Health Impact Assessment

of the

Redevelopment of Liverpool Hospital

An Intermediate Health Impact Assessment of the construction phase of the redevelopment of Liverpool Hospital

March 2007

SYDNEY SOUTH WEST
AREA HEALTH SERVICE
NSW HEALTH

This report was prepared by Ms Michelle Maxwell and Ms Sharon Peters, Service Development Officers, SSWAHS Population Health

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Abbreviations

CBD	Central Business District
CHETRE	Centre for Health Equity Training, Research and Evaluation
EUG	Executive User Group, Liverpool Hospital
HIA	Health Impact Assessment
LGA	Local Government Area
SSWAHS	Sydney South West Area Health Service

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Executive Summary

Health Impact Assessment (HIA) is a tool for assessing the potential effects of a program or project on the health of a population and the distribution of these impacts within the population [1].

A Steering Committee was established in July 2006 to conduct a prospective HIA on the redevelopment of Liverpool Hospital. The project was also accepted as a developmental HIA site as part of the NSW Health HIA Project.

As a result of the screening step of the HIA, the Steering Committee decided to focus on the construction phase of the redevelopment for the HIA. This decision was supported by a brief review of the literature and the experiences of other hospital redevelopments where construction was a major issue in terms of health impact.

The aim of the HIA was to identify the potential positive and negative health impacts of the Liverpool Hospital redevelopment, with a focus on the construction phase. The outcome of the HIA was to develop recommendations for the Executive User Group (EUG) regarding improvements to health and wellbeing.

In determining the scope for the project, it was decided that an intermediate HIA be conducted given the timing of the start of the construction phase in late 2006-early 2007. In keeping with this type of HIA, the methods chosen for the identification of impacts were staff and community consultations, development of a population profile and a literature review.

During scoping the Steering Committee also decided the HIA would focus on the following four key issues for the identification of health impacts:

1. Reduced parking for staff, patients and visitors
2. Health and wellbeing of staff and the community
3. Community and patient safety (non-traffic related)
4. Increased traffic in area (general and construction traffic).

To undertake the assessment of impacts, the Steering Committee developed an assessment matrix (see Appendix 5) that included the health impacts, the source of information, affected groups, numbers affected and the consequences and likelihood of the health impact. The matrix also included a section on the possible actions or recommendations regarding that impact.

The Steering Committee used the matrix to prioritise the potential health impacts for the recommendations. Reduced parking was determined as the issue with the highest priority, followed by health and wellbeing of staff, community and patient safety and then increased traffic in the area. Within each of these issues recommendations were ranked in priority order with number one being the highest priority.

In determining the recommendations, the Steering Committee also acknowledged the strategies already and deliberately in place to reduce the potential negative health impacts and to enhance the potential positive health impacts during the construction. These included:

- an asbestos removal strategy,
- the construction of a new access road that crosses over the railway line,

- an improved facility for staff and the local community,
- the establishment of a Redevelopment Transition Manager's position to facilitate communication and
- various requirements within the Managing Contractor's contract that address health and wellbeing, for example effective safety barriers.

It was also acknowledged that the implementation of the recommendations will occur at different times throughout the construction process. Some recommendations (eg negotiations with contractors) will need to occur early in the construction phase and others may not be needed until construction is well underway.

A proposed monitoring and evaluation table was also developed to determine the impacts of the HIA and progress with the recommendations. It will be necessary for resources to be allocated for the monitoring and evaluation of the HIA over a period of approximately five to eight years – the construction phase of the project.

Introduction

Background

The existing Liverpool Hospital complex occupies an extensive landholding adjoining the northeastern sector of Liverpool CBD spanning the railway line. The hospital is the major tertiary referral hospital in the southwest region providing leadership in critical care, research and teaching for the University of New South Wales.

As a result of increased demand for services together with an expanding population, the need for additional health care beds, ambulatory care areas and supporting infrastructure have been identified. SSWAHS has recently completed a draft Healthcare Services Plan that identifies a long-term strategy for the delivery of health services in SSWAHS to 2020. A key component of the Healthcare Services Plan is the physical redevelopment of Liverpool Hospital to provide for its current catchment population, the new developing communities such as Edmondson Park and the initial land releases of the South West Sector land release. The redeveloped Liverpool Hospital will continue to be the major health facility, within a network of comprehensive health services, provided in the Sydney South West region.

It is proposed that the capacity of Liverpool Hospital be significantly expanded to meet current and projected service activity demands, noting that by 2016, almost 1 million people will be residing in the South West of Sydney.

The new hospital will be the major health facility in the Sydney South West region. It will provide services for the rapidly expanding regional metropolitan area including new residents of the Sydney South West Growth Centre which is proposed by and part of the Sydney Metropolitan Strategy.

The redevelopment will also provide significant economic contributions in the form of jobs and growth. It is anticipated that the redevelopment will generate many jobs during construction and a further increase in full time jobs upon completion[2].

Liverpool Hospital is considered to be a major focal point within the community. The presence of a major hospital within the CBD, close to major public transport links, provides a vital service for the residents of the Liverpool LGA, and also for people from throughout the south west of Sydney. The hospitals' presence is an important stimulus for the economy of the City of Liverpool.

SSWAHS has recently completed a draft Healthcare Services Plan that identifies a long-term strategy for the delivery of health services in SSWAHS to 2020. The population will include the current catchment population, the new developing communities such as Edmonson Park, and those comprising the South West Sector land release. The Plan proposes the creation of a network of contemporary quality health services to which all residents have equity of access. A key component of the Healthcare Services Plan is the physical redevelopment of Liverpool Hospital.

Project Proposal

The initial HIA proposal aimed to identify and assess the range of health impacts of the redevelopment on the community, patients and their families, and on health service staff.

The expected outcomes of the HIA were

1. A set of recommendations for the Executive User Group of Liverpool Hospital related to the potential health impacts of the redevelopment on affected communities, including staff, patients, visitors and the local community
2. A report on the potential health impacts of the construction phase of the redevelopment that may have implications for future development projects in SSWAHS, nationally and internationally.
3. To build capacity within SSWAHS to conduct further HIAs.

Project Management

A steering committee was convened to oversee the HIA. The Steering Committee brought together interested and committed groups, some who have had prior experience in conducting a HIA. The members of the Steering Committee provided value to the process by bringing their collective expertise into the HIA. Community involvement was achieved through the existing SSWAHS Community Participation framework and the contribution of two community representatives on the Steering Committee. The terms of Reference for the Steering Committee are included as Appendix 1.

Membership of the Steering Committee included:

1. Assistant Director Population Health
2. Service Development Officer Population Health (Chair) (2)
3. General Manager Liverpool Hospital
4. Community Representative (2)
5. Representative from CHETRE
6. Director, Capital Works
7. Liverpool Hospital Redevelopment Project Team Representative
8. Liverpool Hospital Staff Representative (3)
9. Senior Planner
10. HIA Leadership Development Program Participant (2)

A Project Team was also established as a sub-committee of the Steering Committee. Members of the Project Team included the Service Development Officers and Assistant Director of Population Health; CHETRE representative, Senior Planner and Leadership Development participants. The role of the Project Team was to undertake research and to develop key documents and strategies for the approval of the Steering Committee.

Steps of the HIA

The Steering Committee used the step-wise and structured HIA process to complete this project. In determining the potential health impacts of the redevelopment of Liverpool Hospital, screening and scoping exercises were undertaken by the Steering Committee. Methods were then selected to identify the key impacts and an assessment process was undertaken to prioritise the impacts.

Screening

The purpose of screening was to verify if a health impact assessment was the most appropriate methodology for assessing the potential positive and negative impacts from the redevelopment of Liverpool Hospital. The Steering Committee sought to identify the potential positive and negative health impacts of the redevelopment.

The screening step of the Liverpool Hospital Redevelopment developmental HIA focused on the following issues:

- Identifying the target population(s) – as precisely as possible
- Identifying the assumptions underpinning or embedded within the redevelopment
- Identifying any potential links between the redevelopment and health (both direct and indirect)
- Identifying all the groups most likely to be affected by the redevelopment
- Identifying some of the potential equity issues
- Identifying (superficially) the potential health equity impacts (intended & unintended, positive and negative) of the policy
- Determining whether a HIA was required and at what level (that is, the proposed scope)

The following key documents were reviewed as part of the screening step and to address the above issues/questions

- A Health Profile of Sydney South West, SSWAHS June 2005[3]
- Masterplan for the Redevelopment of Liverpool Hospital[4]

A student placement opportunity in SSWAHS Population Health was also utilised as part of the Project Team to undertake a brief review of relevant literature and the experiences of other hospital redevelopments where construction was a major issue in terms of health impact. As a result of the screening step of the HIA and the consideration of this peer-reviewed and grey literature, the Steering Committee decided to focus on the construction phase of the redevelopment for the HIA.

Scoping

During the scoping phase it was determined by the Steering Committee that an intermediate HIA be undertaken due to the following reasons:

- The limited time in which to complete the HIA
- The timeframe for the Liverpool Hospital Redevelopment being predetermined by the developers, NSW Health and by the Area Health Service and not subject to change
- The building plans for the redevelopment being finalised prior to commencement of the HIA
- No additional resources being provided to undertake the HIA.

In the scoping phase of the HIA, the following key issues emerged as the focus for the identification of health impacts of the construction phase of the redevelopment:

1. Reduced parking for staff, patients and visitors
2. Health and wellbeing of staff and the community
3. Community and patient safety
4. Increased traffic in area (general and construction)

The Steering Committee determined that three sources of information would be used to collect information on the health impacts of construction. They were:

1. A literature search,
2. Key informant interviews/consultations and
3. A Population Profile

1. Literature Search

The parameters of the literature search were specific to the health impacts of the construction phase of health care facility redevelopments. The literature search looked at the relationships between construction and building projects and health, with specific health effects on staff, pollution, stress, mental health, animals (horses), noise and mould. Search terms included:

- Construction
- Building
- Health or health facility or health facility planning or health facility moving
- Road

Appendix 2 is a table of the results of the literature search.

