Conclusion: While most NHs had a plan to respond to COVID-19 pandemic in March 2020, many facilities experienced a lack of available resources, less than ideal communication lines with local hospitals, lack of testing capacity and insufficient staff. These shortcomings indicate potential high-yield areas of improvement in pandemic preparedness in the NH setting.

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67. SARS-CoV-2 Transmission: Preliminary Findings from a Household-based Study

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Background: Social distancing measures, such as shelter-in-place or stay-at-home orders, are recommended for control of community transmission of SARS-CoV-2. Few studies, however, have characterized the transmission of SARS-CoV-2 infections in households.

Methods: We conducted a case-ascertained study of household transmission in Nashville, TN starting in April 2020, after recommendations to stay at home were enacted. Index cases were ambulatory patients identified through clinical RT-PCR testing at Vanderbilt walk-in-clinics dispersed across the Nashville metropolitan area. For this study, the index case was the first person presenting with respiratory or compatible symptoms in a household and who lived with at least one other household member. After informed consent was obtained, household members were remotely trained in the self-collection of nasal swabs and use of REDCap electronic questionnaires. Household members completed daily symptom diaries and collected daily nasal swabs for 14 days. Contact patterns within households before and after disease onset were ascertained. Nasal swab samples were tested using RT-PCR at an academic research laboratory.

Results: At the time of writing, 18 families were enrolled (including 18 index cases and 34 household members) with at least 1 follow-up nasal swab tested. The median age of index cases and household members was 37 years (IQR: 26–46) and 27 years (15–39), respectively. The median number of days from index patient onset of symptoms to first sample collected in the household was 4 (2–5). Before onset of symptoms, 83% of index cases spent >4 hours in the same room with at least one other household member, whereas after disease onset and diagnosis, 44% did. Among 34 non-index household members, 18 (53%) had a positive test during follow-up; the median number of days from index case's symptoms onset to first positive detection in a household member was 4.5 (3–5) days. Interestingly, 13 (72%) of 18 secondary infections were detected within the first 3 days of follow-up, whereas 5 (28%) were detected during subsequent days.

Conclusion: These observations suggest that transmission of SARS-CoV-2 within households is high, with many infections detected during the initial days of study follow-up.

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68. Active Monitoring of a Healthcare Worker Cohort During the COVID-19 Epidemic

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Background: Initial CDC recommendations for passive monitoring of COVID-19 related symptoms among staff may not be sufficient in preventing the introduction and transmission of SARS-CoV-2 in healthcare settings. We therefore implemented active monitoring for SARS-CoV-2 infection in healthcare workers (HCWs) at an academic medical center during the COVID-19 epidemic in northeast US.

Methods: We recruited a cohort of HCWs at Yale New Haven Hospital who worked in COVID-19 units and did not have COVID-19 related symptoms between March 28 and June 1, 2020. During follow-up, participants provided daily information on symptoms by responding to a web-based questionnaire, self-administered nasopharyngeal (NP) and saliva specimens every 3 days, and blood specimens every 14 days. We performed SARS-CoV-2 RT-PCR and an anti-spike protein IgM and IgG ELISA to identify virological and serological-confirmed infection, respectively.

Results: We enrolled 525 (13%) amongst 4,136 HCW of whom daily information on symptoms and NP, saliva, and blood specimens were obtained for 66% (of 13208), 42% (or 1977), 44% (of 2071) and 65% (of 1099), respectively, of the follow-up measurement points. We identified 16 (3.0% of 525) HCWs with PCR-confirmed SARS-CoV-2 infection and an additional 12 (2.3% of 525) who were not tested by PCR or had negative PCR results but had serological evidence of infection. The overall cumulative incidence of SARS-CoV-2 infection was 5.3% (28 of 525) amongst HCWs. Cases were not identified by hospital protocols for passive staff self-monitoring for symptoms. Amongst 16 PCR-confirmed cases, 9 (56%) of the 16 PCR-confirmed HCW had symptoms during or after the date of initial detection. We did not identify an epidemiological link between the 28 confirmed cases.

Conclusion: We found that a significant proportion (5.3%) of HCWs were infected with SARS-CoV-2 during the COVID-19 epidemic. In the setting of universal PPE use, infections were possibly acquired in the community rather than stemming from patient-HCW or HCW-HCW transmission. Passive monitoring of symptoms is inadequate in preventing introductions of SARS-CoV-2 into the healthcare setting due to asymptomatic and oligosymptomatic presentations.

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69. Effective Contact Tracing Strategies for COVID-19: A Municipal Health Department's Model

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Background: During the COVID-19 pandemic, contact tracing program as part of a larger epidemiological case investigation was effectively implemented by the local department of health in Paterson, NJ. The Paterson Communicable Disease Strike Team (PCDST) was established by leveraging skills and using existing public health staff of the health department team which led to a timely and robust public health intervention.

Methods: PCDST comprised of 25 communicable disease investigators/contact tracers established in preparation for public health response in the event of large-scale communicable disease outbreaks pre-COVID. In March 2020 with initial COVID-19 cases in Paterson, PCDST was activated utilizing NJ DOH's Communicable Disease Reporting and Surveillance System (CDRSS). Additional staff members were cross-trained to augment team as new cases surged. A triage coordinator would identify and assign new cases to disease investigators at a 24/7 schedule. Disease Investigators would provide test results, perform epidemiological case interviews, elicit close contacts, and provide isolation/quarantine recommendations. Case-contact monitors followed up daily basis until completion of isolation/quarantine period.

Results: As of June 15, 2020, 6537 cases tested COVID-19 (+) in Paterson, NJ. 91% of cases and their contacts were interviewed. Peak occurred in mid-April with 263 cases on a single day. By mid-June, daily number of cases declined to 7/day. Reported COVID-19 mortality rate in Paterson (4.65%), compared to surrounding towns in the same county of Passaic (6%), other large cities in New Jersey (Newark 8%, Jersey City 7.4%) and New Jersey state (7.59%).

Conclusion: Despite limited resources, we were able to cross train and engage our frontline public health team (PCDST) to investigate and effectively contact trace new COVID-19 cases to help contain spread of infection. Although its unclear if our intervention impacted mortality rates, it is certain that contact tracing using a trained public health workforce is a model that has proven successful in Paterson. A local public health workforce vested in their communities can develop rapport needed to build trust and confidence in an intervention that elicits confidential medical information to limit viral transmission.

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70. Lack of SARS-CoV-2 Antibody Seroconversion After Prompt Identification and Cohorting of Sentinel sars-cov-2-positive Residents in a Skilled Nursing Facility

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Background: Despite numerous outbreaks, antibody responses to SARS-CoV-2 in residents of skilled nursing facilities (SNF) are not well described. We reviewed