

Raising PUPPS: establishing the prevalence of pressure ulcers in the acute and subacute health sectors in Victoria – a State-wide methodology model

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Abstract

In 2003 the Victorian Quality Council (VQC) undertook a pressure ulcer point prevalence survey; a project that affectionately became known State-wide as PUPPS. Pressure ulcers are an internationally recognised patient safety problem and, as such, a reduction in pressure ulcer prevalence in Victoria is a key outcome of the VQC strategic plan ¹.

This paper describes the PUPPS methodology used by the VQC to ascertain the prevalence of pressure ulcers in the acute and subacute sectors of Victorian public health services. Building on the model advocated by Prentice ², PUPPS proved a manageable and successful approach to conducting a State-wide pressure ulcer point prevalence survey. It also served as a useful guide to those wishing to conduct pressure ulcer prevalence surveys locally. Several elements critical to success were identified – the importance of thorough planning and project management; the preparation and provision of information materials for health services to enable them to make an informed decision to participate; the piloting and refinement of the methodology; the testing of and support for surveyors; and the importance of and flow-on effects of the surveyor education programme.

These elements are discussed in detail, along with the many practical lessons learned throughout the course of the survey. Results of the prevalence survey will be presented in a forthcoming article.

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Introduction

The Victorian Quality Council (VQC) was formed in 2001 as an expert and strategic ministerial advisory council whose primary role is to improve safety and quality in health care. A key section of the VQC strategic plan for 2002-2005 addresses six internationally recognised problem areas in clinical safety and quality – medication error, hospital-acquired infection, falls, appropriateness of care, blood and blood product use and pressure ulcers ¹. Working groups were set up to address each known problem area identified in the VQC strategic plan.

Pressure ulcers are acknowledged as a significant health problem by national and international health care agencies ³⁻⁸. They are thought to occur at unacceptable levels within Australian health care settings, despite the fact that they are a preventable cause of injury and, in the majority of cases, should be regarded as an adverse outcome of treatment ^{3, 6, 9, 10}. Claims of medical negligence in this area, against individuals or organisations, have been common for some time in both the USA and the UK, although this trend does not appear to be growing in Australia to the same extent ¹⁰.

The pressure ulcer working group (PUWG) agreed with Frantz that “accurate, reliable data on the scope and severity of pressure ulcers are fundamental to evaluating the effectiveness of care provided and planning management strategies”¹¹.

The PUWG decided to commence their work plan for reducing the incidence of pressure ulcers in Victorian hospitals by conducting a point prevalence survey across Victoria. This was known as the Victorian pressure ulcer point prevalence survey or PUPPS. PUPPS had two key aims:

- To ascertain the prevalence of pressure ulcers in Victorian public hospitals, with a view to developing an appropriate State-wide plan to address the problem.
- To provide comparable data for benchmarking prevalence.

Published data on Australian studies of pressure ulcer prevalence and incidence are few. Study outcomes may be inconsistent and vary widely due to differences in populations, clinical settings and methodology. These discrepancies create difficulties when comparing studies or benchmarking outcomes, improvements or patient populations^{2, 3, 5, 7}.

Two types of data sets or perspectives that can provide relevant information on pressure ulcers are the collection of prevalence and incidence data on these ulcers. Prevalence is “the number of existing cases of a particular disease or condition in a given population at a designated time” and incidence is “the number of new cases of a disease or event in a population during a specific period of time”⁸. Whilst many experts claim that incidence is a superior indicator of the quality of health care, prevalence studies are nominated as a valuable and constructive aid to identifying the extent of a problem and planning effective use of health resources^{4, 5, 11, 12}.

The potential benefits of prevalence surveys are many² and, for the PUWG, the main benefits of a State-wide study were to focus attention on the problem, gain some insight into the magnitude of the issue, educate staff, review the allocation and use of appropriate resources and, ultimately, improve patient outcomes.

Methods

Preparing the project

Evidence base and survey tool

The Appraisal of Guidelines for Research and Evaluation (AGREE) instrument was used to decide which pressure ulcer guidelines would be used to inform the Victorian study¹³. The Australian Wound Management Association’s *Clinical practice guidelines for the prediction and prevention of pressure*

ulcers scored well in all six domains and was employed as the evidence base for PUPPS⁸.

The need for common language and consistency in methodology are essential elements for achieving successful prevalence survey outcomes^{2, 5-7}. The PUWG engaged in an extensive literature review for a validated survey tool and successful methodology which would produce reliable results and enable robust comparisons with existing national and international studies, as well as providing a sound baseline to assist with strategies for improvement in the quality of pressure ulcer care and management.