2. Key informant interviews/consultations

A set of consultation questions (Appendix 3) was developed by the Steering Committee for the key informant interviews and consultations. The questions covered the four key issues determined during scoping as described earlier (reduced parking; health and wellbeing of staff and the community; community and patient safety and increased traffic).

Key informant interviews were held with representatives from:

- Liverpool TAFE
- Liverpool City Council
- Tharawal Aboriginal Medical Service
- SSWAHS Disability Steering Committee
- Liverpool Girls High School
- Child Care Centre management
- Community Participation Committee
- Horse trainers at Warwick Farm

To consult with staff at Liverpool Hospital, three open staff forums were held at various times during the day to accommodate shift workers. Members of the Steering Committee also presented information to key meetings including Grand Rounds, the Nursing Unit Managers' Meeting and the Service Managers'

Meeting and asked staff to complete the questionnaire. Forty-five responses to the questionnaire were received from staff.

3. Population Profile

A Population Profile (see Appendix 4) of the local community was used to identify the target groups likely to be affected by the construction phase of the Liverpool Hospital Redevelopment. The Population Profile contained information regarding population size, growth and diversity; social characteristics, mortality and morbidity data and characteristics of staff, patients, Childcare Centre children, TAFE and school groups.

Identification of Impacts

The following is a summary of the key health impacts that were identified by the literature search, key informant interviews/consultations and population profile.

1. Reduced parking

A positive health impact identified was the increase in physical activity for staff who utilized public transport.

Negative impacts were:

- Increased stress
- Decreased safety
- Non-attendance for appointments
- Reduced access to services

2. Health and wellbeing of staff and the community

A positive health impact identified was the increase in local employment opportunities as a result of the redevelopment.

Negative impacts were:

- Increased stress from noise of construction
- Increased stress from temporary relocation of services
- Decreased physical activity for staff due to removal of pool and tennis court
- Increased stress from bullying and harassment
- Increased stress to the local community
- Increase in health issues related to exposure to dust
-

3. Community and patient safety (non-traffic related)

Negative impacts were:

- Increased risk of injury due to construction
- Increased risk of child protection issues
- Increased risk of injury to staff (safety and security)

- Increased risk of health effects from mould
- Increased risk of injury from disruptions to current fire exits and escape plans

4. Increased traffic in area (general and construction traffic).

Negative impacts were:

- Decreased air quality
- Increased risk of injury
- Increased stress from noise of traffic

Assessment of Impacts

To assist in the assessment of impacts, the Project Team developed an assessment matrix (Appendix 5) that included the health impacts, the source of information, affected groups, numbers affected and the consequences and likelihood of the health impact. The Steering Committee agreed to place equal weighting on all three sources of information collected for the assessment step of the HIA – literature search, key informant interviews/consultations and the Population Profile. According to the London Health Observatory[5] all three sources of information constitute evidence in HIA. The matrix also included a section on the possible actions or recommendations regarding that impact. The Project Team used the matrix to prioritise the potential health impacts for the recommendations.

Recommendations

Following the prioritization of health impacts and using some of the strategies suggested in the literature and from the consultations, the Project Team developed a set of draft recommendations for the consideration of the Steering Committee. Based on feedback from the Steering Committee, some changes were made to the recommendations and a report was then developed for the Executive User Group(EUG) of Liverpool Hospital.

The Recommendations Report was forwarded to the EUG in December 2006. Two of the members of the EUG (General Manager, Liverpool Hospital and SSWAHS Director of Population Health, Planning and Performance) agreed to sponsor the recommendations to the EUG.

Members of the HIA Steering Committee presented the recommendations and the proposed monitoring and evaluation plan to the EUG at their meeting on 27th March 2007. At that meeting the EUG agreed to support the recommendations of the HIA and to take responsibility for the evaluation and monitoring of the recommendations.

The recommendations were:

Priority 1. Reduced parking

In priority order, the health impacts that were identified in relation to reduced parking were:

- Increased physical activity *(positive)*
- Increased stress *(negative)*
- Reduced access to services *(negative)*
- Decreased safety *(negative)*

- Non-attendance for appointments *(negative)*

Based on the understanding that there may be a reduction in the number of existing parking spaces during construction, the Steering Committee recommends that the EUG:

1.1 Works with the SSWAHS Health Promotion Service and the Director, Strategic Workforce Planning and Development to develop, implement and evaluate a plan to promote the use of active transport for staff at Liverpool Hospital. This plan should aim for a sustainable shift in travel mode to and from work over the next 5-10 years.

1.2 Works with Metro Parking to review and explore opportunities to maximise the use of current vacant parking spaces, especially on Eastern Campus.

1.3 Explores and reports on the feasibility of a Park and Ride system for staff in peak hours (8.00am – 9.00am and 4.30pm – 5.30pm).

1.4 Initiates the development and implementation of a disability access plan for the construction phase of the redevelopment. The plan should be adaptable to changes that may occur during construction and cover issues such as signage, drop-off points and the use of motorised buggies to transport mobility-impaired patients, visitors and staff within the hospital.

1.5 Ensures an increased security presence on Eastern Campus, together with adequate lighting and the installation of temporary duress alarms where necessary.

1.6 Liaises with the Director, Aboriginal Health to develop a system to monitor the non-attendance of the Aboriginal community at appointments as a result of decreased car parking spaces. Then, if necessary, to develop a strategy to support members of the Aboriginal community to attend appointments. The Steering Committee notes that this may also be an issue for other vulnerable groups that may require further consideration.

Priority 2. Health and wellbeing of staff and the community

In priority order, the health impacts that were identified in relation to health and wellbeing of staff and the community were:

- Increased employment in the local community *(positive)*
- Increased stress to schools, Childcare, TAFE, staff and patients from the noise of construction *(negative)*
- Increased stress to the local community from lack of information *(negative)*
- Increased stress from temporary relocation of services *(negative)*
- Increase in health issues related to exposure to dust *(negative)*
- Increased stress from bullying and harassment *(negative)*
- Decreased physical activity due to removal of tennis court and pool *(negative)*

The increased opportunity for employment is a positive health impact that will result from the construction phase of the redevelopment. The Steering Committee notes that the Managing Contractor has a requirement to comply with NSW Government Policy on Aboriginal Participation in Construction. In addition, we recommend that the EUG:

2.1 Ensures that the Managing Contractor also considers the opportunity to contribute to the sustainability of the local area by specifically offering employment and training opportunities to those currently unemployed in the local community.

The Steering Committee notes that effective and current communication was reported as being very important across all phases of the construction and for all groups consulted in the HIA. There was also evidence in the literature and feedback provided that effective communication can reduce the possibility of bullying and harassment during organisational change. We therefore recommend that the EUG:

2.2 Ensures that the Managing Contractor establishes a community liaison role that takes action to respond to complaints and concerns raised by staff, patients, visitors and the local community.

2.3 Ensures that the Redevelopment Transition Manager and the Community Liaison officer (referred to above) consult with TAFE and schools to ensure that construction noise does not adversely affect students during exam time and consult with Childcare to ensure that construction noise does not adversely affect children during play/sleep time.

2.4 Initiates a plan for appropriate and current signage and maps in the area surrounding the hospital. This may also require the use of internationally recognisable symbols or translated information.

2.5 Ensures that the SSWAHS website and the Facility Orientation Program contains current information regarding the construction of the hospital and any changes to services, parking or access.

In addition, the Steering Committee recommends that the EUG:

2.6 Ensures that the Redevelopment Transition Manager has the resources to provide appropriate personal protective equipment to staff and patients as required.

2.7 Ensures that the Managing Contractor complies with dust containment regulations

2.8 Works with the Employee Assistance Program (EAP) and SSWAHS Human Resources to monitor incidents of bullying and harassment, which may be related to the redevelopment of Liverpool Hospital. It is also important that Managers are provided with appropriate and effective change management skills to assist in the prevention of bullying and harassment.

2.9 Uses the redevelopment as an opportunity to establish facilities that support physical activity for staff (eg walking tracks, gym).

Priority 3. Community and patient safety (non-traffic related)

In priority order the health impacts that were identified in relation to community and patient safety were:

- Increased risk of injury from disruptions to current fire exit and escape plans *(negative)*
- Increased risk of injury to staff (personal safety and security) *(negative)*
- Increased risk of health effects from mould *(negative)*
- Increased risk of child protection issues *(negative)*
- Increased risk of injury due to construction hazards *(negative)*

The Steering Committee notes that strategies are already in place to reduce the risk of injury and child protection issues during construction. In particular we note the concerns of the Childcare Centre staff regarding the close proximity of the construction of the carpark on Eastern Campus. Issues related to child protection may also be of concern to inpatients and clinic areas. Therefore, we recommend that the EUG:

3.1 Ensures that the Fire Safety Officer at Liverpool Hospital develops and implements a specific strategy regarding changes to exits, evacuation plans, signage and fire drills as a result of construction.

3.2 Ensures that temporary duress alarms are installed at key locations during construction to reduce the risk of injury to staff during construction.

3.3 Ensures that the Managing Contractor adheres to guidelines for the safe removal of mould during construction so that the health of immunocompromised patients is not adversely affected.

3.4 Ensures that adequate lighting is installed on temporary pathways during construction.

Priority 4. Increased traffic in area (general and construction traffic)

In priority order, the health impacts that were identified in relation to increased traffic in the area were:

- Increased risk of injury to pedestrians and horses *(negative)*
- Increased stress from noise of traffic *(negative)*
- Decreased air quality *(negative)*

The Steering Committee notes that a Traffic Management Plan has already been developed and this may alleviate some of the health impacts that result from increased traffic in the area. We also recommend that the EUG:

4.1 Ensures that the wall between the cot room of the Childcare Centre and the proposed car park on Eastern Campus is soundproofed before construction commences.

