



**NORTH COAST AREA HEALTH SERVICE
STAFF TRAVEL TO WORK SURVEY**

OCTOBER 2008



NSW Health Department

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EXECUTIVE SUMMARY

The *NCAHS Travel-to-Work Survey* was conducted between 15/9/08 and 14/10/08 by North Coast Health Promotion to find out what would help North Coast Area Health Service (NCAHS) staff use **less fossil fuel** and **more body fuel** to get to work. Car-dependence contributes to rising levels of obesity and atmospheric greenhouse gas. Conversely, the incidental exercise involved in active transport is both good for our health and the climate. A total of 1174 staff responded to the survey.

The *Travel-to-Work Survey* provides useful information to help tailor strategies to increase active transport to NCAHS workplaces: 65% of respondents expressed interest in car-pooling. Staff were also interested in cycling (25%), using bus services (15%), and in walking or using small motorised transport such as moped or scooter (12%). Respondents indicated that they were interested in incentives such as introductions to other prospective car-poolers, or end-of-journey facilities for people who cycle or walk to work.

Since NCAHS covers a rural area with very limited public transport, the survey provides important information about travel patterns. 19% of respondents lived within 5km of their workplace, 37% within 10km. 35% of respondents lived more than 25kms from their workplace. In the absence of any regional mapping of transport vulnerabilities for the North Coast of NSW, and because NCAHS has sites at all large and many smaller towns in the region, the survey results could indicate travel-to-work patterns to settlements in the region, and provide the basis for collaboration with local governments, bus companies, and other organisations interested to increase regional mobility options.

The most striking result in the survey was the extent of our car-dependence: 77% of all the trips in a typical week were done solo in a car. As well as concerning from the point of view of greenhouse emissions, this transport pattern is *obesogenic*: evidence shows that for every 30 minutes spent in a car each day, the likelihood of obesity is increased by 3%. For these reasons, the *NCAHS Travel-to-Work Survey* provides a baseline for an active transport project in NCAHS called *One Car Less*.

The NCAHS Travel-to-Work Survey

North Coast Health Promotion conducted the North Coast Area Health Service (NCAHS) Travel-to-Work Survey to better inform the active transport projects being conducted under a program to concurrently address obesity and global warming. This program is called *Resilience: building health from regional responses to climate change*.

A large body of evidence reveals the extent of the threat posed by human-induced climate change. The 2008 Garnaut Climate Change Review outlines the risk of unmitigated global warming to our communities; our economy; to international security; to our built environments; to species diversity; and to ecosystems including the Great Barrier Reef, Kakadu, and the Murray-Darling Basin ¹. This threat is of such magnitude that all institutions, sectors and organisations, including health services, must play their part in turning around current uncontrolled growth in greenhouse gas emissions. There are very obvious overlapping areas of interest between efforts to prevent the obesity epidemic and the collective endeavour to prevent dangerous climate change.

During the last several decades, changes to the built environments in which people travel have made unhealthy behaviours easier and healthy behaviour more difficult. Foremost amongst these trends have been changes to roads and thoroughfares that favour the use of private motorized transport. Roundabouts and highways ease the flow of cars but are difficult for people on foot or bicycles. Increasing speed of motorised vehicles in these spaces accentuates the trend. During these decades, institutions focussed more and more on providing parking for cars, while the need for infrastructure for other forms of active transport became largely invisible. These trends have been replicated at institutional, local, regional, state and national levels, and have been reinforced by policy decisions at all scales.

Car-dependence contributes to rising levels of obesity and atmospheric greenhouse gas. The flip side of this is that what makes us physically active is also good for the climate. For this reason, North Coast Health Promotion is working on projects to increase *Active Transport*, which is defined as any mode of transport that incorporates some physical activity. Walking, cycling and skating are good examples. The use of public transport and car pooling are also considered active transport because people often have to walk to a bus stop, train station or car pool pick up point.

Incorporating incidental physical activity such as in active transport is a convenient way to get exercise on most days of the week. Our bodies need at least 30 minutes or more of physical activity on most days to maintain good health and prevent chronic disease. Going to the gym or playing footy once a week does not provide enough regular physical activity to maintain health.

