
Theses

2008

Implementing a Forensic Educational Package for Registered Nurses in Two
Emergency Departments in Western Australia

Christine M. Michel
University of Notre Dame Australia

Follow this and additional works at: <http://researchonline.nd.edu.au/theses>



COMMONWEALTH OF AUSTRALIA
Copyright Regulations 1969

WARNING

The material in this communication may be subject to copyright under the Act. Any further copying or communication of this material by you may be the subject of copyright protection under the Act.
Do not remove this notice.

Publication Details

Michel, C. M. (2008). Implementing a Forensic Educational Package for Registered Nurses in Two Emergency Departments in Western Australia (Doctor of Philosophy (PhD)). University of Notre Dame Australia. <http://researchonline.nd.edu.au/theses/28>

This dissertation/thesis is brought to you by ResearchOnline@ND. It has been accepted for inclusion in Theses by an authorized administrator of ResearchOnline@ND. For more information, please contact researchonline@nd.edu.au.



CHAPTER 5

ANALYSIS OF DATA AND FINDINGS

Two female nurses were the first to arrive. They jumped on top of Daniel trying desperately to stop his attack. Soon there was a swarm of people who had come to his rescue. Thomas knows he must have walked away but he does not recall, he was confused and dazed. Thomas wanted to be strong as others around him who were shaken and did not know what needed to be done. He knew the routine so well yet could say nothing, do nothing. There was so much he needed and yet nobody knew, nobody was there to help him.

Introduction

This chapter will provide a detailed description of participant demographics and the analysis of qualitative and quantitative data collected during this study. There were three types of participants utilised in this study; nurses, healthcare stakeholders and forensic stakeholders. From the combination of methods utilised in this research, there were nine data sources which were utilised to address the study objectives. The nine data sources included; (1) interviews (forensic and healthcare stakeholders and treatment group participants), (2) chart audits, (3) pre and post intervention questionnaires, (4) forensic kit audit, (5) workshop evaluations, (6) telephone log, (7) participant's journals, (8) policy manual reviews, and (9) the researcher's field notes.

For ease of explanation and understanding, the chapter will be organised under two main headings; demographics and reporting of data analysis. The demographics section will describe the main details about all research participants while the reporting of data analysis will be organised according to the study objectives one through six. Objective seven, related to a need for change in forensic patient identification and assessment, availability of forensic evidence collection supplies, standards of practice, hospital policies and the implementation of ongoing ED forensic education, will be discussed in Chapter 6.

The researcher intended to conduct statistical analysis on all of the pre and post-test questionnaire data from HospB and HospC. Such comparisons would be valuable and assist the researcher to support conclusions about the research findings. However, many of the statistical analysis could not be completed due to a low return rate from HospB post-test questionnaires. In the end, only seven of the original 27

who completed the pre-test questionnaire completed and returned the post-test questionnaire. Therefore, after consulting with a statistician, the researcher was advised that any statistical analysis that included the comparison of pre and post-test questionnaire scores between the two hospital participant groups would be inappropriate.

Demographics

There were three types of participants recruited for this study; healthcare stakeholders, forensic stakeholders, and nurses. Each of these groups will be described separately below.

Stakeholders

The stakeholders interviewed in this study were divided into two groups; healthcare and forensic. In order to maintain anonymity of the interviewed participants, the typed transcripts from the healthcare stakeholders were given codes HCS1-HCS10 and forensic stakeholders were given codes FS1-FS11. Every attempt was made to include a broad selection of experienced stakeholders from within the forensic and healthcare disciplines. Top level experts were desired so that the wide range of forensic issues associated with forensic patient care could be thoroughly explored.

In total, there were 10 healthcare and 11 forensic stakeholder participants interviewed (see Table 5.1). The forensic stakeholders came from five different domains including; police, scientists, pathology, coroner's office, and law. Overall, the forensic experts had a range of 6 - 35 years of experience with a mean of 17.9 years.

The largest number of forensic experts came from the police domain which was due to the numerous specialties contained within this profession. For example, violence within the family can incorporate seven of the 27 forensic patient categories (substance abuse, assault and battery, child abuse, domestic violence, elder abuse and neglect, abuse of the disabled, and sexual assault). Therefore, the researcher felt a need to include several police experts who work across such areas as child abuse,

domestic violence, and forensic detectives in order to provide this study with a broad range and depth of expertise.