4.2 Asks the SSWAHS Chief Executive to write to Liverpool City Council with the request to reduce the speed limit in Scrivener and Manning Streets, Warwick Farm from 50km/h to 40km/h in order to reduce the likelihood and impact of motor vehicle accidents involving livestock.

4.3 Ensures that contractors are made aware of the special considerations associated with use of the area around the hospital, especially Manning Street Warwick Farm in which a number of horse training facilities are located.

4.4 Liaise with staff from the Childcare Centre regarding a new safe drop-off zone for children or fencing for the existing zone.

4.5 Ensures that construction vehicles are not permitted to park in close proximity to the Childcare Centre.

In addition, the Steering Committee notes that many issues need to be resolved before construction commences. However we strongly suggest that the EUG:

4.6 Prioritise the construction of the new road from the Hume Highway at Warwick Farm early in the construction phase, as this will help to alleviate many of the concerns raised regarding the impact of increased construction traffic in the areas surrounding the hospital.

Monitoring

The Steering Committee recommended that monitoring of the health impacts arising from the construction phase should be ongoing throughout the construction. They also recommended that the EUG be responsible for the monitoring and evaluation of the recommendations. To facilitate this, a member of the Liverpool Hospital Executive needs to be responsible for monitoring the implementation of the HIA recommendations and for quarterly reporting to the EUG. Sources of data that could assist in the monitoring of the HIA recommendations include:

- Sick leave
- OH&S incident reports
- Staff complaints reported on IIMS
- Employee Assistance Program reporting on incidences of staff bullying
- Staff exit interviews done at the time of termination of employment
- Number of staff exits per month/year

A proposed monitoring plan has been developed by the Steering Committee and is included as Appendix 6.

Evaluation

To date, the evaluation of the HIA has focused on the process, with consideration being given to impact evaluation through the proposed monitoring and evaluation plan. (Appendix 6)

Process Evaluation

Process evaluation was ongoing throughout the HIA. This was done via:

- Reviewing minutes of previous meetings
- Reflection time at the end of the last two meetings where committee members were asked their views on the HIA process.
- Some reflection on the process to date at the HIA Training in October 2006.

In relation to the redevelopment of Liverpool Hospital, the Steering Committee members felt that:

- The project was more extensive than originally anticipated, especially in relation to the number of stakeholders, staff and consultations.
- The HIA has given another perspective to the redevelopment
- The effect of the redevelopment is more widespread than originally thought
- The HIA has improved awareness and knowledge of the project to external stakeholders

Of the steering committee, members felt that:

- The steering committee was a 'good, positive, cohesive' group of dedicated staff and volunteers
- Members brought a lot of different skills, views and opinions to the HIA
- It was important that the chairperson not only chaired the meetings but provided clarity around processes and kept the committee on track
- Having the redevelopment project managers as members of the committee ensured that information being provided at the meetings was up-to-date and credible
- The structure of the steering committee ensured good representation of staff, community members, decision-makers and project managers
- Although there were Liverpool Hospital representatives included in the committee membership, their attendance at meetings could have been more regular.

Of the HIA process, the steering committee felt that:

- There was an appropriate number of people consulted and a large number of issues raised
- By identifying the health impacts early, the process was managed well within the constraints of the HIA structured approach
- There were aspects of the HIA that required very specialized skills that the committee members did have, e.g. literature searches. Without access to those who could provide that expertise, there may have been difficulty in finding the evidence for the HIA

Of the outcomes of the HIA, the steering committee felt that

- The HIA reinforced the need for greater communication. Although the redevelopment has been widely advertised and discussed, some staff still know little or nothing about it.
- The HIA training has been beneficial
- Resources must be allocated to do future HIAs.
- Valuable networks have been established as a result of the HIA process particularly with community groups

Impact evaluation

Measuring changes that result from the HIA will occur during the construction phase of the redevelopment. As previously stated, resources need to be directed to effect the monitoring and evaluation of these changes.
Potential measures of impact include the performance indicators described in the proposed monitoring and evaluation plan (Appendix 6). These include the following:

- Increase in the number of staff using active transport to travel to and from work
- Development and implementation of a Disability Access Plan for the construction phase
- Proportion of local people employed by the construction
- Establishment of a Community Liaison role by the Managing Contractor
- Compliance with dust control and mould removal regulations by Managing Contractor

Key Learnings from the HIA

A key learning from this HIA was the importance of defining the scope of the HIA early in the process. To effectively undergo a HIA on a project of the size and complexity of a redevelopment of a major hospital, decisions had to be made early about what was possible to achieve given the time and resource limitations of the steering committee.

The membership of the steering committee was integral in the development of the HIA. The steering committee membership included decision-makers and key members of the redevelopment team. There was confidence in the ability of the steering committee members to perform tasks and provide credible information to the committee.

There was a positive dynamic within the steering committee. This was the result of members being willing to contribute to the HIA process and having a genuine commitment to it.

The implementation of an action plan that outlined tasks to be completed and a time frame for doing it, kept the committee moving forward on the HIA.

Regular meetings ensured that progress of the HIA was monitored and that the committee received regular feedback on issues. They also provided an opportunity to keep the committee up-to-date on any changes to the redevelopment plan.

HIAs should be done in the early stages of the project planning process. The HIA could have been more effective had it been integrated into the initial planning stage of the redevelopment.

The HIA timeframe should be such as to allow all relevant stakeholders to participate in the information gathering process. This means timing workshops, consultations and interviews to allow as many people as possible to give their input.

Literature searches were valuable in providing information on projects of similar scope and the outcomes of those HIAs were useful in identifying impacts that may be relevant.

A ‘sub-group’ that is prepared to coordinate and write-up activities and outcomes, needs to exist within the steering committee

Conclusions

The HIA that was undertaken in respect of the construction phase of the Redevelopment of Liverpool Hospital was valuable for the following reasons:

- It provided evidence for strategies relating to the possible health impacts of the construction phase of the redevelopment
- It raised awareness of possible inequity for disadvantaged groups during the construction phase of the redevelopment
- It developed capacity within SSWAHS to conduct future HIAs
- It allowed groups not previously engaged in the planning of the redevelopment to offer input into the construction process

The suggested changes for future HIAs include:

- The proposal or plan being assessed should be finalized prior to commencement of the HIA. Conducting a HIA on a plan that is yet to be approved or completed requires making certain assumptions about the plan.
- The time and resources needed to conduct the HIA should be considered before agreeing to participate in the process.
- An executive sponsor needs to be engaged to ensure the HIA recommendations are kept on the agenda of the relevant decision-makers

Although the process of the HIA was very valuable, the true value of the HIA will not be able to be accurately measured until monitoring and evaluation has been completed. This is strong support for additional resources to be committed to this phase of the HIA to determine the actual impacts and outcomes of the HIA.

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APPENDIX 1

HEALTH IMPACT ASSESSMENT (HIA) PROJECT LIVERPOOL HOSPITAL STAGE 2 REDEVELOPMENT

Type: Steering Committee

Objectives: A forum for identifying the potential positive and negative health impacts of the Liverpool Hospital redevelopment with a focus on the construction phase.
Develop recommendations regarding improvements to health and wellbeing from the redevelopment of the hospital through the process of Health Impact Assessment.

Members: *Chairperson:*
Service Development Officer Population Health
Members:
Assistant Director Population Health
Service Development Officer Population Health (2)
General Manager Liverpool Hospital
Community Representative (2)
Representative from CHETRE
Area Physical Resources Manager
Liverpool Hospital Redevelopment Project Team Representative
Liverpool Hospital Staff Representative (3)
Senior Planner
HIA Leadership Development Program Participant (2)

Meetings: Meetings will be fortnightly.

Terms of Reference:

- Determine the scope of the HIA
- Identification of the key issues for decision-makers / planners which will impact on the health of staff, customers and visitors to the hospital
- Consultation with key stakeholders regarding health impacts associated with the hospital physical environment
- Review of evidence to estimate health impacts of key issues
- Develop recommendations resulting from the HIA
- Develop a report on outcomes of the HIA to be presented to the Executive User Groups.

Quorum: 50% + 1
Reporting: Recommendations to Executive Users Group
Timeframe: 3 months

APPENDIX 2

Overall – Impacts in the Construction Phase

Noise Pollution

Noise causes nuisance and can have an impact on children's learning and general neighbourhood amenity. Long-term noise can cause health problems such as cardiovascular disease.

Considerations
Short term effects may not be so severe
Mitigating strategies such as earth banks, timing of works may limit impacts

Air pollution –Emissions

Can worsen health outcomes from many diseases - especially the atopic (those with allergies) and those with respiratory disease. Short term exposure to diesel emissions can cause nasal and eye irritation (short term), headache, fatigue and nausea.

Considerations
Limit running of vehicles
Minimise vehicle movements

Air pollution – Mould

Fungal spore disturbance can cause infection of the immunocompromised. It may exacerbate asthma.

Considerations
Use of dust-control procedures and barriers during construction, repair, renovation, or demolition

Construction Traffic Movements

Emissions and noise from these vehicles and possible risk of injury may affect those living near the site or the roads along which they travel.

Considerations
Detailed phasing of the works coupled with use of appropriate vehicles, planning of loads and routes and timing of movements can all play a part in reducing the negative impacts of construction traffic.

Keeping sites safe

Trauma, especially young workers in the construction industry and local children

Considerations
Good site security. Locking plant and machinery up. Good OH&S practices for workers. Minimise the movements of heavy vehicles.

Movement of workplace during construction

Staff may be disrupted and patient care may be compromised unless the move is carefully planned. A particular risk is the timing of the movement between facilities.

