is crucial to understand the local story of the COVID-19 pandemic scenario. This report highlighted the quantitative portrait of local stories in Saskatchewan, specifically sub-provincial trends in cases, deaths, hospitalizations, recoveries, tests, and vaccinations across Saskatchewan.

Background: In many ways, the COVID-19 pandemic has turned our world upside down and led to many changes over the time. However, just as much as the pandemic has been a global story, so too has it been a local story. Working with publicly available data retrieved from the Saskatchewan COVID-19 Dashboard and COVID-19 Tracker Canada, we provided a quantitative portrait of these local stories in Saskatchewan. Specifically we reported on sub-provincial trends in cases, deaths, hospitalizations, recoveries, tests, and vaccinations across Saskatchewan.

Methods: The data for this report were based on Saskatchewan COVID-19 Dashboard and COVID-19 Tracker Canada to identify cases, deaths, hospitalizations, recoveries, tests, and vaccinations across Saskatchewan between March 2020 and September 2021. We estimated the basic reproduction number (R_0) for COVID-19 in Saskatchewan and standardized by population. R_0 is a well-known epidemiological measure that is used to quantify the transmission of infectious diseases. It is defined as the average number of secondary cases generated by a single individual during its infectious period. Monitoring R_0 over time gives information on the efficacy of interventions. Results were standardized by population in order to facilitate their interpretation and comparison. Emphasis placed on description and visualization to facilitate knowledge translation and mobilization. The rate of active cases and first vaccination doses was estimated per 100,000 people.

