

HSU NSW Submission on ICP Module Formula & Enhancement

Summary

1. The HSU submits that progress should be made towards a 1:50,000 ratio of Intensive Care Paramedic (ICP) modules to population – a module is 12 FTE ICPs.
2. In doing so, the HSU submits that this enhancement is necessary to achieve the objectives of equity, ensuring that all patients receive the highest quality care regardless of where they live.
3. The HSU proposes a number of additional considerations that should be taken into account when deciding on ICP staffing levels across the state, including distance from major trauma centres, isolation, industry and land use, and rates of motor vehicle accident related casualties.
4. The HSU submits that, as a principle, all paramedics entering NSW Ambulance (NSWA) with the willingness and capability should have the opportunity to become ICPs.
5. Further, an enhancement in ICP staffing is necessary for ensuring that NSW continues to meet community expectations.

Background

6. Historically, IC training has occurred in metropolitan stations – the first ICP in regional NSW was stationed in Dubbo in 1998.
7. In the past there was recognition of the importance of ICPs to rural stations, but there has been a distinct wind back of the practice of funding rural ICP modules.
8. In recent years, ICPs are being blocked from transferring stations – the Ministry has a model of actively blocking ICPs from moving stations that are not designated ICP stations. This is due to funding and cost reasons, not evidence based clinical considerations.
9. A reduction in resources in rural/regional areas makes it more likely that P1 paramedics are unable to call for ICP backup when their patients may require it.
10. Further, NSW paramedics who want to advance in their careers and become ICPs are being prevented from doing so.

The Ministry's existing method for allocating ICP modules to stations

11. The Ministry has historically declined to provide information on how these decisions are made, however it appears that there is no specific threshold of response times used to decide when an ICP module is warranted, and no specific formula.
12. The current method appears to be based on a set of principles rather than a calculation. There is a lack of consistency and the differing preferences of individual managers has resulted in a broadly ad hoc approach.
13. The most recent process proposed involves graphing the number of responses against the type of responses within a matrix of A, B, and C level stations – NSW has now recognised that this methodology is flawed and has commenced reviewing it.
14. The Ministry's preference is that C level stations are allowed a maximum of one ICP module for mentoring purposes.
15. Further, there is allowance for having at least one IC position in 'peripheral' stations to support the expanding scope of practice due to increase in P1 expertise ('clinical mentoring').
16. The broad principles followed emphasised response times, availability of ICP cars/crews, appropriate IC workload, and provision of best care possible to the community.
17. The principles followed in the most recent clinical profiling (mid-2000s):
 - 17.1. No changes made to ICP numbers in established stations.
 - 17.2. Conceptualised neighbouring stations into clusters (with overlapping response areas).

- 17.3. Located existing ICP stations and where the circles of their response areas overlap.
- 17.4. Overlapping response areas promoting sharing of skills between ICP and non-ICP stations.
- 17.5. Breakdown of P1A and P1B workload based on response area (on the principle that ICPs should be primarily responding to P1A, P1B, and sometimes P1C calls).
- 17.6. Desire to reduce ICP numbers (due to ICPs frequently being required to respond to calls that do not require their specialised skills).
- 17.7. Concerns about 'skills maintenance' for ICPs, and dealing with the issue of ICP workloads being consumed by low acuity work.
- 17.8. Recognition of differing needs between inner and outer metropolitan stations (including those identified as 'peripheral stations') and regional and remote (especially Western NSW) stations.
- 17.9. These varying needs include the availability of hospital services to that crew (i.e. distance to nearest emergency department or major trauma centre).
- 17.10. Concept of dedicating a proportion of the station's FTE staffing to ICPs at particular stations to provide mentoring/training for P1 staff.