Considerations:
Good communication with staff. Ensure staff educated around new facility, new technology and new procedures prior to move. Communicate with public and referring practitioners regarding location of facilities.

Trust between Hospital and local residents

Local residents may feel a decreased level of trust with local healthcare providers if plans are not discussed. Any disruption to services should be advised well beforehand.

Consideration:
The provision by the construction company of a dedicated resident liaison officer can minimise local angst.

Good employment practices

Wherever possible, where legal, try to employ local residents to stimulate the local economy and build the local skills base.

Consideration
Stipulate, where possible, the use of local labour in construction projects.

Stimulating local demand

Wherever possible, where legal, try to ensure local suppliers are used preferentially to stimulate the local economy.

Consideration
Stipulate, where possible, the use of local suppliers in construction projects.

Stimulating the local economy

Wherever possible, where legal, try to ensure local businesses are offered franchises within the hospital. Ensure local businesses accessed by staff and patients are not disadvantaged by building works.

Consideration
Stipulate, where possible, use of local businesses in hospital franchises. Ensure access to local business is maintained.

Staff Health

Staff fears about the implications about new premises and ways of working, in particular the transition of services, could have negative impacts on working conditions and patient care.

Considerations:
Clarity about which services will ultimately be located where. Good communication with staff could mitigate concerns about new ways of working and what that means for them as staff. Reinforce the positive benefits of the improved working conditions that are expected.

Literature Review

Issue	Impacts	Modifiers	Trade offs	Impacts on Vulnerable Groups	Type of evidence	Source
Noise Pollution						
	Cardiovascular health		New roads/buildings		Cohort study	[1]
	Children's learning	Timing of heavy truck movements	New roads/buildings	Children	Aircraft noise studies, one road noise study, nil for construction	[2]
Air Pollution						
Particulate matter release during demolition/construction[3] and due to increased local traffic	Worsening of chronic respiratory disease	Minimise construction vehicle movements/running	New roads/buildings	Children Smokers Diabetes Heart Disease	Environmental study (for release) Review of large cohorts (for effects)	[4],[5]
	Atopy in children exposed to traffic	Minimise construction vehicle movements/running	New roads/buildings	Children	Cohort study	[6]

[1] Willich, Stefan N. 1,*; Wegscheider, Karl 2; Stallmann, Martina 2; Keil, Thomas 1 Noise burden and the risk of myocardial infarction. European Heart Journal. 27(3):276-282, February 2006

[2] Sanz SA, Garcia AM, Garcia A. Road traffic noise around schools: a risk for pupil's performance? Int Arch Occup Environ Health. 1993;65(3):

[3] Dorevitch S, Demirtas H, Perksy VW, Erdal S, Conroy L, Schoonover T, Scheff PA. Demolition of high-rise public housing increases particulate matter air pollution in communities of high-risk asthmatics. J Air Waste Manag Assoc. 2006 Jul;56(7):1022-32.

[4] Brunekreef B, Forsberg B. Related Articles, Epidemiological evidence of effects of coarse airborne particles on health. Eur Respir J. 2005 Aug;26(2):309-18

[5] Kappos AD, Bruckmann P, Eikmann T, Englert N, Heinrich U, Hoppe P, Koch E, Krause GH, Kreyling WG, Rauchfuss K, Rombout P, Schulz-Klemp V, Thiel WR, Wichmann HE. Health effects of particles in ambient air. Int J Hyg Environ Health. 2004 Sep;207(4):399-407.

[6] Kramer U, Koch T, Ranft U, Ring J, Behrendt H. Traffic-related air pollution is associated with atopy in children living in urban areas. Epidemiology. 2000 Jan;11(1):64-70.

Issue	Impacts	Modifiers	Trade offs	Impacts on Vulnerable Groups	Type of evidence	Source
Fungal spore disturbance	Airborne infection of the immunocompromised	Use of dust-control procedures and barriers during construction, repair, renovation, or demolition	New buildings	Immunocompromised	Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC)	[7],[8]
Short term exposure to diesel emissions	Nasal and eye irritation (short term), headache, fatigue and nausea	Minimise construction vehicle movements/running	New road/buildings	Individuals with allergies in particular	Review article	[9]
Movement of workplace during construction						
	Increased use of health care by workers	Not helped by good social networks		Staff with health issues	Prospective cohort of hospital workers	[10]
	Drop in team cohesiveness	Time together after move	New facility (did not compensate for high workload)	Patients	Very small study of geriatric unit relocation	[11]

[7] Sehulster L, Chinn RY Guidelines for environmental infection control in health-care facilities. Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC). MMWR Recomm Rep. 2003 Jun 6;52(RR-10):1-42.
[8] Bartley, J APIC state-of-the-Art report: the role of infection control during construction in health care facilities. Am J Infect Control. 2000 Apr;28(2):156-69.
[9] Sydbom A, Blomberg A, Parnia S, Stenfors N, Sandstrom T, Dahlen SE. Health effects of diesel exhaust emissions. Eur Respir J. 2001 Apr;17(4):733-46.
[10] Zweig S. Blake RL Jr. Health effects of relocation at work. [Journal Article] Journal of Family Practice. 23(5):449-53, 1986 Nov
[11] Humphris GM. Turner A. Job satisfaction and attitudes of nursing staff on a unit for the elderly severely mentally infirm, with change of location. Journal of Advanced Nursing. 14(4):298-307, 1989 Apr.

Issue	Impacts	Modifiers	Trade offs	Impacts on Vulnerable Groups	Type of evidence	Source
	Moving workplace too early before building was ready to take patients	Ensuring building is fully commissioned before move	New building		Description of move	[12]
	Provision of services	Good communication with staff and referring practitioners			Description of move	ibid
	Patient safety in new facility	Staff education and orientation through facility tours, education regarding new equipment and evacuation routes, scheduling	Lengthy planning process	Improved health in new facility	Description of move of acute rehabilitation facility	[13]

[12] Duffy K. Pearson A. Waters M. Moving a hospital--a once in a lifetime experience. Australian Health Review. 25(2):155-61, 2002.

[13] Habel M. Lassen CF. Rankin S New-building occupancy. The role of nursing staff development. Journal of Nursing Staff Development. 14(1):23-9, 1998 Jan-Feb.

HIA Review

Issue	Impacts	Modifiers	Trade offs	Source
Keeping residents informed	Builds trust	Newsletters, dedicated liaison officer, email and telephone	Cost	West Stockwell PCT HIA
Interruptions to services	Access to water, electricity	Advise residents in advance	Cost	West Stockwell PCT HIA
Keeping sites safe	Trauma, especially for children	Good site security. Locking plant and machinery up.		West Stockwell PCT HIA North Staffordshire – redevelopment and new build of Hospital and Health care Facilities
Keep access for residents open	Decreased access may increase social severance	Maintaining pedestrian walkways and driveway access		
Nuisance	Noise, air pollution, general well-being	Keep hours of work and deliveries confined to 8am - 6pm on Mondays - Fridays inclusive, unless otherwise agreed by all parties.		North Staffordshire – redevelopment and new build of Hospital and Health care Facilities
Dust and noise	Nuisance, local effects of air pollution	Timing of work, noise abatement of machinery, enclosure of working areas, spraying and other measure to minimise dust The distance between construction and hospital wards should be maximised to cut down on noise and dust and soil can be banked to muffle noise.		North Staffordshire – redevelopment and new build of Hospital and Health care Facilities Rapid Health Impact Assessment of the Royal Liverpool Children's NHS Trust's Outline Business Case for the modernisation of children's services

Issue	Impacts	Modifiers	Trade offs	Source
Construction Traffic Movements	Emissions and noise from these vehicles and possible risk of injury may affect those living near the site or the roads along which they travel.	Detailed phasing of the works coupled with use of appropriate vehicles, planning of loads and routes and timing of movements can all play a part in reducing the negative impacts of construction traffic.	Productivity, cost	North Staffordshire – redevelopment and new build of Hospital and Health care Facilities
Occupational hazards	Construction sites are hazardous environments.	Good OH&S practices	Better worker health	North Staffordshire – redevelopment and new build of Hospital and Health care Facilities
Provision of employment	Provision of employment directly in construction, indirectly through the supply chain and indirectly through the demand generated by the workforce (e.g. housing, consumables).	During the construction phase so far as is possible and compatible with legal obligations, every effort should be made to maximise employment opportunities for local residents. All relevant educational bodies should work with the constructors and other local agencies to identify opportunities and offer training. They should seek to boost the number of people qualified in the construction skills needed to build the new hospitals and medical school and to meet the demands of the construction industry.. If it is not possible to employ local people, it is important that that local people know the reasons for this (e.g. local people with the skills are already employed elsewhere; belief that free trade laws do not allow for the Trust to specify local workers are employed, etc).		North Staffordshire – redevelopment and new build of Hospital and Health care Facilities Rapid Health Impact Assessment of the Royal Liverpool Children's NHS Trust's Outline Business Case for the modernisation of children's services R apid Health Impact Assessment of Aintree Hospitals NHS Trust proposal to build an Elective Care Centre at the University Hospital Aintree site

Issue	Impacts	Modifiers	Trade offs	Source
Stimulation of local supply chain	Construction and fitting out of the new hospitals will require many millions of pounds worth of materials. In so far as these can be sourced from local suppliers, local businesses will be stabilised and stimulated and further local employment opportunities created.	So far as is possible and compatible with legal obligations, every effort should be made to source construction materials and services from local suppliers and to specify materials with this in mind.		North Staffordshire – redevelopment and new build of Hospital and Health care Facilities Rapid Health Impact Assessment of the Royal Liverpool Children's NHS Trust's Outline Business Case for the modernisation of children's services
Local economy	Access to local shops	There is a need to ensure the flow of patients to the shops and services locally is maintained, e.g. provision of pedestrian entrance to the new hospital.		Rapid Health Impact Assessment of the Royal Liverpool Children's NHS Trust's Outline Business Case for the modernisation of children's services
	Opportunities for local businesses	Consideration should be given to commercial services in the hospital being franchised out to local traders.		Rapid Health Impact Assessment of the Royal Liverpool Children's NHS Trust's Outline Business Case for the modernisation of children's services