The NCAHS workplace context

North Coast Area Health Service (NCAHS) covers an area of 25,570 square kilometres extending from Port Macquarie in the south, Queensland in the north and west to the Great Dividing Range. The population is concentrated on the coastal strip, with large settlements at Port Macquarie, Coffs Harbour, Ballina and Tweed Heads. Inland there is a high concentration of people in the city of Lismore. The rest of the region is characterised by smaller towns and villages. The Richmond-Tweed and Mid North Coast areas have an estimated combined population in 2006 of 527,000². There is very limited public transport in the region. Larger towns have some buses, although with very limited services compared with options in metropolitan areas. State-subsidized school buses provide an addition to this network. These buses feed from villages to towns: they leave once in the morning and return between 3-4pm each afternoon. Most towns have limited infrastructure in terms of cycle and foot paths. The train line from Casino to Murwillumbah has been discontinued. From an economic and social perspective, the region is vulnerable in terms of its dependence on private cars for transport. This dependence is problematic with respect to peak oil and to the carbon emissions trading necessary to mitigate global warming^{3,4}.



Map showing larger settlements in NCAHS

At the time of the survey, NCAHS had the equivalent of 6,515 full time positions. Because many staff work part-time, the actual number of employees is higher than this (approximately 8500). While the four major referral hospitals at Tweed Heads, Lismore, Coffs Harbour and Port Macquarie employ most staff, many employees work at services in smaller settlements scattered across the region. Approximately half the staff are nurses, and do not have log-on in the NCAHS computer system. Many of the hospital sites have problems accommodating the cars of staff and visitors.

The survey

The NCAHS Travel-to-Work Survey was administered via the NCAHS Intranet. The use of an on line survey allowed rapid development of the survey instrument, data collection in a limited time frame, and suited the purpose of providing a baseline for *One Car Less*, an active transport project. Since the majority of nurses and Hotel Services staff do not have computer log-on, and were therefore less likely to fill in the survey on-line, the survey is not as comprehensive as one conducted via hard-copies attached to pay slips. However, staff requesting a hard copy version were promptly provided with one. Since a primary target of *One Car Less* is computer-based sedentary staff, the on-line survey was chosen as a rapid, achievable survey method.

The survey was launched via a global email from the Director of North Coast Health Promotion and conducted over four weeks. An incentive was offered to respondents: those who filled in the survey could opt to go into a draw for a \$100 voucher for sporting footwear or sporting goods, with a prize being offered in each of the four networks. The survey tool was prominently located on the *What's New* section of the NCAHS Intranet. A follow-up global email from the Directorate of Corporate Services yielded additional responses in the last week. Some managers provided hard-copies of the survey to clinical staff, and some sites placed hard-copies and a box to post completed surveys in cafeterias. A total of 1174 staff responded to the survey, 183 of these by fax and mail.

Car dependence

The most striking result from the survey was the extent of car dependence. The table below shows that 77.3% of all trips to work reported on the week preceding the survey were solo car trips and 12% were by car with one or more passengers other than the driver. Despite a significant percentage of staff living within walking and cycling range, very few trips were made in these ways.

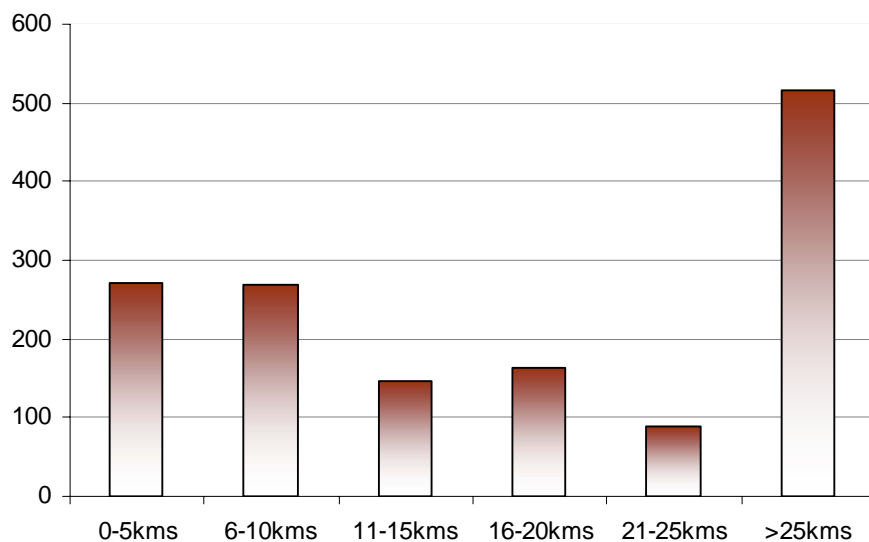
Modes of travel, expressed as percentage of all trips taken to and from work during the week before the survey (5771 trips)	
Car – solo	77.3%
Car – 2+	12.0%
Motorbike	2.0%
Bus	0.8%
Taxi	0.3%
Train	0.2%
Walk	3.5%
Cycle	3.1%
Other	0.9%

Distance to work

The survey enabled staff to nominate distance to both a primary and a secondary workplace. Almost one in five (19%) of respondents lived within 5km of their site/s; 37% within 10km. About a third (35%) of respondents travelled more than 25kms to work.