HSU alternative method for allocating ICP modules to stations

18. The HSU submits that in all circumstances, a principle of skills equalisation should be followed:
 - 18.1. Any proposed introduction of new skills or equipment must be extended to all ICPs statewide.
 - 18.2. In principle, a situation where ICPs in different zones have divergent skills should be strongly discouraged. The skills and capabilities of ICPs should be uniform statewide.
19. The HSU recognises that there are many factors to consider, beyond population and statistics collected on call types, when calculating where to allocate ICP modules.
20. Currently, there are approximately 71 IC modules state-wide – this number is based on the assumption that there are 12 individual paramedics per module and currently around 850 ICPs working in the state.
21. On this calculation, the ratio of ICP modules to NSW population is 1:100,000.
22. The HSU submits that progress should be made towards, as a base, a ratio of 1 ICP module to 50,000 population (1:50,000).
23. Regardless of response area population, at least one module should be allocated to all response areas where transport time to the nearest major trauma centre is greater than one hour.
24. Response areas in regions with high rates of road crash related injuries and deaths should be allocated additional ICP modules – the following chart, using data sourced from the NSW Government's *Centre for Road Safety* and the Australian Bureau of Statistics, demonstrates that casualty rates in some regional areas are up to 60% higher than they are in metropolitan Sydney:

Region	Total Road Accident Killed/Injured 2018	Road Accident Killed/Injured Per 10,000 Population
Orana	436	36.8
South East	747	34.2
Central West	614	33.9
New England	579	31.9
Riverina	421	28.9
North Coast	1428	28.4
Murray	338	26.8
Far West	55	26.7

<i>Outer Sydney</i>	1255	24.2
Hunter	1710	24.2
<i>Sydney Metro</i>	9957	23.1
Illawarra	996	22.6

25. Additional ICP modules should be allocated to response areas with industry and land use with high rates of serious injury (for example, Jindabyne crews respond to particularly high acuity cases due to the recreational use of the surrounding ski fields and National Parks) – the following chart, using data sourced from the Australian Bureau of Statistics, shows the number of individuals employed in high risk industries by the SA4 statistical region of their place of work, sorted in descending order:

Place of Work - SA4 Area	Number of Persons Employed in Industry		
	Agriculture, Forestry and Fishing	Mining	Total Agriculture, Forestry, Fishing, & Mining
Hunter Valley excluding Newcastle	3508	10647	14155
Central West	7994	4772	12766
New England and North West	10636	1672	12308
Far West and Orana	5877	2158	8035
Riverina	7782	134	7916
Capital Region	6104	424	6528
Murray	5859	235	6094
Richmond - Tweed	4383	195	4578
POW No Fixed Address (NSW)	3237	862	4099
Mid North Coast	3102	314	3416
Newcastle and Lake Macquarie	809	2271	3080
Coffs Harbour - Grafton	2894	100	2994
<i>Sydney - Outer South West</i>	734	1614	2348
<i>Sydney - Baulkham Hills and Hawkesbury</i>	1850	223	2073
Illawarra	476	1443	1919
<i>Sydney - City and Inner South</i>	579	1060	1639
Southern Highlands and Shoalhaven	1377	221	1598
<i>Sydney - South West</i>	1413	151	1564
<i>Central Coast</i>	953	509	1462
<i>Sydney - Outer West and Blue Mountains</i>	1167	172	1339
<i>Sydney - North Sydney and Hornsby</i>	408	502	910
<i>Sydney - Parramatta</i>	412	192	604
<i>Sydney - Blacktown</i>	352	155	507
<i>Sydney - Northern Beaches</i>	388	81	469
<i>Sydney - Inner South West</i>	186	99	285
<i>Sydney - Inner West</i>	233	29	262
<i>Sydney - Ryde</i>	141	90	231
<i>Sydney - Eastern Suburbs</i>	142	70	212
<i>Sydney - Sutherland</i>	118	60	178
Migratory - Offshore - Shipping (NSW)	18	9	27

26. Stations that are geographically isolated from other Ambulance stations, and therefore less able to call for ICP backup, should have at least 1 ICP available to respond 24 hours per day.
27. The HSU also submits that, though studies of the number of call types (i.e. P1A, P1B, etc.) in each area should be one of the primary considerations in ascertaining the number of ICP modules allocated to different stations, this data has a fundamental flaw insofar as the call type is decided by a phone operator on the advice given by a regular member of the public, rather than by a qualified paramedic's diagnosis and assessment of the situation.
28. As an alternative to using call types to calculate ICP modules, the HSU submits that a retrospective review of Electronic Medical Records or VisiCAD records, used to identify at which points patients required the intervention of a paramedic with intensive care skills, could be a more appropriate measure.