Issue	Impacts	Modifiers	Trade offs	Source
Staff health	Staff fears about the implications about new premises and ways of working, in particular the transition of services, could have negative impacts on working conditions and patient care. However, given the poor conditions of many of Mersey Care's current premises, new premises and ways of working should result in positive impacts, certainly during the operational phase.	Clarity about which services will ultimately be located where. o Good communication with staff could mitigate concerns about new ways of working and what that means for them as staff. o Reinforce the positive benefits of the improved working conditions that are expected	New health premises and service reconfigurat-ions can have an immediate and direct effect on the target population by increasing access to, and quality of, health services for patients (which should result in improved health outcomes) and improving working conditions for staff. But they can also have unintended negative consequences by reducing access for patients and worsening working conditions for staff. Access to services can directly impact on the health of service users whereas the quality of one's working conditions impact on an individual's health and well-being.	Rapid Health Impact Assessment of Mersey Care NHS Trust's Outline Business Case for Mental Health and Learning Disability Services

APPENDIX 3

Questions for structured interviews

Background:

A Steering Committee has been established to undertake a Health Impact Assessment of the Redevelopment of Liverpool Hospital. A review of literature on the potential impacts over a significant length of time and previous experiences have led us to the decision to focus on the construction phase of the redevelopment.

We will be focussing on two key impacts arising from the Redevelopment Construction, and these are:

1. Health and wellbeing of staff and the local community
2. Traffic and parking issues

You have been chosen as a representative of a group who may be affected by the construction of the redevelopment of Liverpool Hospital. We would like to ask you a number of questions regarding the potential negative and positive impacts or effects of the construction phase. The information that you provide will be treated confidentially and names and positions will not be used in any report that may arise.

The construction phase will potentially involve:

- Establishing a new direct road link northwards from the hospital along the western side of the railway line connecting to the Hume Highway
- Provision of an elevated pedestrian connection over the railway line
- An increase in construction traffic in the area around the hospital
- The temporary re-location of staff and services within the hospital
- An increase in traffic in Manning and Scrivener Streets, Warwick Farm

Thank you for your time

A. In relation to the health and wellbeing of staff/the local community

1. In your opinion what will be some of the effects (positive or negative) on **community safety** because of the construction in and around the hospital?

2. Will there be negative or positive effects from:

	Yes	No	Unsure	+ve	-ve
Extra rubbish and debris	☐	☐	☐	☐	☐
Curious children and adults who may enter the worksite	☐	☐	☐	☐	☐
Reduced child play and activity	☐	☐	☐	☐	☐
Disruptions to current fire exit and escape plans	☐	☐	☐	☐	☐

3. What actions or strategies could be useful in reducing the impacts or effects that you have identified in questions 1 or 2?

4. Who do you think will be affected by the effects you have identified?
Prompt: (All staff/the whole community or population or various groups)

5. Will the impact be different for any vulnerable, marginalised or disadvantaged groups of staff or groups in the local community?

B. In relation to the health and wellbeing of staff

1. In your opinion what will be some of the effects (positive or negative) on **staff** because of the construction in and around the hospital?

2. Will there be negative or positive effects from:

	Yes	No	Unsure	+ve	-ve
Temporary relocation of staff and/or services	☐	☐	☐	☐	☐
Possible traffic congestion and reduced parking	☐	☐	☐	☐	☐
Noise and disruptions	☐	☐	☐	☐	☐
Educating staff about the construction	☐	☐	☐	☐	☐
Changes to recreation options for staff	☐	☐	☐	☐	☐

3. What actions or strategies could be useful in reducing the impacts or effects that you have identified in question 1 or 2?

4. Who do you think will be affected by the things you have identified?
(Prompt: all staff/the whole community or population or various groups)

5. Will the impact be different for any of the vulnerable, marginalised or disadvantaged groups of staff or groups in the local community?

C. In relation to the health and wellbeing of the local community

1. In your opinion what will be some of the effects (positive or negative) on the **local community** because of the construction in and around the hospital?

2. Will there be negative or positive effects from:

	Yes	No	Unsure	+ve	-ve
Having defined construction hours	☐	☐	☐	☐	☐
Noise and dust	☐	☐	☐	☐	☐
Changes to access to homes, school or TAFE	☐	☐	☐	☐	☐
Use of public transport	☐	☐	☐	☐	☐
Walking or cycling	☐	☐	☐	☐	☐
Extra signage to advise of changes	☐	☐	☐	☐	☐

3. What actions or strategies could be useful in reducing the impacts or effects that you have identified in question 1 or 2?

4. Who, in your opinion, will be affected by the things you have identified? (Prompt: all staff/the whole community or population or various groups)

5. Will the impact be different for any of the vulnerable, marginalised or disadvantaged groups of staff/in the local community?

D. In relation to traffic and parking issues arising from the construction

1. In your opinion what will be some of the effects (positive or negative) on **traffic congestion and access** because of the construction in and around the hospital?

2. Will there be negative or positive effects from:

	Yes	No	Unsure	+ve	-ve
Increase in amount of traffic	☐	☐	☐	☐	☐
Delays or road closures	☐	☐	☐	☐	☐
Temporary pedestrian or vehicle access	☐	☐	☐	☐	☐
Lighting and signage of changes	☐	☐	☐	☐	☐

3. What actions or strategies could be useful in reducing the impacts or effects that you have identified in question 1 or 2?

4. In your opinion, who will be affected by the things you have identified?
(Prompt: all staff/the whole community or population or various groups)

5. Will the impact be different for any of the vulnerable, marginalised or disadvantaged groups of staff/in the local community?

E. In relation to traffic and parking issues arising from the construction

1. In your opinion what will be some of the effects (positive or negative) on **parking** because of the construction in and around the hospital?

2. Will there be negative or positive effects from:

	Yes	No	Unsure	+ve	-ve
Reduced parking	☐	☐	☐	☐	☐
Lighting and visibility of parking areas	☐	☐	☐	☐	☐
Safety and security of parking areas	☐	☐	☐	☐	☐
Ground surfaces for parking	☐	☐	☐	☐	☐
Temporary personal emergency features	☐	☐	☐	☐	☐

3. What actions or strategies could be useful in reducing the impacts or effects that you have identified in questions 1 or 2?

4. Who, in your opinion, will be affected by the things you have identified? (Prompt: all staff/the whole community or population or various groups)

5. Will the impact be different for any of the vulnerable, marginalised or disadvantaged groups of staff/in the local community?

F. In relation to traffic and parking issues arising from the construction

1. In your opinion what will be some of the effects (positive or negative) from **construction vehicles** because of the construction in and around the hospital?

2. Will there be negative or positive effects from:

	Yes	No	Unsure	+ve	-ve
Air quality	☐	☐	☐	☐	☐
Noise	☐	☐	☐	☐	☐
Safety and security	☐	☐	☐	☐	☐
Increase in traffic	☐	☐	☐	☐	☐

3. What actions or strategies could be useful in reducing the impacts or effects that you have identified in question 1 or 2?

4. In your opinion, who will be affected by the things you have identified? (Prompt: all staff/the whole community or population or various groups)

5. Will the impact be different for any of the vulnerable, marginalised or disadvantaged groups of staff/in the local community?

THANK YOU FOR YOUR TIME – this will be very helpful in identifying the best way forward in the construction phase of the hospital.

APPENDIX 4

Profiling the Population

The population profile helps to establish an overview of the affected population, helps to identify potentially vulnerable groups and establishes a baseline against which possible future health impacts can be assessed.

(Health Impact Assessment Guidance, Institute of Public Health in Ireland, April 2006)

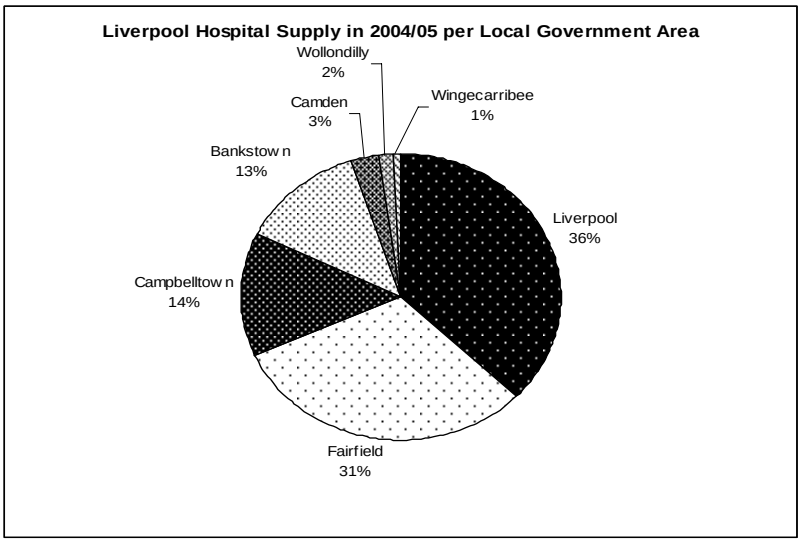
The following information has been collated to provide:

- General information on the Liverpool and South West Sydney community
- An understanding of health status
- An understanding of socio-economic status
- Information on key characteristics which relate to the impacts being examined in this HIA

The Liverpool Hospital Catchment

In 2003/04 90% of services provided by Liverpool Hospital (LH) were delivered to residents of the following Local Government Areas (LGAs) - Bankstown, Fairfield, Liverpool, Campbelltown, Camden and Wollondilly. This geographic area is referred to as the Western Zone (WZ) or South West. Figure 1 below shows the supply of services at LH by LGA of residence within the WZ.