0-5kms	6-10kms	11-15kms	16-20kms	21-25kms	>25kms	Total
271	268	147	164	90	515	1455
19%	18%	10%	11%	6%	35%	100%

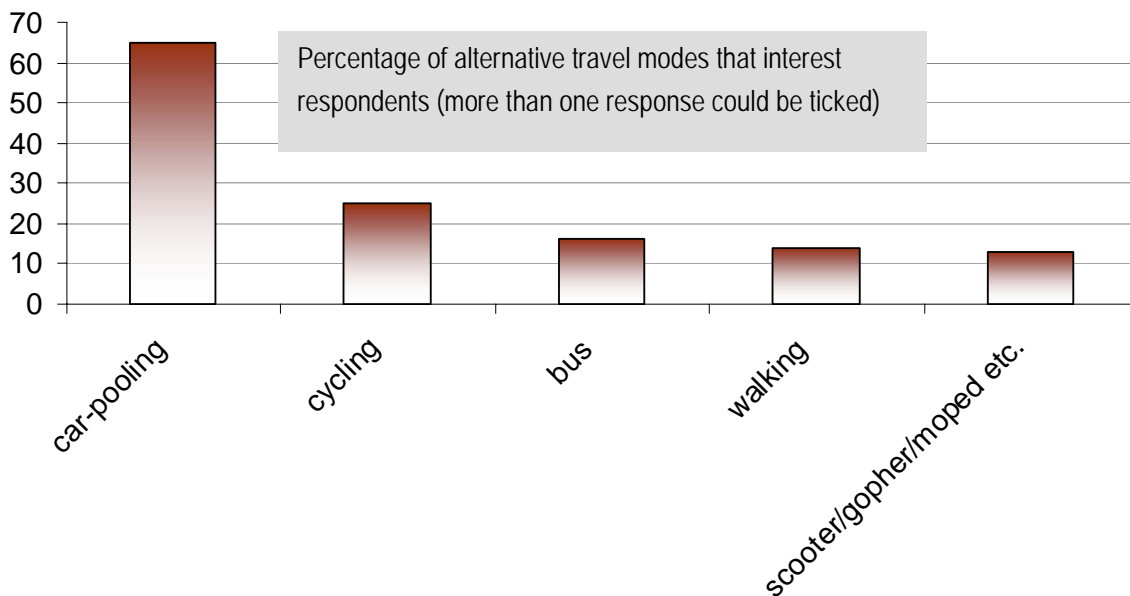
Distance to Work



Appendix 1 shows the distance to work for seven of the larger sites (Tweed, Lismore, Ballina, Grafton, Coffs Harbour, Kempsey, and both facilities at Port Macquarie). There is some interesting variation in travel patterns between these locations. Fifty one percent of the Port Macquarie Base Hospital respondents and 61% of Port Macquarie Morton Road facility respondents live within 10 km of their workplace. There were less respondents living within 10km of hospitals at Lismore (33%) and Kempsey (32%). Of the seven sites for which proximity data is provided in the Appendix, Kempsey had the greatest percentage of respondents living more than 25km from their workplace (44%). NCAHS staff wanting site specific data from the survey on distance staff travel to work can request it from North Coast Health Promotion.

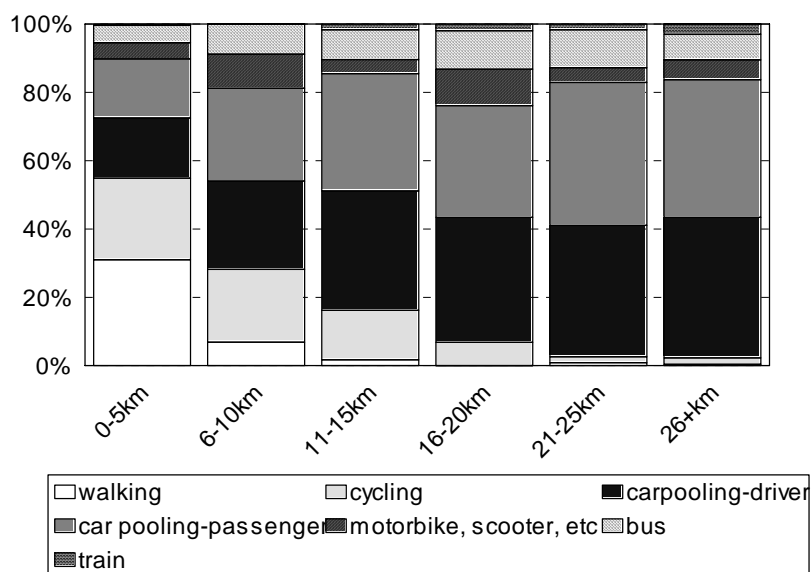
Interest in alternative ways to travel to work

The survey revealed considerable interest in alternative modes of travel: 65% of respondents are interested in car-pooling, 25% in cycling, and 15% in travelling by bus. Twelve percent of respondents expressed interest in walking to work, or coming via small motorised transport such as scooter, gopher, moped or motorbike. Of the latter forms of transport, only the moped would be considered *active* transport, as the small motor assists, but does not replace cycling.