Permission was sought from Prentice to adapt and utilise the survey tool and methodology she developed for her national multi-centre pressure ulcer study in 2000². This model has also been used successfully in several other Australian healthcare settings^{2, 14}. In addition, Prentice agreed to provide assistance and support to the VQC in modifying her tool, survey processes and education programme. A project manager with a background in nursing and extensive project management experience was recruited to develop and manage the project.

Participants

The VQC invited all public metropolitan, rural and regional health services in Victoria to take part in a pressure ulcer point prevalence survey scheduled for the second half of 2003. Forty eight Victorian health services elected to participate. This equated to approximately 77%, or just over 7,000 potential beds being made available for the survey. Health services were required to nominate an on-site coordinator to work with VQC project staff to prepare for the survey as well as providing staff to act as surveyors.

The participating health services reflected a broad cross-section of size, case mix and location for the State. Bed numbers (acute and subacute beds only) ranged from 5-723 with the percentage breakdown detailed in Tables 1 & 2 and Figure 1.

Planning the project

The PUPPS project involved training 428 health service clinical staff to classify pressure ulcers and survey a potential 7,153 public hospital patients at 82 sites around metropolitan and rural Victoria. The magnitude of the task meant extensive planning and communication were critical to achieving robust and reliable outcomes. VQC employed a combination of project management, education and clinical expertise to define and develop the study plan.

Nine senior clinicians with demonstrated expertise and an interest in education related to skin integrity and pressure ulcers were seconded to the project from Victorian public hospitals. These staff became the PUPPS core team. The tasks of the core team were to assist with the delivery of pressure ulcer education sessions to surveyors and to support survey teams on-site in the clinical setting during the survey process. This allowed the PUPPS project manager to facilitate the logistics and other organisational tasks associated with the survey process.

The PUPPS methodology can be condensed to three core steps of train, test and tabulate. However, key to the success of PUPPS was the use of rigorous project management methodology and, while it is not the purpose of this paper to detail general project management skills, it is useful to use project management concepts to describe the PUPPS planning. The eight functional steps are:

- Scope management.
- Time management.
- Communication management.
- Cost management.
- Quality management.
- Human resource management.
- Risk management.
- Contract/procurement management management¹⁵.

These eight functional steps are integrated operationally by the project manager.

Scope management

Scope management defines the project parameters and objectives as well as identifying any constraints, assumptions and exclusions.

Denominator

Inclusions:

- All acute and subacute funded public hospital beds in Victoria.
- Consenting adult inpatients (includes emergency department patients flagged for admission).

Exclusions:

- Day surgery and day procedure patients.
- Psychiatric patients.
- Hospital in the home patients.

Numerator

All patients observed with a pressure ulcer following a full body skin inspection by two trained surveyors classified

Table 1. PUPPS location bed numbers.

Group	Bed potential*	Beds available	% potential beds available	% total beds involved
Metropolitan	5,931	4,416	75%	62%
Regional†	1,332	1,332	100%	18%
Rural	1,982	1,405	71%	20%
Total	9,245	7,153	77%	100%

* Bed numbers based on average beds for financial year 2001-2002 and excludes two metropolitan health services that provide specialised services.

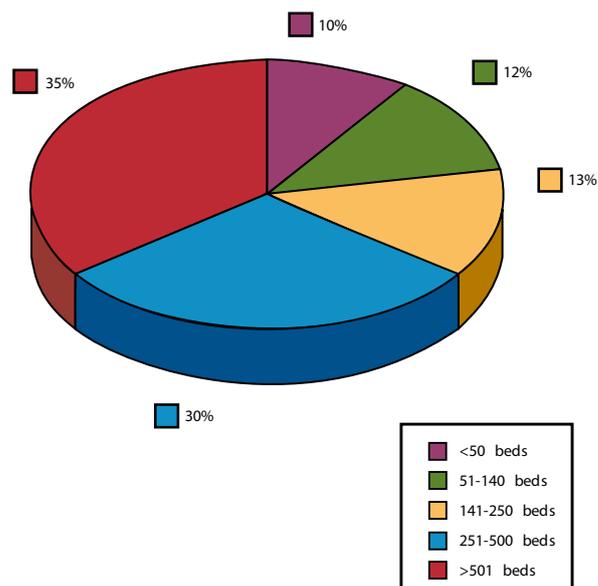
† Regional health services include large rural based hospitals

Table 2. PUPPS health service bed numbers.