Figure 1 Liverpool Hospital Supply of SW Residents by LGA



Source: FlowInfo Ver 7.0

Population Size, Growth and Diversity

- General information regarding population size, growth and diversity is provided in Table 1;
- The estimated population of the Western Zone (former South Western Sydney Area Health Service) in 2006 is 839,800. This is projected to increase to 959,000 by 2016. This is an increase of 119,200 or 14%;
- In 2006, the est. population of Liverpool LGA is 175,670, growing to 225,590 by 2016. This is an increase of 49,920 or 28%;
- In 2006, the Fairfield LGA has an est. population of 191,920, falling slightly to 191,460. This is a negligible reduction of 460;

- The significant growth in the population results in an increased demand for health services, including hospital services. The redevelopment of Liverpool Hospital is expected to meet much of this additional demand to 2016;
- At the 2001 census, 39% of the WZ population spoke a language other than English at home. In Fairfield the rate was 66%, in Liverpool 44%;
- Liverpool and Fairfield are home to a high number of humanitarian arrivals, who have unique health and social needs (see Table 2);
- 9,660 people across the WZ identified as Aboriginal or Torres Strait Islander in 2001. Aboriginal people are known to have poorer health than non-Aboriginal people;
- In Liverpool there are approximately 2,000 people identifying a Aboriginal or Torres Strait Islander and in Fairfield, approximately 1,100 people

Table 1 Western Zone Population Profile – Growth Projections & Diversity

LGA	Pop'n 2001 (Census)	Aboriginal identified (2001 census)		Language* (2001 census)	Projected Population		
		No.	% 2001 pop		2006	2011	2016
Bankstown	172,030	1,303	0.76%	46.2	174,990	177,850	180,060
Fairfield	189,020	1,118	0.59%	66	191,920	193,350	191,460
Liverpool	159,070	2,038	1.28%	43.7	175,670	197,440	225,590
Campbelltown	150,160	3,602	2.40%	19.4	154,310	164,050	179,280
Camden	45,450	525	1.16%	8.5	54,630	69,020	83,030
Wollondilly	38,460	577	1.50%	5.1	42,210	45,510	47,840
Wingecarribee	42,760	497	1.16%	4.2	46,070	48,970	51,740
Western Zone	796,950	9,660	1.21%	38.9	839,800	896,190	959,000
NSW	6,578.9	134,888	2.05%	19	6,872.5	7,164.9	7,434.0

Source: DIPNR Population Projections 2004 & NSW Regional Profile, 2004 ABS

Table 2 Migration to Western Zone by Visa Type 01/01/99 to 31/10/04

LGA	Visa Type				
	Family	Skilled	Humanitarian	Other	Total
Bankstown	3,506	1,316	466	1	5,289
Fairfield	5,579	887	4,231	2	10,699
Liverpool	3,092	1,890	3,180	11	8,173
Campbelltown	1,505	1,261	171	1	2,938
Camden	149	209	18	0	376
Wollondilly	0	0	0	0	0
Wingecarribee	146	69	0	0	215
Total WZ	13,977	5,632	8,066	15	27,690

Source: DIMIA Settlement Database 2005

Age and Gender Profile

- The WZ had a relatively young population compared to NSW in 2001;
- The population is ageing rapidly;
- Across the WZ a 129% increase in the 85+ population is expected between 2001 and 2016;
- At an LGA level, Liverpool is expecting a 173% increase in the population aged 85+ and Fairfield is expecting a 151% increase between 2001 and 2016;
- Detailed tables relating to population projections by LGA by age are provided as Appendix A;

- Detailed information relating to population projections for Fairfield & Liverpool by age and sex is provided as Attachment B;
- The number of children will remain relatively stable across Liverpool/Fairfield;
- The number of women of child-bearing age will decrease in Fairfield, but increase in Liverpool and generally across the WZ;
- In 2002, there were 2,692 total births recorded for residents of Fairfield, resulting in a fertility rate of 1.93. In Liverpool there were 2,988 births recorded resulting in a fertility rate of 2.16. These rates are both higher than the NSW average of 1.79 (NSW Regional Profile 2004).

Social Characteristics

- Detailed information on social characteristics of WZ residents is provided in Tables 3-5
- The majority of people in the WZ live in single household families'
- Fairfield LGA has the highest proportion of multiple family households in the WZ;
- The average household size in the WZ (notably Fairfield & Liverpool) is higher than that of NSW;
- The mean taxable income for the WZ is lower than for the State at $35,740 (2001) compared to $41,623 (NSW)
- In Fairfield the mean taxable income was $33,185 and in Liverpool $35,592
- Unemployment in the Fairfield-Liverpool statistical region in 2003 was higher than state average (4.9 compared to 4.2) for people with non-school qualifications, but lower for people without non-school qualifications (7.7 compared to 8.7). See Attachment C.
- Estimates indicate that the rate of private health insurance coverage in the WZ is lower than the state 44.2% compared with 52.9% for NSW
- Liverpool and Fairfield have a higher rate of home rental than the state average (30.2% and 28.8% respectively) compared to 27.5% for NSW
- There are a large number of public housing properties in Liverpool and Fairfield when compared to other LGAs in Sydney South West (almost 10,000 households)
- 29.1% of people living in Fairfield and 21% of people living in Liverpool were Centrelink customers in 2004, compared with 21.8% in NSW
- The majority of households in the WZ have at least one motor vehicle (see Attachment D)
- In Liverpool/Fairfield over 12,000 households do not have a motor vehicle (see Attachment D);
- In 2002, there were 1,430 motor vehicle accidents recorded in Fairfield. This is a rate of 7.6/1,000 population. In the same period in Liverpool there were 1,415 accidents recorded, a rate of 8.7/1,000. The rate of accidents in Liverpool was higher than the state rate of 7.6 (NSW Regional Profile, 2004);
- Of these recorded accidents there were 10 fatalities in Fairfield and 650 accidents resulting in injury. In Liverpool there were also 10 fatalities and 633 accidents resulting in injury;
- 2001 Index of Relative Socioeconomic Disadvantage (SEIFA) ranks Fairfield and Liverpool as having considerable disadvantage based on a range of indicators.

Table 3 Family Household Structure

LGA	Population 2004 (est)	No. House-holds	% of Households				Average House-hold Size
			Single Family	Multiple Family	Lone Person	Group	
Bankstown	176,761	53,397	75.7	2.6	19.6	2.0	2.9
Fairfield	189,184	53,341	79.3	4.2	14.3	2.0	3.2
Liverpool	167,505	46,807	80.4	2.7	15.0	2.0	3.1
Campbelltown	152,975	45,195	80.1	1.8	15.3	2.2	3.0

LGA	Population 2004 (est)	No. House-holds	% of Households				Average House-hold Size
			Single Family	Multiple Family	Lone Person	Group	
Camden	51,055	13,985	83.2	1.3	13.5	2.0	3.0
Wollondilly	41,050	11,796	82.0	1.6	14.8	1.7	3.0
Wingecarribee	44,996	14,546	74.1	1.0	23.1	2.1	2.5
Western Zone	*823,526*	*239,067*	*79.0*	*2.6*	*16.3*	*2.0*	*3.0*
NSW	*6,769,213*	*2,232,828*	*71.5*	*1.3*	*23.4*	*3.8*	*2.6*

Source: NSW Regional Profile 2004, ABS.

Table 4 Housing and Income

LGA	Popn. Density Persons / km^2	% Living in same LGA 5 years ago	% in rented dwelling	Public housing tenant households[1]	Centrelink Income Support Customers[2]	Centrelink Customers as % 2004 popn.	Mean Taxable Income $
Bankstown	2,256.7	74.1	26.4	6,431	45,121	25.5	35,688
Fairfield	1858.0	78.5	28.8	4,665	55,129	29.1	33,185
Liverpool	535.3	61.2	30.2	4,867	35,188	21.0	35,592
Campbelltown	482.5	75.9	30.3	6,998	30,720	20.1	35,581
Camden	237.8	58.5	17.8	358	6,009	11.8	39,282
Wollondilly	15.2	70.2	13.7	142	6,605	16.1	37,884
Wingecarribee	16.2	69.7	19.7	382	8,754	19.5	40,582
Western Zone	*129.2*	*N/A*	*26.9*	*23,843*	*187,526*	*22.8*	*35,740*
NSW	*8.3*	*69.4*	*27.5*	*125,401*	*1,474,412*	*21.8*	*41,623*

[1]Includes households receiving rental subsidy and those not.

[2] Includes age pension, disability support pension, Newstart allowance, parenting payment single, youth allowance, austudy, carer payment, double orphan pension, exceptional circumstances, mobility allowance, Newstart mature age allowance, parenting payment partnered, partner allowance, sickness allowance, special benefit, widow allowance, wife pension and widow class B. People receiving more than one payment type are only counted once using the main payment type.
Source: NSW Regional Profile 2004, ABS.

