Example entry

Category two - Best individual contribution to work health and safety

1: Describe the nominee's work health and safety contributions.
As a paediatric intensivist Dr Chavan's focus is on the clinical treatment of seriously injured or ill children. As a staff specialist he is also pivotal in the training of student and junior medical staff. When local PPE shortages became apparent Dr Chavan started investigating the re-use of healthcare rated N95 and how many times N95s can be treated before their structural integrity and fluid resistance is compromised. At this time Dr Chavan was investigating methods of further testing the RPE to ensure workers were adequately protected when he came across Quantitative fit-testing. Arjun was able to procure, through the TUH Research department a TSI Portacount, the first at TUH and possibly the first for Queensland Health during the pandemic. At this stage in the pandemic there was huge medical debate on whether Coronavirus was transmitted through respiratory droplets or an aerosol and whether aerosol generating behaviors or procedures were required to transmit the virus. Arjun met with multiple stakeholders and technical experts to help push the need for a comprehensive quantitative fit-testing program for front-line healthcare workers. Dr Chavan then focused his attention on reducing waste during fit-testing by developing (in partnership with UQ and then Griffith University AI SMEs) an AI facial recognition application that determined what RPE should be tested based on a users facial characteristics.

Originally envisioned as a THHS solution, it was quickly evident that expanding the program throughout the state would not only increase the efficacy of the application through increased data capture but decrease mask wastage through fit-testing. Arjun was invited to the Queensland Health PPE Working Group and the COVID Surety Group where the MaskHelper Solution was endorsed and recommended for use by all HHSs. Unfortunately there are still some high level Queensland Health personnel that do not believe in the science, believe that fit-testing is only a pandemic response and will only adopt the MaskHelper solution if mandated by the DG.

2: How did the nominee's contributions improve work health and safety?
The Mask Helper solution provided (as of March 9) a 54% of selecting the right mask on the first attempt with an 82% chance of selecting the right mask within 2 attempts. This is compared to an experienced fit-testers first round accuracy of 39%.

When fit-testing commenced it took on average 4 masks to fit per person which was reduced to 2 masks per person with the use of MaskHelper, this is a significant saving when testing thousands of Healthcare workers across the state. At present there are relatively few options for higher order control measures given the nature of the work, workplace and the virus. Increasing the integrity of this lower order control, especially given the history around fit-testing in healthcare settings across the country and internationally was deemed the best target for improving worker protection. Whilst not measured the uptake of participants in this voluntary study was greater than 85% demonstrated the front-line users acceptance of fit-testing and the Maskhelper solution.

3: Describe how the nominee's contribution to health and safety management and performance was above and beyond their immediate area of responsibility.
All of the work Dr Chavan has contributed to the MaskHelper and RPE re-use research projects are completely outside of his normal scope of work as a clinical doctor. Not only has Arjun researched a field of study normally undertaken by Occupational Hygienists , he has met with countless industry experts including mining, refining and RPE manufacturing. Arjun has also reached out to non-Queensland health personnel including the QPS, ADF, GP councils and similar personnel inter-state.

Further investigation and application of the MaskHelper solution could see the tool used in mining, refining, construction and other industries RPE plays a critical role. All that is required is a comprehensive fit-testing program and a tablet device to take photographs and record the data.