Bed numbers*	No. health services	Total beds	% total beds
< 50	23	709	10%
51-140	11	860	12%
141-250	5	941	13%
251-500	5	2134	30%
> 500	4	2509	35%
Total	48	7153	100%

* Numbers are representative of total health service beds involved in PUPPS i.e. acute and subacute beds only.

Figure 1. Bed numbers



according to the National Pressure Ulcer Advisory Panel (NPUAP) system. This is consistent with the Australian Council on Healthcare Standards (ACHS) version of its *Hospital-wide clinical indicators* which has newly included indicators on pressure ulcers⁹. These indicators also exclude day only patients from the denominator and advocate the classification of pressure ulcers as described within the AWMA's clinical practice guidelines for pressure ulcers.

Time management

The State-wide survey schedule was designed to meet the following criteria:

- Surveyor education and surveying to be completed in as short a timeframe as possible to reduce seasonal variation.
- Surveying to be performed on the same day of the week in each health service to reduce weekly variation.
- Education to occur as close to survey day as possible (between 2 and 9 days apart) to make best use of the newly learned skills, understanding and enthusiasm of the surveyors.
- Education days to be delivered in every rural and metropolitan region, taking account of the time required to travel to each site.

To manage this within the agreed time constraints and budget, the schedule consisted of 17 education and 17 survey days across the State over a period of 19 weeks. A sample of the schedule is outlined in Table 3.

Communication management

Communication in projects is about designing and facilitating the exchange of information. With the large number of health services, sites, staff and patients, it was vitally important for the project to have:

- Stated clear objectives for everyone involved.
- Measurable progress and achievable milestones.
- Agreed outcomes.
- Realistic scheduling.

Each health service nominated a site coordinator to be the primary point of contact for PUPPS. In cases where there were several large campuses, secondary site coordinators were nominated. In addition to communicating locally with their organisation, site coordinators were responsible for providing ward and bed numbers, recruiting surveyors and overall coordination of the survey day. Site coordinators were also the contact person in the case of any local problems occurring on survey day. Staff and organisational information

was discussed, distributed and displayed widely in the weeks before the survey date.

More than 40 documents were designed and used during the project to assist in operational issues, record statistics and data, communicate, evaluate and inform. To facilitate the project locally, documents were provided to the site coordinators which covered project outlines, survey criteria, general information, ethical considerations and patient information. Hints and strategies for recruiting surveyors were shared, as well as practical planning for survey and education days.

Branding

Branding of the PUPPS project with its mascot and colours (Figure 2) achieved several objectives. It was instantly recognisable by those staff involved in the project and often became a talking point to initiate discussions with staff who weren't involved and vice versa – this thereby reduced potential defensiveness by giving PUPPS staff an opportunity to outline the project. It was also an aid to patient and carer recognition and assisted the surveyors with approaching the patients to introduce the survey and request their participation.

Cost management

VQC provided funding to health services to backfill positions for staff involved in PUPPS as surveyors for both education and survey days. Additional funding included a sliding scale of administration time for site coordinators based on bed numbers and sites. VQC also supplied all educational materials and catering for the education and survey days.

Quality management

Project quality management is focused on "fitness for purpose"¹⁵. In the case of PUPPS, this related to:

- Conforming with the ethical requirements of each organisation.
- Ensuring quality outcomes by using:

Figure 2. PUPPS



- A comprehensive and validated pressure ulcer prevalence survey tool.
- A validated education programme that provided comprehensive training of surveyors.
- A validated theoretical method for testing inter-rater reliability to increase the validity of the prevalence data ².

Other quality issues addressed included having project management processes in place that covered development of communication and documentation to a high, user-friendly standard for each particular target group (i.e. patients, surveyors, managers), and that appropriate security for storing completed survey tools was in place.

Ethics

The project was designed as a quality audit. Trained staff at each health service were used to undertake skin inspections and audit the medical records of patients in their own organisation. Assessment of patient's skin integrity is a fundamental nursing function, and is a non-invasive clinical observation performed during routine nursing care. No risk or burden was anticipated beyond that experienced

in the patient's routine care ². The importance of patient confidentiality was emphasised in both written material and surveyor education.

The site coordinator at each health service was asked to facilitate the notification and approval of appropriate hospital quality committees (and ethics committees if they so desired) for PUPPS. The VQC supplied project and ethical information to assist the approval process.