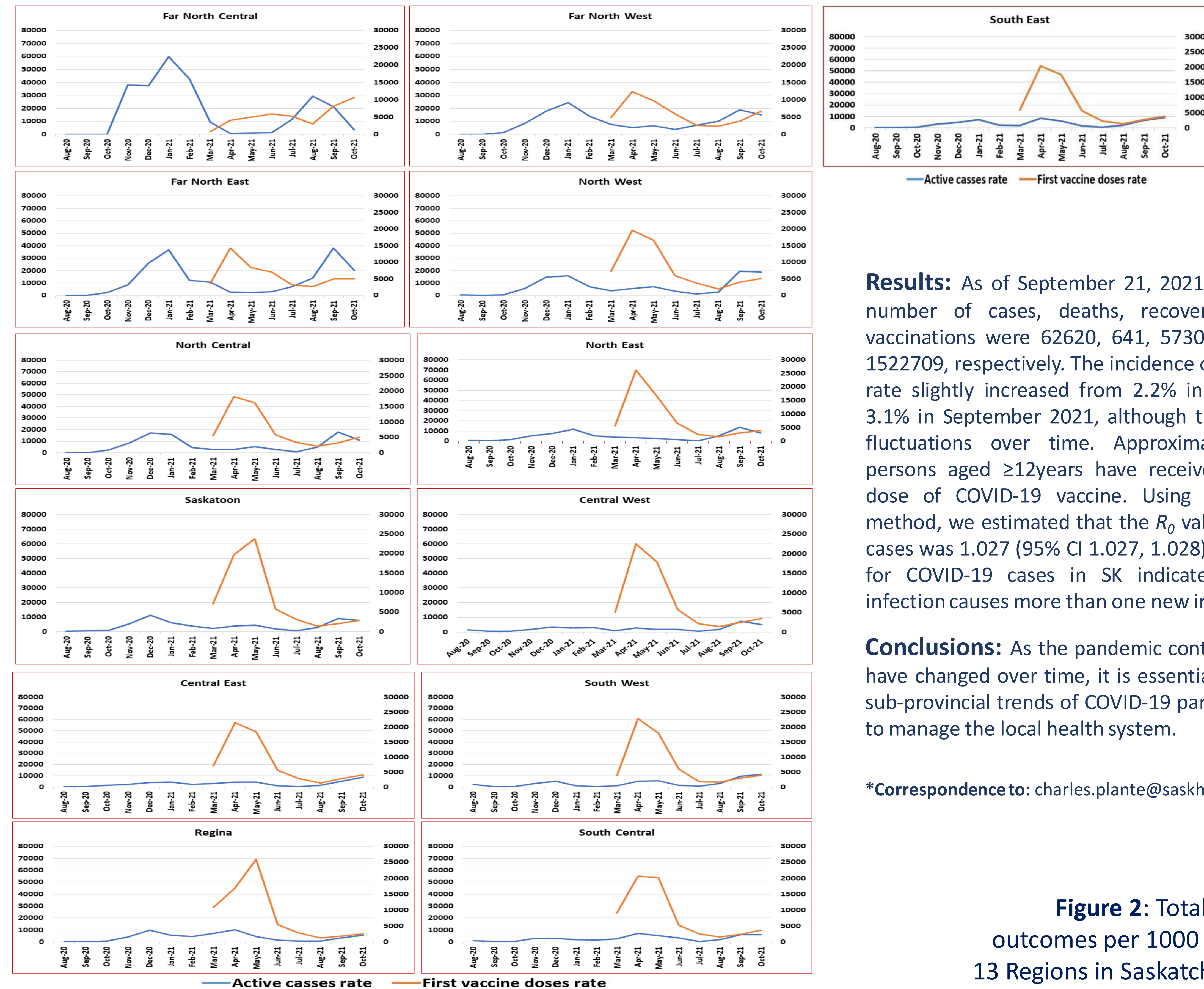
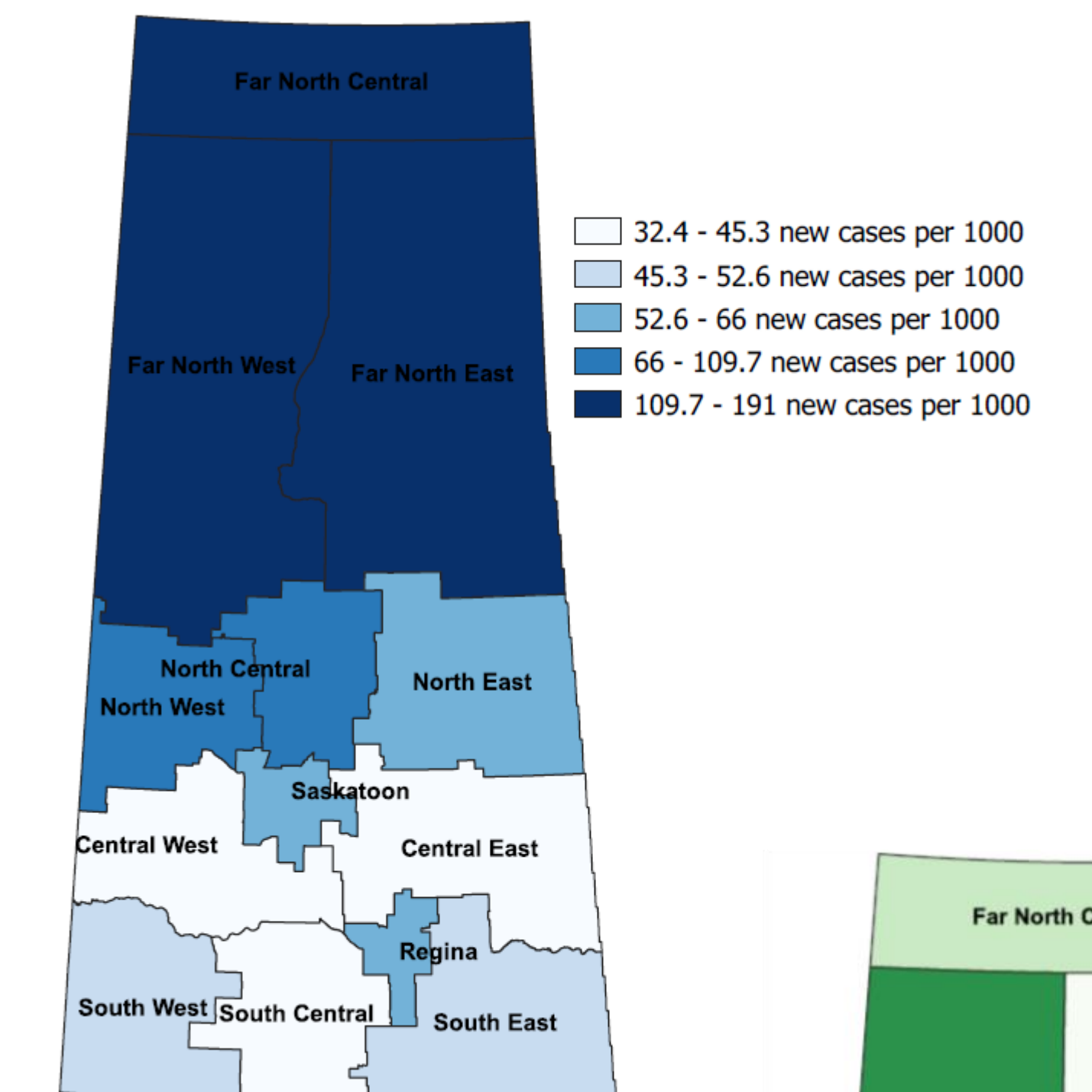