The other forensic experts chosen included; professionals that come in contact with forensic evidence (scientists – chemistry and biological), forensic professionals that investigate the cause and manner of death (coroner and forensic pathologist), and legal professionals that use all of the evidence gathered by such professionals in accordance to state and federal law. The 10 healthcare stakeholders also came from five different domains including; ED managers, ED Clinical Nurses, after hours nurse duty managers, Department of Health nurse representative, ED medical consultants, and ED medical directors. Overall, the healthcare professionals had 11 – 30 years experience with the mean of 19.7 years. As with the forensic experts, every attempt was made by the researcher to include healthcare professionals that provided direct forensic patient care, were confronted with forensic issues and were responsible for directing and supporting others who required guidance about forensic problems.

Table 5.1 Interviewed Forensic and Healthcare Stakeholders

Interviewed Stakeholders			
Forensic N= 11	Total number of participants	Healthcare N= 10	Total number of participants
Forensic Police • Child abuse unit • Forensic detectives • Domestic violence unit	1 3 1	ED Nurse Manager	2
Forensic Scientist	2	ED Clinical Nurse Specialist	2
Coroner	1	ED After Hours Hospital Duty Manager	2
Forensic Pathologist	1	ED Medical Directors/Consultants	3
Attorney	1 QC 1 defence attorney	Nurse representative within Western Australia Department of Health	1

Like the forensic stakeholders, the healthcare stakeholders interviewed work with forensic patients at different levels. For example, a clinical nurse specialist who works in the ED has the responsibility to act as resource persons for other staff nurses. In addition, the clinical nurse specialist liaises not only with the ED manager but also with the after hours hospital manager on duty, ED medical directors, and other hospital consultants. In other words, the various healthcare stakeholders interviewed for this study work closely within a team environment and are often confronted with concerns regarding forensic patient care. Due to the different roles and responsibilities each healthcare professional held they were thought to have valuable knowledge and experience that could greatly contribute to the development of the forensic educational package.

Another participant the researcher deemed very important in this study was the nurse representative from the West Australian Department of Health. The nurse representative had several duties within their job description that the researcher thought might provide vital information for this study. Duties of interest listed in the job description of this person included:

- (1) Collaborates with area health services, professional organisations, and the University sector to facilitate the development of the nursing profession in Western Australia.
- (2) Prepares reports, submissions, policies and other relevant publications based on analysis and evaluation of nursing policy and programs.
- (3) Participates in reviews of existing and new policies, programs and practices (Department of Health, 2004).

Overall the researcher was conscious to include a consortium of forensic and healthcare experts who could provide valuable contributions to this study based on their experience and expertise. The stakeholders involved in this study therefore represent a diverse group of professionals who care for all types of forensic patients. The other participants recruited for this study were Registered Nurses who will be described below.

Registered Nurses

There were five demographic questions on the first page of the pre-test questionnaire that all control and treatment group participants were asked to complete. The five demographic items included; age, gender, number of years worked as an RN, number of years worked in ED, and the types of advanced nursing courses/certificates completed. Data collected from these questions are displayed in Tables 5.2, 5.3, and 5.4 below.

In both instances, more females participated than males. This finding was not surprising as 90% of Australian nurses are female (Australian Bureau of Statistics, 2001). The ages of participants were somewhat different at each site. Eighteen of 27 nurses (67%) from HospB were under 41 years, whereas only 8 of 22 nurses (36%) from HospC were under 41 years. There was no significant difference between the total number of male and female participants from HospB and HospC.

Table 5.2: HospB and HospC Participants: Age and Gender Demographics

	Gender		Age in years		
	Male	Female	20-30	31 - 40	41 and over
HospB N = 27	4	23	8	10	9
HospC N = 22	3	19	3	5	14

Three questions from the questionnaire addressed participant work history. The data indicated that participants from both HospB and HospC had comparable work experience backgrounds. In other words, the nurses from both hospitals worked as nurses in the ED for similar amounts of time (see Table 5.3).

