**Improvement in access to rapid testing of Influenza in NSW**

**Aim Statement:** By December 2017, 70% of people attending Emergency Departments at NSW hospitals for respiratory illnesses will have access to result for influenza test within 4 hours.

**Background to problem worth solving**

Prior to 2016 influenza testing was performed at 6 major metropolitan hospitals using a multiplex instrument. Across NSW the time to result (TAT) was > 24 hours, impacting on bed flow and decision making.

**Required:** Increased TAT for influenza test result would improve bed flow and clinical decision-making and would provide equity of service within NSW.

**Driver Diagram**

The Problem: Lack of equitable access to rapid diagnosis of influenza across NSW

**Primary Drivers**
- Improved speed of diagnosis of influenza in NSW

**Secondary Drivers**
- Improved accessibility to testing throughout NSW
- Appropriate use of medications
- Improved flow through EDs
- Improved service to LHD’s clinicians

**Change Ideas**
- Standardisation of influenza testing within NSW
- Cost savings in standardisation of equipment and consumables
- Consistent policy and procedures within NSWHP

**Outcome Measure**
- How much: improved accessibility
- By when: 6-9 months

**Priority Change Ideas**
- Evaluation of labs and LHD requirement for rapid influenza results
- Decreased time to result for influenza results reporting
- Implement new rapid testing platform
- Reduce cost of test via reduction in QC, increase volume etc.
- Use existing staff
- Development of statewide procedures
- Statewide QC process
- Statewide LIS connectivity for reporting

**Results**

| No. of tests performed in each region in 2016 and 2017 using the Multiplex (green) or rapid platform (purple) |
|---|---|---|---|---|---|---|---|
| North West | 1361 | 1523 | 139 | 1523 |
| South West | 1349 | 1457 | 1523 | 1632 |
| Central West | 1246 | 1359 | 1457 | 1523 |
| Far North West | 1300 | 1394 | 1457 | 1523 |
| South | 2592 | 2500 | 396 | 698 |
| North | 2566 | 2566 | 396 | 698 |
| South East | 3608 | 3794 | 207 | 207 |
| North East | 2592 | 2500 | 396 | 698 |
| Illawarra | 4704 | 4521 | 351 | 351 |

**Overall Outcomes of Project:**

1. Decreased time to result for influenza testing across NSW
2. Increased equity of service

**Cost savings:** potential savings with decreased Length of Stay reported in some LHD emergency departments.

**Plans to sustain change**
1. Standardisation of documentation completed
2. Standardisation of instrumentation completed
3. Training ongoing and required yearly
4. NATA accreditation achieved 2018
5. Testing is utilised differently across various sites

**Publications:**
1) Impact of rapid molecular diagnostic testing of respiratory viruses on outcomes of adults hospitalised with respiratory illness: A multicentre quasi-experimental study. J Clin Microbiology
2) Association of rapid molecular diagnostic testing of respiratory viruses with emergency department patient and laboratory outcomes: A before-after study. Med J Aust (accepted)