Alternative modes of travel considered by people who usually drive to work alone by their distance from work

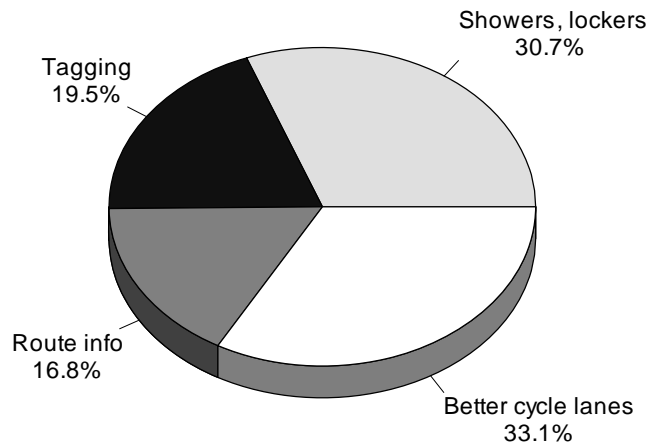
Following graph shows preferences for alternative means of travel for different proximities to work. This provides useful information when planning strategies to encourage active transport. Almost a third (31%) of those who live within 5km show interest in walking. Interestingly, 6.9% of those who live 6-10km from their workplace would consider walking to work. The cycling data shows less sensitivity to distance than walking: of those who live 11-15km of their workplace 14.5% would consider cycling, with 45% of those who live within 10km considering cycling. As distance increases, an increasing percentage of respondents show interest in car-pooling.



Distance	Walking	Cycling	Car pooling-driver	Car pooling-passenger	Motorbike, scooter, moped etc	Bus	Train
0-5km	31.0%	23.9%	17.6%	17.3%	4.7%	5.1%	0.4%
6-10km	6.9%	21.3%	25.9%	27.2%	10.0%	8.8%	0.0%
11-15km	1.7%	14.5%	34.9%	34.3%	4.1%	8.7%	1.7%
16-20km	0.0%	6.8%	36.6%	32.7%	10.7%	11.2%	2.0%
21-25km	0.9%	1.7%	38.5%	41.9%	4.3%	11.1%	1.7%
26+km	0.4%	1.9%	41.1%	40.3%	5.8%	7.5%	3.0%

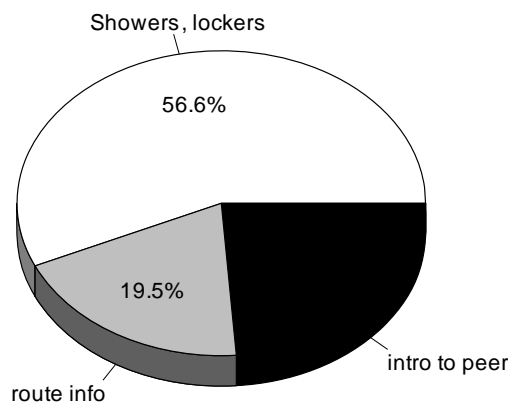
Incentives favoured for cycling

When asked “*what incentives would you need to cycle to work (part of whole of trip) at least once a week?*”, a third (33.1%) of respondents said that they would need better cycle lanes, 30.7% said end-of-journey facilities such as showers, lockers and secure bike parking, 19.5% nominated anti-theft bike identity tagging, and 16.8% cycle route information.