Pilot survey

A pilot survey was undertaken at a major metropolitan health service consisting of three campuses. This practical experience was a useful learning exercise, the outcomes of which shaped the remaining surveys. Among the improvements made to PUPPS from this survey were:

- Minor alterations to documentation, including the survey tool, protocol and guidelines, worksheet, pre-reading package and site coordinator instructions to allow for easier reading and completion.
- The streamlining of the contents of the pressure ulcer education programme and timetabling to facilitate effective learning.

Table 3. Sample schedule (sample).

Month	Education day		Survey day		
	Monday	Tuesday	Wednesday	Thursday	Friday
September Session 2a & 2b	1 Host Site 2a Health Service A Health Service B Health Service C Health Service D	2 Host Site 2b Health Service E Health Service F Health Service G Health Service H Health Service I	3	4 Health Service A Health Service B Health Service C Health Service D	5
	8	9	10	11 Health Service E Health Service F Health Service G Health Service H Health Service I	12
	15 Host Site 3a Health Service J Health Service K Health Service L Health Service M Health Service N	16 Host Site 3b Health Service O Health Service P Health Service Q Health Service R	17	18 Health Service J Health Service K Health Service L Health Service M Health Service N	19

- The replacement of several slides used in the testing process due to the quality of the slide or debate over the stage of the slide depicted.
- The introduction of revision and practice slides prior to inter-rater reliability testing.
- The addition of an interactive demonstration of the survey protocols and guidelines which included slides that showed surveyors how to complete the survey form.

Survey tool

The survey tool (Appendix A) collected demographic and pressure ulcer data as well as risk factors which may potentially pre-dispose patients to a higher than normal risk of developing a pressure ulcer. These factors included diabetes, chronic renal failure, acquired brain injury, cancer, drug or alcohol disorder, smoking, mobility and pre-existing pressure ulcers⁸. The tool recorded the use of any skin integrity risk assessment tool, and any score or category assigned following an assessment. Surveyors were asked to identify and record any pressure reducing or relieving devices that were in beneath the patient at the time of the survey. These devices were grouped into functional categories according to the AWMA guidelines⁸.

The survey tool was a double-sided document with data completion only required on the second side if the patient was found to have a pressure ulcer on inspection. Due to the large number of forms, and in an effort to reduce human error and facilitate data entry, the survey tool was designed to be scanned electronically by an optical mark and character recognition program ReadSoft (eyes and hands form Version: 5-2 SP 2, Sollentuna, Sweden). Data analysis was undertaken by Intercooled Stata 7.0 for Windows 98/95/NT, Stata Corporation, USA, Copyright 1985-2001.

Education programme

Rigorous training of surveyors is seen as critical to ensuring the collection of valid, reliable data². The education programme was designed and developed in consultation with Prentice. Most components of the programme were delivered as PowerPoint presentations and incorporated many clinical slides to illustrate the definitions and defining characteristics of pressure ulcers and to illustrate scenarios surveyors may observe on survey day. Sessions included several small physical demonstrations to illustrate, for example, the effect of point pressure; this encouraged interaction and debate amongst participants.

Each surveyor was issued with a surveyor's 'toolkit'. These were delivered to surveyors several weeks ahead of the

survey to allow time for perusal. The aim of these kits was to assist surveyors with general revision of the anatomy and physiology of the skin and other factors pertinent to the development of pressure ulcers, to define and assess normal reactive hyperaemia and non-blanchable erythema, and to classify pressure ulcers. The toolkits contained a:

- PUPPS general project information sheet outlining the survey.
- Pre-reading manual which included:
 - A covering note encouraging staff to read the contents of the tool kit and take particular note of the inter-rater reliability testing process.
 - Five articles outlining the broad issues around pressure ulcers, prevalence surveys and pressure ulcer classification.
- NPUAP⁵ pressure ulcer staging system, which combined NPUAP's method of classifying pressure ulcers with AWMA's schematic representation of each pressure ulcer stage and limitations to staging, as well as incorporating a clinical slide of each stage of pressure ulcer.
- PUPPS pressure points, which was an anatomical diagram to assist surveyors to define the location of any pressure ulcers found. This showed a body in supine, side-lying and sitting positions labelled at common sites, with a key which corresponded to a legend of anatomical sites on the survey tool, and was adapted with permission from Southern Health.
- PUPPS tool (Appendix A).
- PUPPS survey protocol and guidelines (Appendix B).
- PUPPS patient information in English.

Seventeen host sites were nominated to hold an education day; eight metropolitan and nine rural. Although all clinical staff were eligible to be surveyors, most staff recruited were registered nurses, primarily Division 1 with some Division 2, with the remainder being allied health and medical staff. To enhance inter-rater reliability, clear definitions, guidelines and a common language needed to be formally taught to the surveyors^{4, 6, 11}. Specific training was provided for surveyors to identify and stage pressure ulcers and to complete the survey form. Education on prevention and treatment of pressure ulcers did not form a core part of these sessions but was often briefly addressed while discussing particular clinical scenarios.

