Update to reporting of Ventilator Associated Pneumonia

An additional category of ventilator associated pneumonia (VAP) where X-ray evidence criteria for the case definition are not met/not available was introduced to in 2018. These VAP are categorised as "PNX".

There was a general consensus that the lack of radiological evidence was preventing clinical staff from reporting VAP, therefore WardWatcher was updated in 2018 to facilitate the reporting of VAP where radiological evidence was not available. Although these VAP do not meet the European Centre for Disease prevention and Control (ECDC) case definition, it was proposed that the data may provide useful information to clinicians regarding the clinical burden of VAP. Data relating to PNX is reported separately and is not aggregated with the routinely collected VAP data at this time.

PNX Case Definition

An invasive respiratory device must have been present (even intermittently) in the 48 hours preceding the onset of infection and ***no*** X-ray or CT scan evidence are required.

Symptoms

At least ***one*** of the following:

- fever > 38 °C with no other cause
- leukopenia (< 4 000 WBC/mm3) or leucocytosis (≥ 12 000 WBC/mm3).

and at least ***two*** of the following:

- new onset of purulent sputum, or change in character of sputum (colour, odour, quantity, consistency)
- cough or dyspnea or tachypnea
- suggestive auscultation (rales or bronchial breath sounds), rhonchi, wheezing
- worsening gas exchange (e.g. O2 desaturation or increased oxygen requirements or increased ventilation demand)

and according to the used diagnostic method:

Microbiology

a) Bacteriologic diagnostic performed by:

Positive quantitative culture from minimally contaminated LRT specimen **(PN1X)**

- broncho-alveolar lavage (BAL) with a threshold of ≥ 104 colony forming units (CFU)/ml or ≥ 5% of BAL-obtained cells contain intracellular bacteria on direct microscopic exam (classified on the diagnostic category BAL)
- protected brush (PB Wimberley) with a threshold of ≥ 103 CFU/ml
- distal protected aspirate (DPA) with a threshold of ≥ 103 CFU/ml.

- *Positive quantitative culture from possibly contaminated LRT specimen* **(PN2X)**

- Quantitative culture of LRT specimen (e.g. endotracheal aspirate) with a threshold of 106 CFU/ml.

b) Alternative microbiology methods **(PN3X)**

- positive blood culture not related to another source of infection
- positive growth in culture of pleural fluid
- pleural or pulmonary abscess with positive needle aspiration
- histologic pulmonary exam shows evidence of pneumonia
- positive exams for pneumonia with virus or particular germs (e.g. *Legionella*, *Aspergillus*, mycobacteria, mycoplasma, *Pneumocystis jiroveci* [previously *P. carinii*]):
    - positive detection of viral antigen or antibody from respiratory secretions (e.g. EIA, FAMA, shell vial
    - assay, PCR)
    - positive direct exam or positive culture from bronchial secretions or tissue
    - seroconversion (example: influenza viruses, *Legionella*, *Chlamydia*)
    - detection of antigens in urine (*Legionella*).

c) Others

- positive sputum culture or non-quantitative LRT specimen culture **(PN4X)**

Please note that, since the PNX case definitions require positive microbiology testing, PN5X cannot be reported.