Rationale for increasing Intensive Care Paramedic modules

29. Equity for rural and regional NSW and Western Sydney:
 - 29.1. There is presently a huge inequity between metro and rural NSW – most metro response areas have at least double ICP presence, whereas there are vast areas of the state (particularly Western NSW) with effectively no ICP presence.
 - 29.2. Huge inequity within Sydney – there has been a proliferation of ICPs in North Sydney Sector, to the extent that they outnumber the presence of ICPs in the Western Sydney and NBM Sectors combined.
 - 29.3. NSW Health should follow the basic principle that rural communities are no less deserving of the skills of ICPs than metro areas, and that Western Sydney is no less deserving of ICP skills than Northern Sydney.
30. Value of ICP skills to regional/rural areas:
 - 30.1. Regional and rural NSW, as a consequence of poorer resourced hospitals (who are often unable to appropriately prepare patients for transfers), are more reliant on the skills of paramedics and would benefit more from ICP presence.
 - 30.2. Rural and regional NSW areas are no less likely than metropolitan areas to have major trauma incidents – due to high speed roads, mining and farming equipment accidents, etc., rural and regional incidents often see more critically injured patients than there are paramedic responders.
 - 30.3. Further, ICP presence leads to better patient outcomes.
 - 30.4. ICPs possess specialised skills such as airway management and intubation, and can be called in where there are no doctors available – without ICP presence, rural communities may at times lack any skilled health professionals with airway management skills.
 - 30.5. Similarly, ICPs are skilled in pain management, and are skilled to administer particular drugs such as ketamine, fentanyl, and midazolam, at high doses over extended periods – this skill attains greater importance in the rural context, as patients are spending significantly longer in transport to major trauma centres.
 - 30.6. At smaller hospitals, ambulance resources are often called in to assist with providing medical care and resources in the event of major traumas or high workloads.
 - 30.7. Increased case cycle time in regional/rural areas – patients are with paramedics longer, travelling further distances to major trauma centres. Consequently, this makes IC skills (including airway management) more important, and issues arise when ICPs are not available to attend to major cases sometimes located more than an hour from the nearest hospital.

- 30.8. The existing CERS Assist program (which is frequently and routinely used across the state) involves small hospitals engaging the services of skilled paramedics where doctors are unavailable – this provides value to regional/rural communities and to NSW Health, and is also a source of revenue for NSW Ambulance.
- 30.9. The isolation of rural areas from other health facilities (which are increasingly withdrawing from rural communities) means that paramedic presence increases in importance – the unique skills of ICPs need to be readily available to serve the communities and provide backup to P1 paramedics.
31. Securing the future of NSWA:
 - 31.1. The skills of Intensive Care Paramedics are rapidly advancing across Australia – for NSW Ambulance to continue to provide the best patient care, and satisfy community expectations, it will need to continue increasing the capabilities of its ICP workforce.
 - 31.2. It is therefore likely that the skills gap between P1 paramedics and ICPs will further open up, making the unique skill of ICPs more distinct and more important for all communities, rural or metro.
32. Importance of increasing ICP modules in metropolitan stations:
 - 32.1. Currently, ICPs are working fatiguing Day-Day-Night-Night roster patterns under high pressure, meaning that the highest acuity responses are being attended by staff on the most fatiguing roster patterns – more ICP modules would enable ICPs in metro areas to work Day-Day-Afternoon-Night roster patterns.
 - 32.2. Metropolitan ICPs have a very high workload, and this could be alleviated by allowing for ICP backup to be stationed at current metropolitan non-ICP stations.
33. Career development:
 - 33.1. Basic principle that all paramedics should have the opportunity to eventually become ICPs if they have the willingness and capability (until recently, this was the case in the ACT).
 - 33.2. Consideration of the ambitions of new paramedics joining NSWA, especially with the increasing numbers of university graduates entering.
 - 33.3. ICPs provide valuable mentoring capabilities across NSWA.