Table 5 Index of Relative Socio-Economic Disadvantage

LGA	SEIFA Value
Bankstown	954.05
Fairfield	849.22
Liverpool	948.93
Campbelltown	940.61
Camden	1040.92
Wollondilly	1022.85
Wingecarribee	1028.43

Source: ABS SEIFA 2001

Mortality and Morbidity

- The age standardised death rate for both males and females is higher in SSW than in NSW;
- The infant mortality rate is defined as the number of deaths of children aged under 1 year of age. In the 3 year period 2000 – 2002 the infant mortality rate in Fairfield was 4.3 and in Liverpool 4.9. These are both lower than the state average of 5.0;
- Between 2000 & 2002, the following causes of death were higher in Liverpool than NSW – all heart disease, respiratory illness, accidents, assault. In Fairfield, cerebro-vascular disease and assault.
- The 2 most common cancers for men (1998-2002) in both Liverpool and Fairfield were prostate and lung.
- The 2 most common cancers for women (1998 – 2002) in Liverpool and Fairfield were breast and colorectal
- Further details are provided in Tables 6 – 11 below

Table 6 Deaths, Death Rates, by LGA - Males, 1998-2002

LGA	Number of deaths	Crude rate per 100,000 pop	Age-standardised rate per 100,000		
			Rate	Lower 95%	Upper 95% CI
Bankstown	3,128	741.5	693.1	668.7	718.2
Fairfield	2,457	521.4	693.0	664.9	722.0
Liverpool	1,707	446.5	722.0	685.9	759.5
Campbelltown	1,569	423.3	776.0	734.7	818.8
Camden	510	481.1	747.3	681.8	817.2
Wollondilly	464	489.6	678.8	616.5	745.4
Wingecarribee	793	777.3	670.3	623.8	719.3
NSW	1,16,614	724.0	709.1	705.0	713.2

Note: Data are reported by year of death. Numbers for 2002 include an estimate of the small number of deaths that were registered in 2003, data for which were not available at the time of production. Death rates were age-adjusted using the Australian population as at 30 June 1991. Upper and lower limits of the 95 per cent confidence interval for the point estimate are shown. Crude death rates were calculated based on ABS estimated resident population 1998-2002.
Source: ABS mortality data 1997-2002, HOIST, Epidemiology and Surveillance Branch, NSW Department of Health.

Table 7 Deaths, Death Rates, by LGA - Females, 1998-2002

LGA	Number of deaths	Crude rate per 100,000 pop	Age-standardised rate per 100,000 pop		
			Rate	Lower 95% CI	Upper 95% CI
Bankstown	2,722	635.0	435.9	419.2	453.1
Fairfield	2,148	456.2	467.7	448.1	488.0
Liverpool	1,555	414.1	507.7	482.4	533.9
Campbelltown	1,409	372.9	512.7	485.6	540.8
Camden	560	516.6	511.6	468.1	557.8
Wollondilly	372	399.7	444.7	400.1	492.9
Wingecarribe	732	688.6	414.0	383.0	446.7
NSW	107,555	658.2	443.2	440.5	446.0

Note: Data are reported by year of death. Numbers for 2002 include an estimate of the small number of deaths which were registered in 2003, data for which were not available at the time of production. Death rates were age-adjusted using the Australian population as at 30 June 1991. Upper and lower limits of the 95 per cent confidence interval for the point estimate are shown. Crude death rates were calculated based on ABS estimated resident population 1998-2002.

Source: ABS mortality data 1997-2002, HOIST, Epidemiology and Surveillance Branch, NSW Department of Health.

Table 8 Death rates by LGA and cause of death - 2000-2002

LGA	Causes of Death (rate)[1]							
	Malignant Neoplasms	All Heart Disease	Cerebro Vascular	Respiratory System	Accidents	Intentional Self Harm	Assault	All Causes of Death
Bankstown	178.7	183.1	61.4	63.8	16.8	8.9	1.6	663.2
Fairfield	184.3	175.1	84.0	50.4	19.1	8.8	2.8	668.1
Liverpool	182.8	196.8	65.4	63.2	28.9	6.9	2.2	697.2
Campbelltown	195.5	215.4	70.3	77.0	25.4	13.4	1.6	753.6
Camden	190.5	197.4	109.5	57.8	18.6	10.0	1.5	726.9
Wollondilly	188.2	206.3	78.6	52.9	29.0	9.2	1.8	694.3
Wingecarribee	167.8	165.5	78.3	52.0	26.4	10.9	0.0	628.4
NSW	*184.7*	*177.5*	*68.0*	*57.3*	*23.9*	*11.1*	*1.6*	*669.4*

[1] direct standardized death rate, cause of death being the disease or injury that initiated the train of morbid events leading directly to death. Cause of death is classified according to ICD-10. Based upon deaths for the period 2000-2002, with the rate per 100,000 of the mid-year 2001 population. *Source: NSW Regional Profile 2004, ABS.*

Table 9 Number of cancers and crude incidence for the common cancers by LGA, Males, 1998-2002

LGA	Colorectal	Lung	Melanoma	Prostate	Other Cancers	All Cancers	Crude incidence rate per 100,000 pop.
Bankstown	279	284	182	559	857	2,161	512.3
Fairfield	247	256	75	354	722	1,654	351.0
Liverpool	121	162	65	264	526	1,138	297.7
Campbelltown	121	137	120	224	482	1,084	292.5
Camden	48	45	47	72	165	377	355.7
Wollondilly	43	34	41	85	132	335	353.5
Wingecarribee	87	54	67	187	191	586	574.4
NSW	*11,273*	*9,180*	*8,595*	*19,103*	*32,304*	*80,455*	*499.5*

Source: NSW Central Cancer Registry data, HOIST, Epidemiology and Surveillance Branch, NSW Department of Health.

Table 10 Number of cancers and crude incidence for the common cancers by LGA, Females, 1998-2002

LGA	Colorectal	Lung	Melanoma	Breast	Cervix	Other Cancers	All Cancers	Crude incidence rate per 100,000 pop
Bankstown	252	131	109	409	38	739	1678	391.4
Fairfield	181	105	70	396	49	628	1429	303.5
Liverpool	135	82	64	295	22	448	1046	278.6
Campbelltow	105	87	117	317	27	430	1083	286.6
Camden	47	25	46	107	9	143	377	347.8
Wollondilly	30	18	30	103	4	127	312	335.2
Wingecarribe	68	21	42	140	6	188	465	437.4
NSW	9,445	4,625	6,069	19,172	1,339	26,771	67,421	412.6

Source: NSW Central Cancer Registry data, HOIST, Epidemiology and Surveillance Branch, NSW Department of Health.

Table 11 Number of cancers and crude incidence for the common cancers, males and females combined, 1998-2002

LGA	Colorectal	Lung	Melanoma	Breast	Cervix	Prostate	Other Cancers	All Cancers	Crude incidence rate per 100,000 pop
Bankstown	531	415	291	412	38	559	1,593	3,839	451.4
Fairfield	428	361	145	397	49	354	1,349	3,083	327.2
Liverpool	256	244	129	298	22	264	971	2,184	288.2
Campbellto	226	224	237	320	27	224	909	2,167	289.5
Camden	95	70	93	109	9	72	306	754	351.7
Wollondilly	73	52	71	103	4	85	259	647	344.4
Wingecarrib	155	75	109	141	6	187	378	1,051	504.5
NSW	*20,718*	*13,805*	*14,664*	*19,333*	*1,339*	*19,103*	*58,914*	*1,47,876*	*455.8*

Source: NSW Central Cancer Registry data, HOIST, Epidemiology and Surveillance Branch, NSW Department of Health.

Liverpool Hospital Patients

- Liverpool Hospital is a major tertiary referral and teaching hospital for the South West of the Area and provides services mainly at role levels 5 and 6 – that is at the highest available/most sophisticated treatment levels in NSW;
- Day patients (such as those attending outpatient clinics) constitute a considerable amount of hospital activity
- According to 2005 estimates, 58% travel to the hospital as a car driver, 19% as a car passenger, 9% by train, 7% by bus, 5% walk or cycle and 2% through set-down/pick up or taxi
- With respect to patient visitors, 50% travel to the hospital as a car driver, 20% as a car passenger, 20% by train, 7% by bus, 1.5% walk or cycle and another 1.5% through set-down/pick up or taxi.

Liverpool Hospital Staff

- At 1 September 2006, LH had just over 3,500 staff (plus staff of Area, Mental Health and Community Health based at Liverpool);
- According to the Liverpool Hospital Site Concept Plan for Redevelopment – Traffic, Transport & Parking Assessment Report, over 5,000 staff are based on the LH campus;
- The travel modes of staff (at 2006) are 80% car drivers, 5% car passengers, 8% train, 2.5% bus, 3% walk/cycle and 1.5% set down/pick up or taxi;
- The only significant activity during the normal on-street peak traffic periods is that of staff arrivals and departures which peak at 8.00am and 4.30pm respectively;
- The approximate utilisation of parking spaces for staff in Campbell Street is 440 spaces and Eastern Campus 570 spaces. Additionally, 20 VMOs use the clinical building and 90 Area staff use the Eastern Campus. This represents a total of 1,120 spaces for staff.

Table 12 Liverpool Hospital Staff Characteristics

2006	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total Staff*^	3294	3396	3443	3472	3509	3443	3569	3507	3542	3566	3585	3603
Entries Headcount	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	47	54	44	26	28
Exits Headcount	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	29	33	14	28	21
Sick Leave (hours)	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	Not avail.	17227	15514	14062	11432	10343

* note this excludes Area Administration staff based at Liverpool, staff of the Mental Health unit and Community Health staff based at Liverpool

^ Total staff numbers for each month are as at the first of the month.

The Liverpool Hospital Child Care Centre

- The LH Child Care Centre generally caters for children of LH staff;
- The centre has identified a need to expand to meet demand;
- Details associated with attendees of the child care centre are provided in Table 14

Table 13 Liverpool Hospital Child Care Centre – Registrations & Characteristics

	Sept 2006			
No. of children per day	52			
No. of places per week	260			
No. of children enrolled	86			
Children with asthma	1			
Children with suspected asthma	3			
Children with other respiratory conditions	1			
No. of complaints in relation to physical environment	0			
No. of children on waitlist	185			

Education Facilities

- The three education facilities adjacent to the Liverpool Hospital campus are all public facilities, 2 high school and 1 TAFE;
- Liverpool Girls High School is immediately adjacent to the site;

- The facilities service a culturally diverse community, and in particular Liverpool Boys High School notes that many students come from socio-economically disadvantaged backgrounds;
- Liverpool Girls high school is often used at night and on weekends by community groups

Facility	2004	2005	2006
Liverpool Boys High School			618 students
Liverpool Girls High School			1,030 students 86 staff
Liverpool TAFE	6,700		

APPENDIX 5

Assessment of Impacts

The following matrices have been developed to assist in the assessment of impacts for the Liverpool Hospital Redevelopment HIA. Please consider the following notes when using the information provided:

1. In relation to the *Health Impact* the key for the source of information is
   Consultations = *
   Literature = **

2. The *Numbers Affected* has been considered in relation to all groups and the key for this is:
   L = Low numbers affected
   M = Medium numbers affected
   H = High numbers affected

3. *Consequences and Likelihood* have been determined by adapting the Severity Assessment Code (SAC) model that was developed by NSW Health in November 2005 as described below. A range of perspectives was considered in determining the score for likelihood and consequence, additional to those that might usually be considered when using such a matrix.

