

**“Enhancing Interprofessional
Collaboration and Learning for
Strengthening Primary Health Care”**

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TUFH 2021 ABSTRACTS

Title	COUGH SOUND ANALYSIS TO SCREEN AND DIAGNOSE COVID-19
Type	Oral Presentation <i>Innovative Ways for Community Mobilization and Engagement of Stakeholders</i>
1st Author	SIDDHI HEGDE
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Abstract N ^o	TUFH655
Content	<p>Background- Analyses using deep-learning artificial intelligence (AI) programmes and neural networks have shown promising results with assistance not only in clinical diagnoses but also the severity of the disease, especially respiratory conditions like asthma, chronic bronchitis, and croup. Cough sound analysis has come a long way from differentiating between productive vs non-productive to now attempting to use smartphone sensors to diagnose COVID-19. Methods- Participants aged 18 to 60 years with or without symptoms of COVID-19 were RT-PCR tested. Patients coughed into their elbow with the recording device being kept 20cm away. A deep neural network was trained using open cough sound databases and then tested on this clinical dataset of 63 patients. Results- Area under the curve (AUC) is 0.718 (p=0.0003, CI=0.674-0.763). Conclusion- COVID-19 can be reliably detected from cough sounds using the artificial intelligence program developed by Virufy.</p>