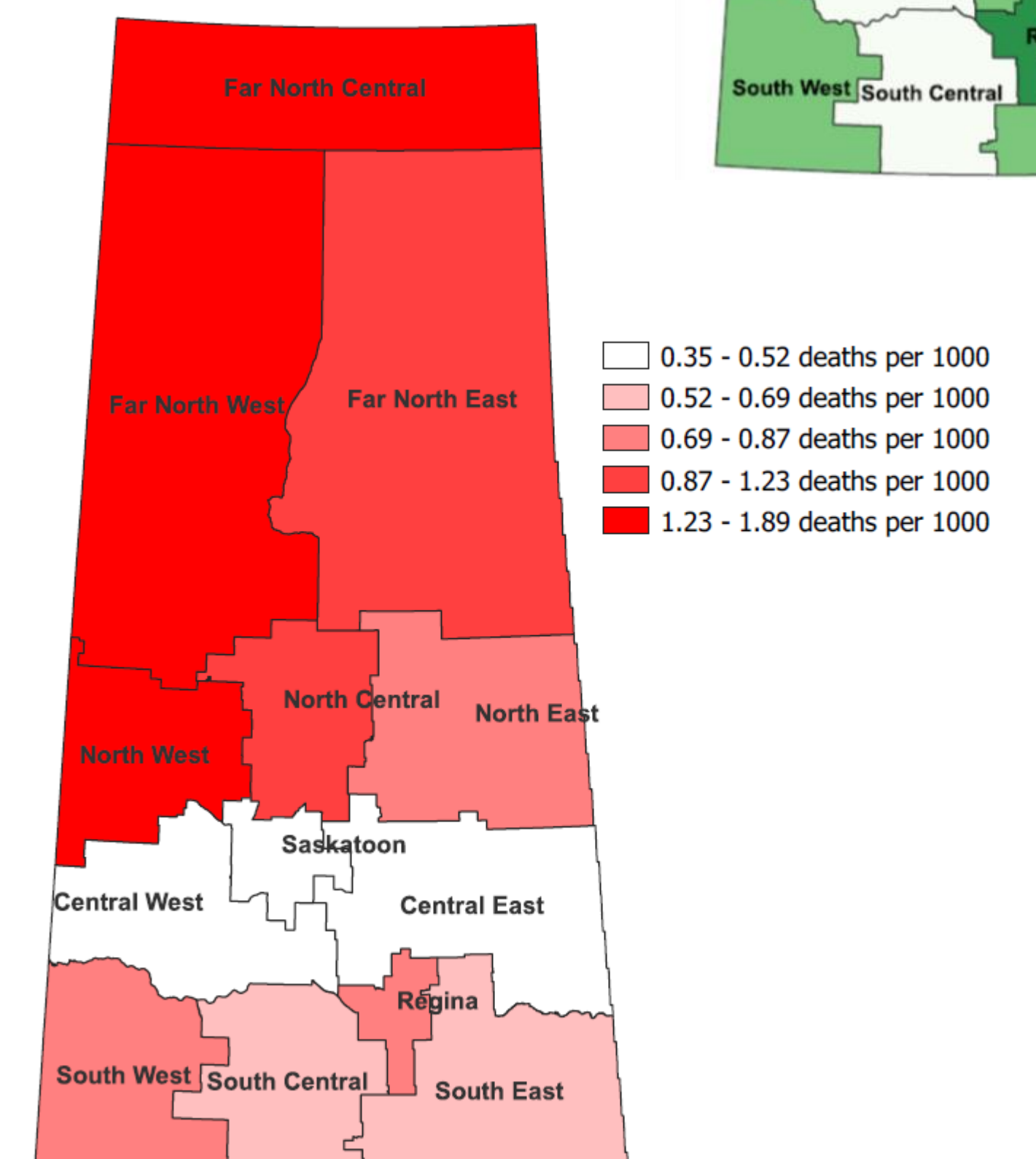
Figure 1: Monthly Rate of active cases and first vaccine doses per 100,000 population for 13 Regions in Saskatchewan, August 2020 to October 2021



32.4 - 45.3 new cases per 1000
45.3 - 52.6 new cases per 1000
52.6 - 66 new cases per 1000
66 - 109.7 new cases per 1000
109.7 - 191 new cases per 1000



5.8 - 13.9 Inpatient Hospitalizations per 1000
13.9 - 18 Inpatient Hospitalizations per 1000
18 - 21.1 Inpatient Hospitalizations per 1000
21.1 - 45.9 Inpatient Hospitalizations per 1000
45.9 - 56.8 Inpatient Hospitalizations per 1000



0.35 - 0.52 deaths per 1000
0.52 - 0.69 deaths per 1000
0.69 - 0.87 deaths per 1000
0.87 - 1.23 deaths per 1000
1.23 - 1.89 deaths per 1000

Results: As of September 21, 2021, the cumulative number of cases, deaths, recoveries, tests, and vaccinations were 62620, 641, 57307, 1094674 and 1522709, respectively. The incidence of hospitalization rate slightly increased from 2.2% in March 2020 to 3.1% in September 2021, although there were some fluctuations over time. Approximately 78.4% of persons aged ≥ 12 years have received at least one dose of COVID-19 vaccine. Using the attack rate method, we estimated that the R_0 value for COVID-19 cases was 1.027 (95% CI 1.027, 1.028). The value of R_0 for COVID-19 cases in SK indicated that existing infection causes more than one new infection.

Conclusions: As the pandemic continues and trends have changed over time, it is essential to monitor the sub-provincial trends of COVID-19 pandemic indicators to manage the local health system.

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Figure 2: Total rate of COVID outcomes per 1000 population for 13 Regions in Saskatchewan, August 2020 to October 2021