Compulsory attendance at education sessions was required for all surveyors and site coordinators; these covered:

- Purpose of the PUPPS project.

- Pressure ulcer epidemiology.
- Anatomy and physiology of the skin.
- Pressure ulcer aetiology.
- Pressure ulcer staging (NPUAP system)
 - Limitations to staging
 - Healing pressure ulcers.
- Other tissue damage which may be mistaken as being pressure induced.
- Survey protocol, guidelines and practicalities.

Inter-rater reliability testing

To ensure consistency and agreement between surveyors, as well as engendering reliability in data outcomes, inter-rater reliability testing was performed utilising the testing tool developed by Prentice². This involved:

- Correctly identifying four definitions of pressure ulcer stages according to the NPUAP system.
- Appropriately staging 16 clinical slides of actual pressure ulcers.

The required pass rate was 85%; surveyors had two formal opportunities to achieve this. Clinical assessments and testing was not possible for surveyors due to the large numbers involved and the limited timeframe for the study.

Data security

No names of organisations were recorded on the survey tool. All health services, sites and wards were given unique identity numbers. Likewise for patients, no name, address or date of birth was recorded. The data collected were kept under secure conditions.

Human resource management

The aim of human resource management in projects is to task and coordinate the personnel involved in the project. The key is to develop and maintain a united team with a common purpose whose members all know their responsibilities and what outcomes are expected of them. For PUPPS, this required negotiation and communication as well as an understanding of the competing demands in health service organisations.

Consistent communication is the primary tool to achieving good human resource management, particularly in projects such as PUPPS where there is a small core team of full time project staff (one in the case of PUPPS) and many part-time or seconded staff with other priorities and responsibilities. Site coordinators received regular communication on the general progress of PUPPS as well as programmed calls and

emails regarding their schedule of tasks. Core team members were also regularly updated and a de-briefing and future development session has been planned for this group.

To facilitate teamwork and discuss the usefulness of prevalence surveys, VQC facilitated a half-day learning session after the pilot site survey but prior to the State-wide roll-out. Site coordinators had the opportunity to hear from several practitioners who had been involved with pressure ulcer prevalence surveys and their organisational sequela either at the PUPPS pilot site or in similar settings. This encouraged staff to make the link between practice and prevalence. Suggestions were made on how to conduct a successful survey and then to utilise the experience and data to improve the skills of their staff in their own organisations and the health outcomes of their patients.

Risk management

Risk management involves identification of potential risks and developing a response system and plan which mitigates or removes the risk or manages the risks throughout the project. The risks for a project of this size are numerous and will not be detailed but, in general, fall into the following categories – scheduling, resourcing (staff particularly), communications, ethical, financial, organisational and quality.

No major risks were realised through the education and survey process. To illustrate the importance of risk management, one group of mailed surveys did not arrive at VQC after posting, despite being registered mail. However, as the site coordinator had followed the correct process and had photocopied the worksheets, the risk was mitigated and the survey forms were able to be transcribed. This site coordinator then elected to hand deliver the transcribed forms to VQC.

Contract/procurement management

Particulars of the contracts negotiated for PUPPS will not be detailed in this paper but contract and procurement management is an important part of any project and needs to be carefully planned with a transparent, detailed and documented process. Contract management centres on effective planning and then, once contracts are agreed, relationship management is the key process to ensure satisfactory outcomes for all parties.

Conducting the survey

Protocol

Survey days generally commenced at 0645. This allowed the survey teams to:

- Meet briefly, ensure all team members were present, and review the survey process, including reminders regarding patient consent, confidentiality, infection control and occupational health and safety prior to going to the wards or units.
- Access medical records which were perused to gather all relevant data before other members of the health care team required them.
- Approach patients before they were required in other areas such as theatre, radiology or allied health departments or prior to discharge.
- Approach and survey patients using the opportunities of washing and showering time when the patient's skin is already in the process of being exposed. This was especially relevant for rehabilitation units where patients usually fully dress in multiple layers after their morning shower or bath, which makes a full body skin inspection much slower.
- View wound dressings which are often removed prior to showering or washing.
- Complete the skin inspections whilst most patients were awake.
- Complete their allocated quota of patients.