CASE STUDY – THE IMPORTANCE OF ICP SKILLS IN THE REGIONS

34. A recent call attended to by an HSU ICP member on the NSW South Coast demonstrates the importance of ICP presence in rural and regional locations.
35. The case required an Ambulance transfer of a patient at South Coast Regional Hospital to Canberra Hospital – a distance of 221km (no helicopter was available).
36. The patient had a severed brachial nerve and artery and was in immense pain.
37. The patient was not sufficiently prepared by the Hospital to be moved into the Ambulance for transport, and the ICP attending had to take his own drug kit into the Hospital to prepare the patient.
38. The pain management skills of the ICP were critical to the ongoing treatment of the patient, both prior to and throughout the transport – as an ICP, the attending paramedic was skilled and able to use a number of drugs to manage the patient's pain.
39. The ICP determined that it was necessary to contact the Medical Retrieval Unit to obtain approval to go beyond protocol and administer high doses of ketamine, midazolam, paracetamol, fentanyl, and morphine.
40. It was fortunate that an ICP was present for the changeover at Cooma and could provide additional drug kit resources and support.

41. The patient did not become calm until about 15 minutes prior to arrival at Canberra Hospital.
42. The transport required an understanding of the interaction of the relevant drugs and the ability to make an informed case to the MRU for acting beyond protocol – the level of skill required was beyond that of a P1 paramedic.

Consideration of costs

43. NSW Health outlays significant money for executive staffing – more prudent arrangements at executive level would free up significant funding for enhancing paramedic and ICP numbers, particularly in rural and regional areas.
44. The advancement in the skill level of P1 paramedics has meant that the cost involved in training paramedics up to ICP level has decreased.
45. By opening up career progression to ICP level for more staff, NSW can better avoid the expense that accompanies repeatedly filling vacancies caused by staff attrition.
46. Intensive Care Paramedics are a significant asset to NSW Health as whole, and the NSW Ambulance service – they provide valuable skills, take pressure off the hospital system, and can be an additional source of revenue for NSW through programs such as the CERS Assist program.
47. Further, the early intervention and treatment that ICPs provide can promote recovery in patients, potentially reducing the time spent in hospital and ongoing costs incurred, while also freeing up the availability of hospital beds.
48. Ministry concerns about the expense of double-responder ICP cars can be allayed by promoting the skills mix model, where ICPs and P1 paramedics are paired together on responses.

Consideration of ICP skills consolidation and maintenance

49. One of the Ministry's key concerns about enhancing ICP presence in the regions is that the work available is primarily low acuity and is not conducive to maintaining intensive care skills to the necessary standard.
50. The Ministry generally makes this assertion at face value, and does not provide evidence to back up this position.
51. While designated IC training stations were originally established in Sydney, there is now sufficient exposure to IC level work across regional areas.
52. In fact, a report by NSW in 2014/15 showed that approximately 11.5% of responses in rural NSW were Intensive Care responses, a proportion on par with that of metropolitan responses.
53. It is not always the case that rural Intensive Care Paramedics have less opportunity than metropolitan paramedics to practise their more advanced skills – due to the higher number of paramedics working in metro, exposure to a high acuity case is not available to all who are rostered on, whereas, in rural areas, the smaller number paramedics leads to a greater chance of attending high acuity cases when they arises.
54. Other health professionals, such as GPs and nurses, are able to use their full skills regardless of where they are based (e.g. an RN's scope of practice remains the same and is not limited by virtue of where they are based – an RN is an RN in rural NSW as they are in metropolitan NSW).
55. NSW Health facilitates ongoing training of nursing staff, but NSW expects its staff to train in their own time. Further, there are well established practices of training doctors in rural hospitals including in Western NSW.
56. Therefore, NSW should look towards existing ways that NSW Health maintains the skills of its medical and nursing staff in regional areas and apply the same principles to NSW Ambulance paramedics – outside of the health system, they can look to, for example, the Fire Service, which has a visiting program to maintain skills in rural and regional NSW.

57. NSWA can look towards consolidating existing programs which exist, including the sending of paramedics to larger stations for single shifts.
58. Dubbo is an example of a station which has developed broader relationships with other health services to support and develop staff skills – these programs include regular theatre days at Dubbo Base Hospital to practise airway management, and training partnerships with the Royal Flying Doctor Service in a classroom environment.
59. There is as yet untapped potential to use technology to enable training to be provided over webcast or simulation – in the midst of the COVID-19 pandemic, quick and widespread adaptation to online communication technology has demonstrated how staff can interact and training can be delivered to a high standard across vast distances.
60. NSWA should continue to equip all stations with mannequins that can be used to practise skills.
61. NSWA should address existing limitations in its current attitude towards training – for example, current procedures often mean that clinical educators are visiting stations at times where all or most staff are responding to cases.