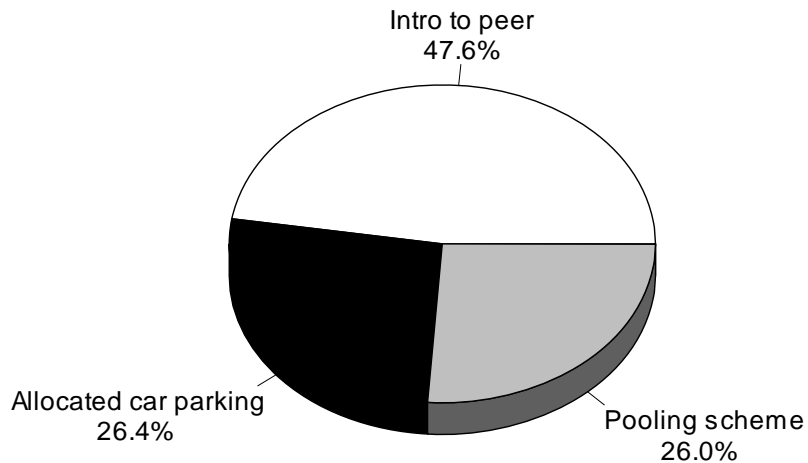
Incentives favoured for walking

When asked “*what incentives would you need to walk to work (part of whole of trip) at least once a week?*”, more than half (56.6%) of respondents nominated showers and lockers, 24% said they would need introduction to a peer for walking, and 19.5% nominated walking route information.



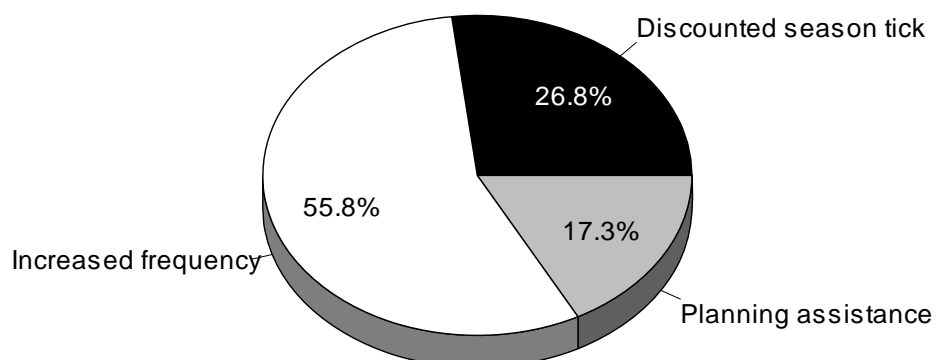
Incentives favoured for car-pooling

When asked “*what incentives would you need to take up car-pooling at least once a week?*” there was a clear preference for being introduced to a peer (47.6%), while 26% showed interest in having access to a car-pooling scheme, and 26.4% in access to allocated parking for those who car-pool.



Incentives favoured for bus/train

When asked “*what incentives would you need to use a bus/train at least once a week?*”, 55.8% of responses nominated increasing the frequency and/or extending the routes of the current bus services, 26.8% nominated significantly discounted bus or train season tickets, and 17.3% wanted assistance with planning journeys to work using public transport.



DISCUSSIONS & RECOMMENDATIONS

The results of the NCAHS Travel-to-Work Survey show that staff are interested in exploring different ways of travelling to work.

There are few examples of travel surveys in rural or regional Australia, where research has focussed on metropolitan areas that already have some public transport networks and infrastructure ^{4,5}. Because health facilities are necessarily geographically dispersed, the NCAHS Travel-to-Work Survey maps transport-to-work patterns around all large and many smaller settlements in the region. For this reason, the survey suggests that one way to fill the gap in transport mapping in regional areas is via travel surveys conducted by large institutions with significant geographical footprints such as health services and tertiary educational institutions.

The results of this survey are consistent with those of the online survey conducted for the Northern Territory TravelSmart Workplaces Project in Darwin ⁶. This survey found similar levels of car-dependence, and interest in car-pooling as an option, and in incentives such as showers, changing facilities, secure bicycle storage; access to better bus services; and ways to locate car-pool partners ⁶.

A 2007 Transport Usage Survey conducted for Coffs Harbour City Council reveals high levels of car dependence and car-ownership ⁷. This is consistent with the findings of the NCAHS Travel-to-Work Survey. The Coffs Harbour survey also found that 44% of respondents said they were interested in using bus services more often, which is significantly higher than the 15% interested in bus transport in the NCAHS Survey. The Coffs Harbour survey therefore shows the value of conducting transport surveys in specific regional centres: while on the whole public transport options are poor in the region, there is some local variability. The difference in interest in bus travel may be due to the fact that Coffs Harbour may have better bus services than other regional cities, and that higher visibility of bus services increases expectations ⁷. Alternatively, the variation may be due to the fact that the Coffs Harbour survey targeted the general community, while the NCAHS sample was comprised of health workers and its sole goal was to ascertain issues related to travel to work. Clearly, where better bus services exist, an active transport project would include strategies to increase awareness of bus routes and timetables, and liaise with transport stakeholders in relation to tailoring services to need.