SAC Matrix

1 = Extreme risk 3 = Medium risk
2 = High risk 4 = Low risk

	CONSEQUENCE					
LIKELIHOOD		Serious	Major	Moderate	Minor	Minimum
	Frequent	1	1	2	3	3
	Likely	1	1	2	3	4
	Possible	1	2	2	3	4
	Unlikely	1	2	3	4	4
	Rare	2	3	3	4	4

Assessment of Impacts

1. Reduced parking

	Priority (determined by Steering Committee on 30.10.06)	Health Impact	Affected group(s)	Numbers affected *(relative to all groups)*	Consequences & likelihood *(1=highest, 4=lowest)*	Actions/recommendations
Positive	1	Increased physical activity**	Car users	L	3	Transport Access Guides developed and promoted
Negative	1	Increased stress**	Staff, patients	M	2	Park n ride system with a shuttle bus for staff from key parking locations (eg Warwick Farm Station) Assurance for staff to maintain same number of parking spaces
	2	Reduced access to services**, *	Mobility impaired	M	2	Access plan considers signage, drop-off points, no change to number of disabled parking spaces) Use of motorised buggy to transport patients
	3	Decrease safety**	Staff working extra time	L	2	Increase security presence, adequate lighting, personal emergency alarms
	4	Non-attendance for appointments*	Aboriginal community Outpatients	L	2	Liaise with Aboriginal Health Workers

2. Health and wellbeing of staff and the community

	Priority (determined by Steering Committee on 30.10.06)	Health Impact	Affected group(s)	Numbers affected *(relative to all groups)*	Consequences & likelihood *(1=highest, 4=lowest)*	Actions/recommendations
Positive	1	Increased employment in the local community*, **	Local unemployed people	L	2	Liaise with local employment agencies about employing members of local community for the construction phase – particularly Aboriginal people
Negative	1	Increased stress from noise of construction*, **	Patients Staff Shift workers TAFE School Childcare	H	2	Communication and ongoing liaison for staff, TAFE, Childcare and School regarding construction Defined construction hours communicated to all Consideration regarding timing of major construction activities (eg demolition) around exams at TAFE and School Provision of personal protective equipment (eg ear plugs) to staff and patients as required
	1	Increased stress to the local community*, **	General community TAFE School Horse trainers	H	2	Appropriate and current signage in area surrounding the hospital Community information in the foyer of the hospital, on website, local newspaper, Council website Contractor to appoint a community liaison person who is available 24 hours, 7 days week. Redevelopment Newsletter should be sent to all affected, including local residents by a letter-box drop

	Priority (determined by Steering Committee on 30.10.06)	Health Impact	Affected group(s)	Numbers affected *(relative to all groups)*	Consequences & likelihood *(1=highest, 4=lowest)*	Actions/recommendations
	3	Increased stress from temporary relocation of services *, **	Staff Patients Visitors	M	2	Staff orientation regarding new/temporary facility Signage using internationally recognised symbols to support those who do not speak or read English Volunteers to provide a navigation service
	4	Increase in health issues related to exposure to dust *, **	Those in schools, Childcare and the Community with respiratory illnesses	L	2	Ensure proper dust containment practices during construction Communication regarding construction
	4	Increased stress from bullying and harassment *, **	Staff	L	2	Keep staff informed about changes Managers to be alert for bullying and harassment
	6	Decreased physical activity for staff due to removal of pool and tennis court*, **	Staff	L	4	Develop and promote a plan for new facilities Investigate possibility of staff access to a gym at Liverpool Hospital

3. Community & patient safety (non-traffic related)

	Priority (determined by Steering Committee on 30.10.06)	Health Impact	Affected group(s)	Numbers affected *(relative to all groups)*	Consequences & likelihood *(1=highest, 4=lowest)*	Actions/recommendations
Negative	1	Increased risk of injury from disruptions to current fire exit and escape plans*, **	Staff Patients Visitors	H	2	Communicate change to exits, evacuation plans, signage and fire drills to all staff, patients and visitors Adequate temporary signage where necessary
	2	Increased risk of injury to staff (safety and security)*	Staff	M	2	Effective lighting Security escorts Security has staff on Eastern Campus Temporary personal emergency features
	3	Increased risk of health effects from mould **	Immunocompromised patients	L	2	Adhere to guidelines for safe mould removal during construction
	4	Increased risk of child protection issues *	Childcare	L	3	Child protection screening of contractors and sub-contractors Effective barriers and screens between car park and Childcare Centre
	5	Increased risk of injury due to construction hazards *, **	Aboriginal community General community	L	4	Effective barriers and fences surrounding construction Installation of lighting on temporary pathways

4. Increased traffic in area (general and construction traffic)

	Priority (determined by Steering Committee on 30.10.06)	Health Impact	Affected group(s)	Numbers affected *(relative to all groups)*	Consequences & likelihood *(1=highest, 4=lowest)*	Actions/recommendations
Negative	1	Increased stress from noise of traffic*	Schools Child Care	M	2 *(especially in the first 6 months of construction of the car park)*	Soundproof wall of cot room
	1	Increased risk of injury*, **	School students Child Care children Horses and handlers Pedestrians Car drivers	M	2	*Establish a 40km speed limit in streets near school and horse stables* Construct the new road first Develop and implement a traffic management plan Adequate signage New safe drop-off zones for child care or fence existing zone Contractors need to be made aware of horses
	3	Decreased air quality*,**	Those with respiratory illness at child care and school	L	2	Plant vegetation to improve air quality Provide a barrier between car park and child care Provide a barrier between new road and school Enforcement of emission control regulations with contractors Do not allow construction vehicles to park near child care Ensure standards for dust control are adhered to.

APPENDIX 6

Proposed Monitoring and Evaluation Plan – Liverpool Hospital Redevelopment HIA

Recommendation	Performance indicator	Responsibility	Progress/Actions
1.1 Active Transport Plan	Plan is developed, implemented and evaluated Increase in number of staff using active transport to travel to and from work		
1.2 Maximise use of current parking	Increase in number of used parking spaces on Eastern Campus		
1.3 Park and Ride system	Report on feasibility of system for staff		
1.4 Disability access plan	Plan developed and implemented		
1.5 Increased security presence	Audit of lighting and personal duress alarms		
1.6 Non-attendance at appointments	System developed to monitor non-attendance		
2.1 Employment and training for local community	Managing contractor actively seeks local unemployed Number of local people employed during contruction		
2.2 Community liaison role	Managing contractor establishes community liaison role		
2.3 Consultation with local community	Evidence of consultation with TAFE, schools and Childcare Centre		
2.4 Signage	Plan developed for appropriate and current signage		
2.5 Current information	Current information on SSWAHS website and in facility orientation		
2.6 Personal protective equipment	PPE supplied to staff and patients as required		
2.7 Dust containment	Managing contractor complies with dust containment regulations		
2.8 Bullying and harassment	Monitor incidents of bullying and harassment		
2.9 Establish facilities that promote physical activity	Survey conducted on needs of staff Facilities established to promote physical activity		

3.1 Fire safety strategy	Strategy developed and implemented as needed during construction		
3.2 Temporary duress alarms	Regular audit of duress alarms conducted		
3.3 Safe removal of mould	Managing contractor complies with guidelines for safe removal of mould		
3.4 Adequate lighting	Audit of lighting conducted as site changes occur		
4.1 Soundproof wall of cot room	Wall of cot room in Childcare Centre is soundproofed before construction commences		
4.2 Request for reduction in speed limit in Scrivener and Manning Streets, Warwick Farm	Chief Executive writes to Liverpool City Council requesting reduction in speed limit		
4.3 Increase contractors' awareness of special use of area around the hospital	Mechanism established by managing Contractor to increase contractor's awareness of the horse training facilities		
4.4 Safe drop-off zone for Childcare Centre	New safe drop-off zone is established for the Childcare Centre		
4.5 Parking of construction vehicles	Mechanism established to ensure that contractors do not park next to the Childcare Centre		
4.6 Prioritise construction of new road	Evidence of consideration to construct new road from the Hume Highway at Warwick Farm as a priority of the construction phase		

APPENDIX 7

Steering Committee Members

Ms Michelle Maxwell, Service Development Officer SSWAHS Population Health (Chair)
Ms Sharon Peters, Service Development Officer SSWAHS Population Health
Mr Mark Thornell, Assistant Director SSWAHS Population Health
Ms Leah D'Souza, Senior Planner, SSWAHS Planning
Mr Patrick Harris, Health Inequalities Program, Centre for Health Equity Training
Dr Teresa Anderson, General Manager Liverpool Hospital
Mrs Judy North, Community Representative
Mr John North, Community Representative
Research & Evaluation (CHETRE)
Ms Deborah Flood, SSWAHS Director of Capital Works
Mr Gary Tower, Project Director ACI
Ms Josephine Chow, Clinical Manager for Cancer and Cardiovascular Services
Mr Bradley Scotcher, Surgery Manager, Liverpool Hospital
Ms Trish Nove, Manager of Population Health Workforce Development, SWAHS
Ms Jan Fizzell, Trainee Public Health Officer, NSW Health