Table 5.3: HospB and HospC Participant Work History

	Years working as a nurse		Years working in ED as a nurse	
	Hosp B Control N = 27	Hosp C Treatment N = 22	Hosp B Control N = 27	Hosp C Treatment N = 22
Range	2 – 25	3 – 30	3 months – 20 years	3 months – 20 years
Average # of years	11	17	4.36	5.75

Question five in the questionnaire, asked participants to disclose any advanced education course or certificates they had completed. The researcher wanted to know about this information because it was important to have the control and treatment groups as similar as possible. In other words, the researcher wanted to compare results between the two groups without large variations in samples characteristics. The data from the questionnaire revealed that the majority of participants from both hospitals (70% from HospB and 77% from HospC) had completed at least one type of advance nursing certificate/course (see Table 5.4).

Table 5.4: HospB and HospC Participant Advanced Education Courses Completed

Advanced Nursing Courses	Hosp B Control N = 27	Hosp C Treatment N = 22
Courses	<ul style="list-style-type: none"> ▪ Diploma Tropical Nursing ▪ In-flight Nursing Certificate ▪ Trauma Nurse Core Course ▪ Post Graduate A&E Certificate ▪ Hyperbaric nursing course ▪ Major Incident Medical Management and Support (MIMMS) ▪ Graduate Diploma in Critical Care Nursing ▪ Midwifery ▪ Renal Transplantation 	<ul style="list-style-type: none"> ▪ Intensive care diploma ▪ Trauma course ▪ Emergency skills course ▪ High Dependency course ▪ Adult Advanced Life Support course (ACLS) ▪ Paediatric Advanced Life Support course (PALS) ▪ Midwifery course ▪ Community health course ▪ Orthopaedics course ▪ Paramedic course ▪ Paediatric emergency course
None completed	1	2
No response	7	3

There was a variety of specialty courses participants reported to have completed. Some of the findings were specific to specialty services provided at each hospital. For example, HospB provides an on site hyperbaric facility. Therefore it would not seem unusual that emergency nurses from that facility had completed training in another area that often deals with providing emergent patient care. However, the researcher was somewhat surprised that none of the HospB participants documented completion of any advanced paediatric courses. As this hospital did cater for

paediatric patients and has a paediatric ward, the researcher expected some participants to have completed some type of paediatric speciality course or certificate.

Additionally, data from the researcher's field notes revealed that study participants had diverse backgrounds in relation to their country of origin, where they completed their nursing training, and previous work experience. Therefore, the researcher was not surprised about the variety of course names identified in Table 5.4. Different countries and hospitals offer courses to nurses that have different names but include similar course content (L. Gatzonis, staff development manager, personal communication, March 19, 2007). The most common type of advanced nursing certificate course completed by HospB (41%) and HospC (36%) participants was a Post Graduate Certificate in Emergency Nursing.

Overall, the demographic data revealed that the participants from the control and treatment groups had similar characteristics. The presence of similar demographic characteristics at the commencement of this study was important to establish so that other data in this study could be compared and consequently allow the study intervention to be evaluated objectively. The discussion below will continue to discuss the results obtained from the other questionnaire responses.

Reporting of Data Analysis

For ease of explanation and understanding, the research findings will be organised and reported below under headings that correspond to the study objectives outlined in Chapter 1. In addition, when applicable, data will be explained under the subtitles of Hospital B and C to maintain consistency with previous chapters. All references to and discussions about specific questions contained within the research questionnaire will refer to the question order in the pre-test questionnaire (Appendix 5).