When taking into account the general inadequacy or absence of public transport systems on the North Coast, the results of the NCAHS Travel-to-Work Survey suggest that an Active Transport project should initially focus on enabling car-pooling, cycling and walking by exploring the following options:

- A publicised system to access showers and lockers to encourage walking and cycling. Hospital sites generally already have some showers and lockers;

- Secure bicycle storage and anti-theft tagging;
- Integration of cycling and walking infrastructure into all new capital works and building renovation;
- Provision of cycle or walking route information to staff;
- An electronic car-pooling scheme and/or a system of peer introduction for those interested in car pooling. This could be via the Intranet or via morning teas promoted specifically for prospective car-poolers to get to know each other;

The results of the travel survey provide useful information for the work of North Coast Health Promotion in engaging with local governments and other stakeholders such as the Northern Rivers or Mid North Coast Social Development Councils, the NSW Ministry of Transport, local bus companies and local Transport Working Groups (where they exist). The results also present opportunities to engage with other large institutions and workplaces that are actively seeking to increase transport options for their staff and student populations. While there are currently very limited options for public transport, collaboration with other stakeholders and organisations could aid the expansion or improved integration of existing bus services.

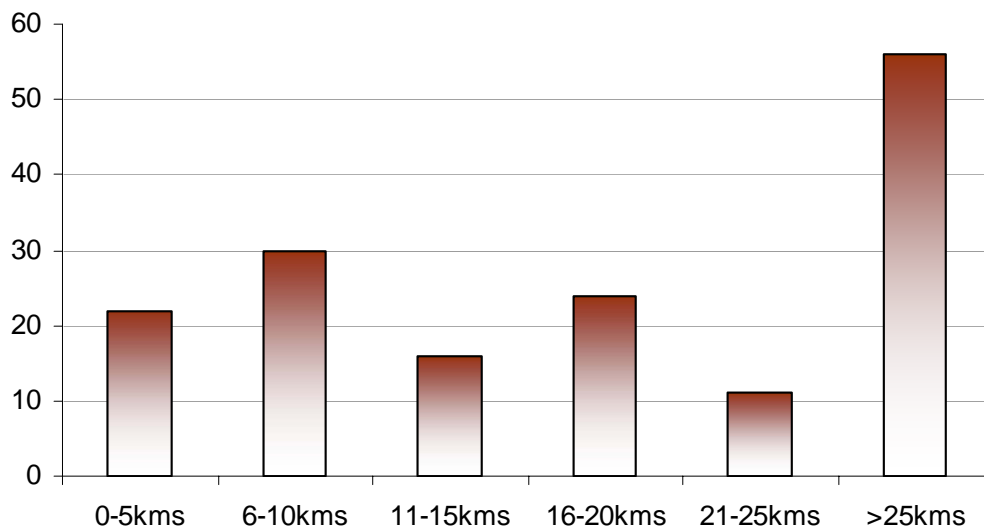
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APPENDIX: Distance to Work at Seven NCAHS Sites

The Tweed Hospital and Community Health

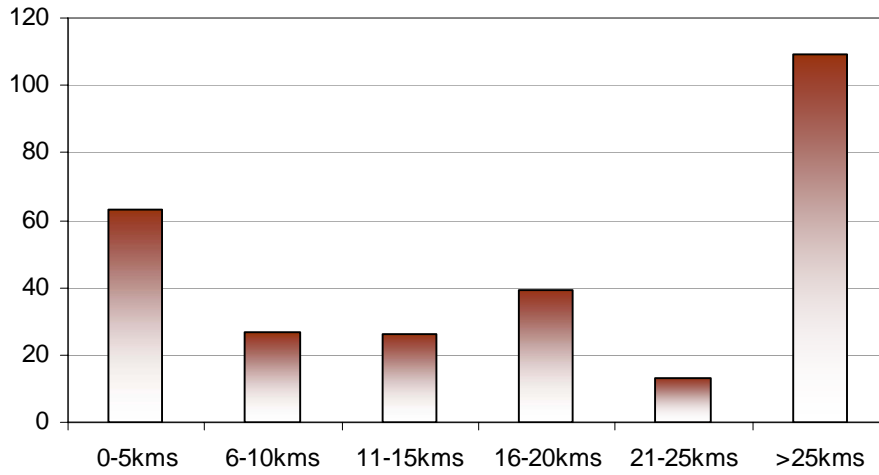
Distance to Work - Tweed



0-5kms	6-10kms	11-15kms	16-20kms	21-25kms	>25kms	Total
22	30	16	24	11	56	159
14%	19%	10%	15%	7%	35%	100%