The site coordinators at each health service recruited teams of two surveyors per 40-45 patients. Additional teams were allocated if the site had an ICU or large emergency department. Other minor differences in allocations occurred if teams were surveying several small sites at some distance apart. Teams were assigned to survey areas that were not their usual area of work, apart from ICU and emergency department staff, and in smaller sites where only one or two teams were surveying a small population. In the specialised areas of ICUs and emergency departments, a staff member who knew the routines was extremely useful in facilitating appropriate, timely access to patients.

The survey steps are outlined below:

- A plain language patient information sheet (available in English and 10 other languages), outlining the survey and inviting voluntary participation, was distributed to patients and or their carers by health service staff in the days leading up to the survey. Additional copies were

available for any patients admitted on survey day.

- On the day of the survey a survey team of two approached the patient and checked to see if the patient had read and understood the information sheet and answered any further questions.
- Survey teams requested verbal consent from the patient for the survey.
- The surveyors then performed a full body skin inspection of the patient and recorded their findings.
- The medical record was accessed for demographic details, documentation of risk factors, risk assessment and pressure ulcer management.

The PUPPS project manager and a core team member provided additional support for surveyors on all survey days by being available either on site or by telephone for the smaller or more remote sites. Further support was available to survey teams from each site coordinator.

Guidelines for data collection included the following stipulations:

- Full skin inspection included removal of anti-embolic stockings, splints, prostheses and dressings where appropriate.
- Both surveyors in the team had to agree on the stage of any ulcer found.
- Surveyors were to reposition the patient off the affected area for 30 minutes then re-check the patient's skin for the presence of a Stage 1 pressure ulcer in order to reduce the likelihood of over or under assessing Stage 1 pressure ulcers in cases where reactive hyperaemia was observed.
- Any evidence of eschar (dry, black, necrotic tissue) which prevented accurate assessment of a pressure ulcer was classified as a Stage 4 ulcer.
- Surveyors were also required to check with the site coordinator:
 - If five or more pressure ulcers were identified on one patient or
 - If both members of the team were unsure of the stage or aetiology of any pressure ulcer found. In the above two cases, the core team member, the site coordinator or a second survey team validated the finding.

Review

At the completion of all skin inspections, each team checked their survey forms against worksheets and identified and corrected any missing data. Then, where there was more

than one team at the site, surveys were exchanged and re-checked by another team before being given to the project manager (if she was on-site) or sent to VQC via registered mail. Photocopies of the survey worksheets which noted all pressure ulcers found, patients who declined or were absent, and any related comments were taken by the site coordinators for distribution to the individual nurse unit managers and as a backup in case of surveys being misplaced.

Survey team de-brief

Survey staff were de-briefed at the end of each survey which served to identify any issues which had arisen regarding the survey process or other patient related concerns. Valuable feedback was given which assisted in future surveys, with the general responses received noting the PUPPS process as being extremely practical and positive.

Many staff expressed the view that they were eager to use their new skills and understanding to more appropriately assess patients for the risk of developing pressure ulcers and to put prediction and prevention strategies in place. Others were also keen to educate their colleagues about what they had learned during the project experience. A frequently expressed comment suggested the pressure ulcer education sessions should be made available to all clinical staff.

Site coordinators frequently used the PUPPS project and education programme to initiate or springboard a more comprehensive programme or set of strategies to address the issues of pressure ulcer management in their organisation. PUPPS initiated or raised awareness for management and general staff regarding pressure ulcers and left the organisation with a strong basis from which to improve patient outcomes in this area.

Results

Initial raw data showing the prevalence and stages of pressure ulcers found was provided to each health service within 10 working days. The results of the VQC PUPPS will be provided in a future article.

Discussion

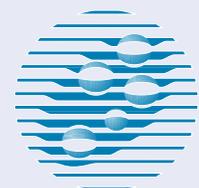
At the outset of this article, the importance of employing a standardised model for surveillance of pressure ulcer point prevalence was noted^{2, 4, 5, 7}. The methodology used for PUPPS addressed many of the factors which can contribute to inconsistencies in pressure ulcer point prevalence surveys such as disparity in terms used to describe pressure ulcers, improving inter-rater reliability for classifying pressure ulcers, and reducing variations in the quality of data collected. The use of a proven methodology, data collection tool and documentation greatly facilitated successful, consistent outcomes, and was well accepted by patients and staff.

Other factors which contributed to PUPPS generating positive and practical feedback included funding the backfill of staff involved in the project and providing catering for both the education and survey days. Branding with the PUPPS logo achieved instant recognition for the project and enabled staff to facilitate discussions with patients, carers and other staff. Clear, concise documentation greatly assisted the surveyors with the process of conducting the survey and collecting the data. Most surveyors agreed that the PUPPS survey tool, which required the majority of data fields to be completed by colouring in small circles, was very user friendly.

