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SARS-CoV-2 Preparedness among Community Hospitals in Southeastern United States

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Abstract (revised)

Background: SARS-CoV-2 pandemic has placed a tremendous strain on the U.S. healthcare system leading to personal protective equipment (PPE) and resource shortages. Hospitals have developed contingency and crisis capacity strategies to optimize the use of resources, but, to date, community hospital preparedness has not been described.

Methods: We performed a cross-sectional survey of infection preventionists in 60 community hospitals within the Duke Infection Control Outreach Network between April 22 and May 7, 2020 using Qualtrics.

Results: We received 50 responses during the study period with a response rate of 83%. Community hospitals reported varying degrees of PPE shortages (Table 1); 80% of community hospitals were implementing strategies to extend and reuse N95 respirators, Powered Air-Purifying Respirators, face shields and face masks. Over 70% of facilities reported reprocessing N95 respirators (Figure 1). Almost all facilities reported universal masking at time of this survey with 90% performing daily employee screening at point of entry.

Conclusions: Our findings reveal differences in resource availability, crisis capacity strategies and testing approaches used by community hospitals in preparation for SARS-COV-2. Lack of harmonization in approaches may be in part due to differences in state guidelines and decentralized federal approach to SARS-CoV-2 preparedness.

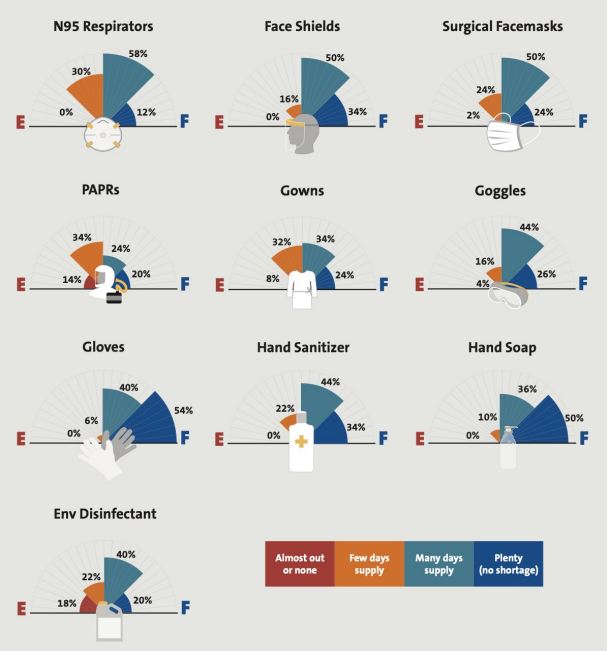
Background

- Assessing preparedness of community hospitals is crucial to risk assessments and outbreak control activities
- Hence, we conducted a survey of SARS-CoV-2 preparedness among community hospitals in southeastern United States

Methods

- **Survey Type:** Cross-sectional survey
- **Setting:** 60 community hospitals within the Duke Infection Control Outreach Network (DICON) in southeastern US
- **Distribution:** Electronic distribution to infection preventionists between April 22 and May 5, 2020 using Qualtrics (Qualtrics, Provo, UT)
- **Participation:** voluntary, anonymous, and without compensation
- **Survey Questions:** 13 questions related to PPE availability, crisis capacity strategies to extend and reuse PPE, policies related to restarting surgeries, testing, universal masking, and daily screening of hospital staff

Fig 1: Supply of resources in community hospitals



Results

- 50 hospitals (83%) responded to our survey, and reported varying degrees of PPE shortages (Fig 1)
- Over 80% of community hospitals were implementing strategies to reuse and extend PPE as shown in Table 1
- 40% of hospitals did not have adequate supply of environmental disinfectant
- Almost all hospitals performed universal masking and daily employee screening at the time of this survey
- Only 7 (14%) hospitals had restarted tier 1 elective surgical procedures at the time of this survey
- 43 (86%) facilities reported performing universal preoperative testing for SARS-CoV-2
- 37% of facilities performed one SARS-CoV-2 test before discharging an asymptomatic patient to skilled nursing facilities, while 43% performed 2 tests prior to discharge
- Hospitals also reported a wide variety of laboratories used for SARS-COV-2 testing, as follows:
  - In-house testing (n=34)
  - LabCorp (n=21)
  - Quest diagnostics (n=13)
  - Department of Health (n=13)

Table 1: Distribution of community hospitals that extend the use of or reuse their PPE

Type of PPE	Reuses PPE n (%)	Extends PPE n (%)
N95 respirators	43 (86%)	44 (88%)
Face shields	46 (92%)	40 (80%)
Surgical facemasks	32 (64%)	38 (76%)
Gowns	6 (12%)	10 (20%)
Gloves	0 (0%)	2 (4%)
Goggles	41 (82%)	30 (60%)
PAPRs	38 (76%)	25 (50%)

Conclusions

- We found several differences in community hospital preparedness for SARS-CoV-2 with respect to PPE conservation strategies, protocols related to testing, masking and restarting elective procedures
- Lack of standardization was due to differences in state guidelines, decentralized federal approach to SARS-CoV-2 preparedness, and a lack of confidence in public health guidelines

References

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