Lismore Base/Crawford House Precinct

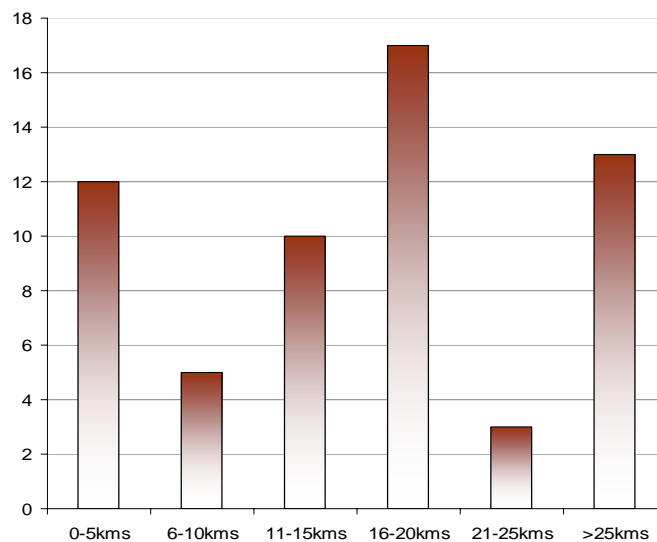
Distance to Work – LBH/CH



0-5kms	6-10kms	11-15kms	16-20kms	21-25kms	>25kms	Total
63	27	26	39	13	109	277
23%	10%	9%	14%	5%	39%	100%

Ballina Hospital and Community Health

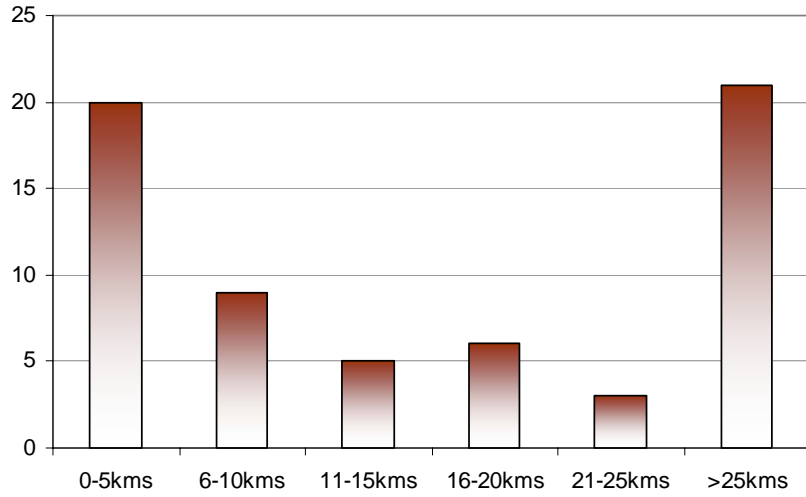
Distance to Work - Ballina



0-5kms	6-10kms	11-15kms	16-20kms	21-25kms	>25kms	Total
10	3	11	6	3	20	53
19%	6%	21%	11%	6%	38%	100%

Grafton Hospital and Community Health

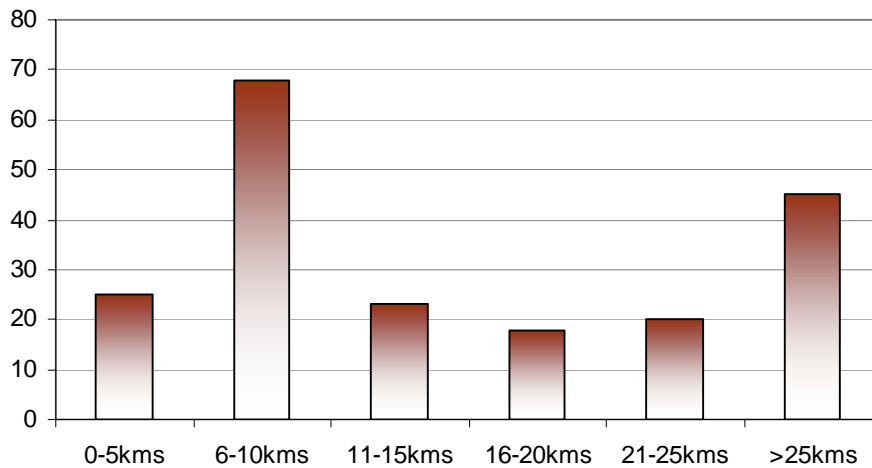
Distance to Work - Grafton



0-5kms	6-10kms	11-15kms	16-20kms	21-25kms	>25kms	Total
20	9	5	6	3	21	64
31%	14%	8%	9%	5%	33%	100%