The use of project management skills, combined with a core team of clinical and education expertise, provided a strong framework to plan and facilitate the project and facilitated broad support for all involved in the survey. Thorough organisation supported by comprehensive, consistent communication and a well-defined project plan with stated, measurable and realistic outcomes ensured the collection of valid, reliable and robust data. The pre survey day delivery of the patient information sheet, coupled with the voluntary nature of the participation and the use of the health service's own well-trained staff, ensured patient participation was maximised.

Feedback regarding the surveyor's toolkit was extremely positive. Staff stated that the pre-reading allowed for a much greater understanding of the scope of the problem overall, assisted with revision of the aetiology and pathophysiology of

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pressure ulcers and generally enhanced their enjoyment of the education day. The education programme also substantially increased the clinical skills of the surveyors.

Staff found both the education and survey processes empowering, inclusive, realistic and useful for future practice. This positive feedback engendered enthusiasm and created a springboard effect for many health services to launch more comprehensive strategies and programmes to better manage pressure ulcers in their health service.

The VQC has, for the first time, captured data on risk factors for pressure ulcers that have been identified within the AWMA guidelines. As part of a comprehensive analysis of the data outcomes, this will help frame the recommendations to be detailed in a forthcoming report on pressure ulcers in Victoria.

Limitations

As previously noted, inter-rater reliability testing was limited to theoretical assessment as it was deemed logistically impractical to have all surveyors clinically assessed. The survey did not encompass 100% of Victorian acute and subacute beds; however, the 77% of bed surveyed provided significant data upon which informed decisions and recommendations can be made.

Conclusion

PUPPS was successful in identifying the prevalence of pressure ulcers in Victorian public health services. The methodology used to plan and implement the survey was robust, achievable and supportive of health services and their staff. It is likely that the survey will be repeated over the coming 12 months, using the same methodology.

The data collected has established the primary benchmark for pressure ulcer prevalence in acute and subacute beds within Victoria, adds significantly to current knowledge of pressure ulcer prevalence in Australia, and allows both national and international opportunities for benchmarking. Health services staff trained as surveyors received comprehensive education about pressure ulcers which can be employed instantly in day to day clinical practice and used for future strategies and projects.

The VQC PUWG is currently developing a detailed report and recommendations, which will set the blueprint for pressure ulcer prevention and treatment in Victoria.

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PRESSURE ULCER POINT PREVALENCE SURVEY TOOL



PUPPS

Instructions: Please fill in the appropriate circle(s) using a dark pen e.g. ● DO NOT TICK THE CIRCLE.

- | | | | |
|-----------------------|---|-------------------|---|
| 1. Date of Survey: | <input type="text"/> | 2. Hospital Name: | <input type="text"/> |
| 3. Unit Record No.: | <input type="text"/> | 4. Ward / Unit: | <input type="text"/> |
| 5. Date of Admission: | <input type="text"/> | 6. Age: (years) | <input type="text"/> |
| 7. Type of Admission: | Elective <input type="radio"/> Emergency/Non-elective <input type="radio"/> | 8. Gender: | Male <input type="radio"/> Female <input type="radio"/> |

9. Primary Medical Speciality (choose 1 only):

Cardiovascular / Cardiology <input type="radio"/>	Haematology <input type="radio"/>	Plastic Surgery <input type="radio"/>
Critical Care <input type="radio"/>	Infectious Diseases <input type="radio"/>	Rehabilitation <input type="radio"/>
Endocrinology <input type="radio"/>	Neurological <input type="radio"/>	Renal <input type="radio"/>
ENT <input type="radio"/>	Neurosurgical <input type="radio"/>	Respiratory Medicine <input type="radio"/>
Emergency Medicine <input type="radio"/>	Obstetric <input type="radio"/>	Spinal Injury <input type="radio"/>
General Medical <input type="radio"/>	Oncology <input type="radio"/>	Thoracic Surgery <input type="radio"/>
General Surgical <input type="radio"/>	Ophthalmology <input type="radio"/>	Transplant <input type="radio"/>
Geriatric Medicine <input type="radio"/>	Orthopaedic <input type="radio"/>	Urological <input type="radio"/>
Gynaecology <input type="radio"/>	Palliative Care <input type="radio"/>	Vascular <input type="radio"/>
Other <input type="radio"/> (Please State)		

