Assessing geographic variability in vaccination rates by VISNs will create the potential to generate targeted interventions within an existing VHA framework.

**Interactive data displays for rapid responses to COVID-19 response in K-12 schools**
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OBJECTIVES/GOALS: A UCLA Clinical and Translational Science Institute (CTSI) science team partnered with the second largest US school district, with over 500,000 K-12 students, to design and implement a statistical process control dashboard to guide COVID-19 response, including mitigation and vaccination outreach. METHODS/STUDY POPULATION: District data for students, teachers, and staff are updated daily and include COVID-19 test results, counts of quarantine after positive tests, and COVID-19 vaccination rates. Displays used a new hybrid Shewhart control chart to detect changes in test positivity rates and distinguish meaningful signals from noise (random day-to-day variation). The dashboard uses the Shiny and plotly packages in R to display interactive graphs of each data stream (cases, tests, and vaccinations) charted at multiple levels (districtwide, subdistricts, schools). Displays of variation over time show policy impacts and inequities. Selected displays use municipal COVID-19 data to complement district data. RESULTS/ANTICIPATED RESULTS: The district has used the displays to assess the impact of their COVID-19 response and to identify variation in close to real-time to suggest areas with need for additional resources for mitigation or vaccination. The CTSI team has continued to edit and add displays in response to the district’s changing operational needs and questions. DISCUSSION/SIGNIFICANCE: The UCLA CTSI team developed and implemented a robust data visualization dashboard to monitor COVID-19 case rates and plan vaccination outreach efforts. Control charts enabled the district to distinguish noise from signal, thereby rapidly identifying when specific parts of the district needed targeted support to achieve equity goals.

**Determining factors associated with treatment outcomes in patients with shoulder arthritis**
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OBJECTIVES/GOALS: For shoulder osteoarthritis (OA), the understanding of the patient-specific factors that determine success of both non-operative and operative treatment options is limited. This study aims to identify key factors associated with the response and the heterogeneity of outcomes for both types of treatment.