Coffs Harbour Health Campus

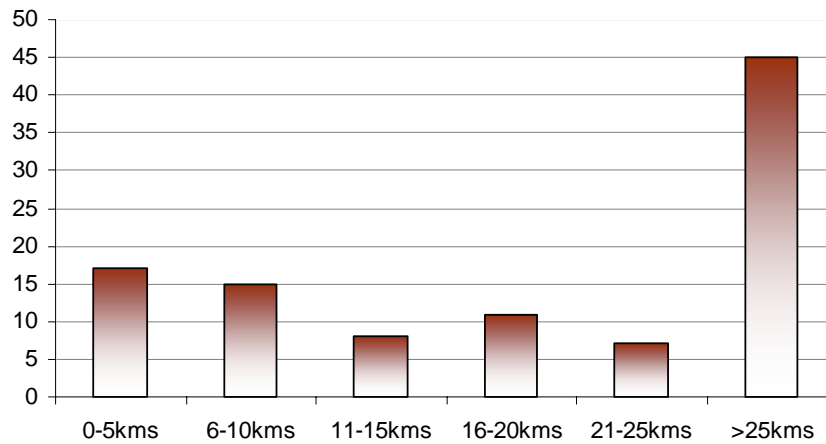
Distance to Work – Coffs Harbour



0-5kms	6-10kms	11-15kms	16-20kms	21-25kms	>25kms	Total
25	68	23	18	20	45	199
13%	34%	12%	9%	10%	23%	100%

Kempsey Hospital and Community Health

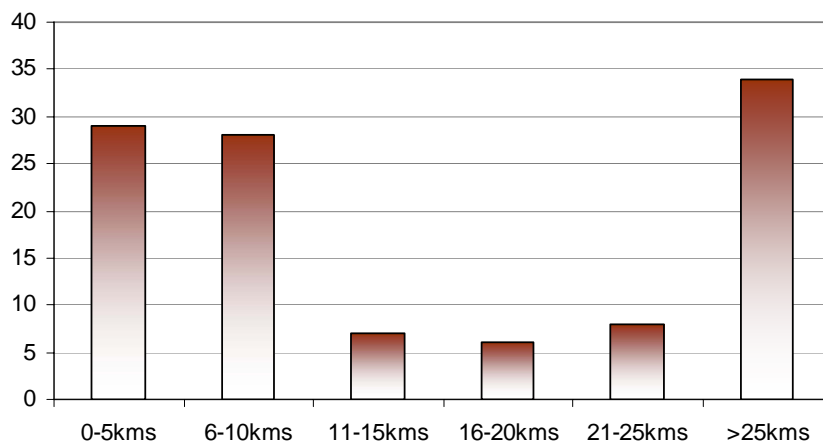
Distance to Work - Kempsey



0-5kms	6-10kms	11-15kms	16-20kms	21-25kms	>25kms	Total
17	15	8	11	7	45	103
17%	15%	8%	11%	7%	44%	100%

Port Macquarie - Morton Road Facility

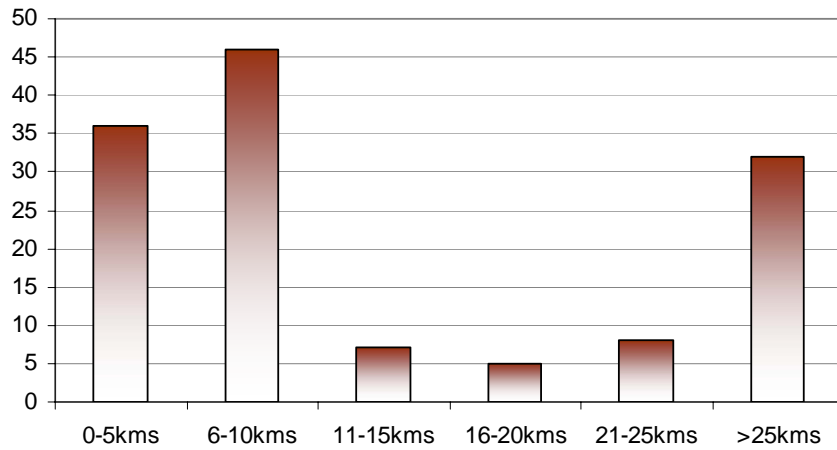
Distance to Work – Morton Road



0-5kms	6-10kms	11-15kms	16-20kms	21-25kms	>25kms	Total
29	28	7	6	8	34	112
26%	25%	6%	5%	7%	30%	100%

Port Macquarie Base Hospital – Wright Road

Distance to Work – Wright Road



0-5kms	6-10kms	11-15kms	16-20kms	21-25kms	>25kms	Total
36	46	7	5	8	32	134
27%	34%	5%	4%	6%	24%	100%