10. (a) Is there documented evidence of an assessment of the patient's level of risk for developing a pressure ulcer using a risk assessment tool between the first and third day of admission?
 Yes No *If Yes complete Questions 10(b) and 10(c). If No go to Question 11.*
10. (b) If a risk assessment score or category of risk has been identified, which assessment tool was used?
 Braden Norton Waterlow Other (Please State) _____
10. (c) If an initial risk assessment was completed state the category of risk documented.
 No risk Low Medium High Very High

11. Is the patient's principal diagnosis?
 Cancer Pressure Ulcer Drug or Alcohol disorder None of these
12. Does the patient have any of the following?
 Diabetes Chronic Renal Failure Acquired Brain Injury None of these
13. Does the patient currently smoke or have they smoked in the last 10 years? Yes No Unsure
14. Skin inspection refused
15. Select refusal reason: Too ill Consent declined Other

COMPLETE PHYSICAL SKIN EXAMINATION AS PER GUIDELINES

16. Skin Colour: White Light Olive Dark Olive Black
17. Can the patient independently reposition himself or herself? Yes No
18. Are pressure reducing / relieving device(s) currently insitu? Yes No

- If pressure reducing / relieving device(s) are present, please indicate TYPE of device(s) in use:
19. Comfort /Adjunct Devices
20. Cushions & Overlays STATIC DYNAMI
21. Replacement Mattresses STATIC DYNAMI
22. Specialty Beds

23. Is there evidence of a pressure ulcer on skin examination? Yes No

4

If you answered Yes to question 23, please continue over the page



The Victorian Quality Council Pressure Ulcer Point Prevalence Survey

SURVEY PROTOCOL AND GUIDELINES



PUPPS

Please use this tool to assist you to conduct the prevalence survey and complete all data entry.

SURVEY PROTOCOL

NOTE: If at any time you are concerned about the welfare or current treatment of any patient who you have surveyed please contact your Site Co-ordinator.

During the survey please ensure the patient's privacy and dignity is maintained at all times.

ON ENTERING THE WARD / UNIT

1. The surveyors will approach the shift co-ordinator, introduce themselves and remind the shift co-ordinator of the survey. Staff should identify patients who may require assistance with manual handling (e.g. spinal patients). They should also identify patients who are leaving the ward for diagnostic or surgical procedures or who are to be discharged and endeavour to survey these patients as a priority.
2. List all the patient Unit Record Numbers against their respective bed number on the Worksheet. (Include a line for any closed or empty beds.)

APPROACHING THE PATIENT FOR SKIN INSPECTION

3. The surveyors may approach the patient, with or without the nurse (caregiver).
4. The surveyors will ask the patient if they have received and read a Patient Information Sheet regarding the PUPPS survey.
5. The surveyors will explain or remind the patient of the purpose for the survey, answer any questions and proceed to obtain verbal permission for participation.
6. Once verbal consent has been obtained the surveyors may ask the patient:
"Do you have any areas of discomfort where you have been sitting or lying, or when you move about in bed (e.g. tailbone, heels, elbows)?"
7. The surveyor's will conduct an examination of the patient's skin paying particular attention to bony prominences. During this process please remove and replace any anti-embolic stockings or other items of clothing to gain full visibility of the skin. Please do not disturb intact wound dressings. If required ask the nurse caring for the patient to identify if the dressing is covering a pressure ulcer and if so to identify the stage of the ulcer.

NOTE: For the purpose of this survey, patients who are identified as having an area of reactive hyperaemia will need to be repositioned off the affected area. The patient's skin will need to be re-inspected thirty minutes later for evidence of a Stage 1 pressure ulcer. Record this on the Worksheet.

8. The surveyors will ensure that the patient is left in a comfortable position after the skin inspection. Please thank the patient for their participation in the survey.
9. The surveyors will record their findings on the Survey Tool (data collection sheet) provided.

NOTE: If the survey team is unable to stage an ulcer or if more than 5 ulcers are found on one patient they should contact the Site Co-ordinator.

10. The survey team will then review the medical records of all patients who have a pressure ulcer to complete the data entry on the Survey Tool (data collection sheet).

BEFORE LEAVING THE WARD

11. The surveyors will ensure that all data entry is complete prior to leaving the ward. They should notify the shift co-ordinator when they have completed the survey and thank them for their assistance.

FINAL REVIEW

12. At the end of the day each team will check their forms to ensure all data is present and compare the information to their notes on the Worksheet.

Please turn page over.....

Page 1 of 2



The Victorian Quality Council Pressure Ulcer Point Prevalence Survey

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