Forensic requirements and key issues

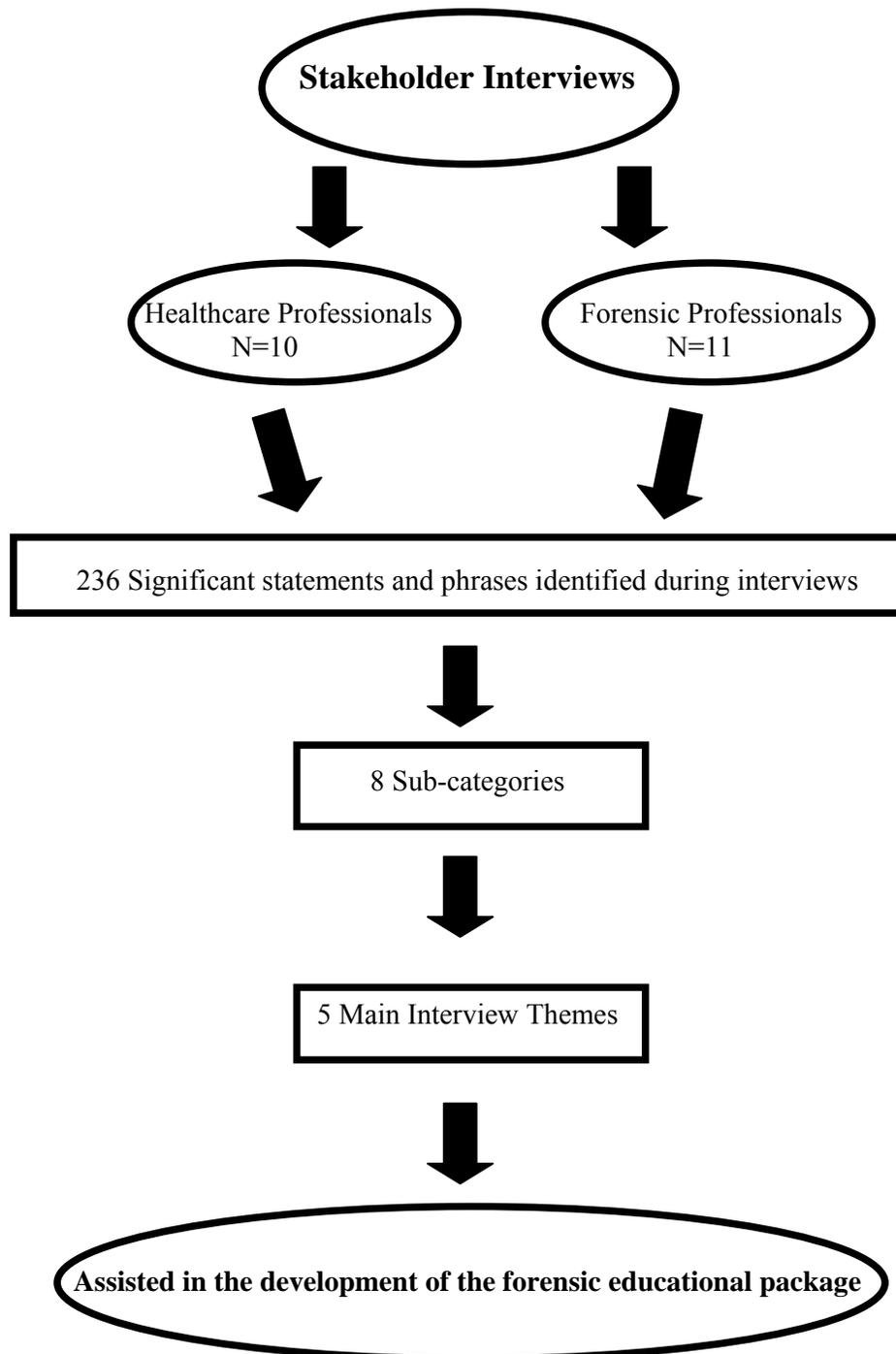
To develop, implement and evaluate the forensic educational package, the researcher needed to identify the key issues confronting and affecting forensic and healthcare professionals in Western Australia. The topics of interest the researcher sought to

explore included; current forensic care practices within the forensic and healthcare setting, the effectiveness of the current system and any deficits that could be targeted for improvement. To accomplish this objective, the researcher interviewed 21 professionals who working within the Western Australian forensic and healthcare settings (see Table 5.1). A schematic flow diagram that illustrates the analysis process the researcher utilised once all of the interview data was collected can be seen in Figure 7.

During the semi-structured interviews there were eight open ended questions posed to each forensic stakeholder (see Appendix 9). The questions the researcher explored sought to gain information about which ED healthcare professionals forensic experts had contact with and the quality of such relationships, subject matter pertaining to evidence collection, and priority topics they thought should be included in a forensic educational package. On average, the majority of forensic stakeholder interviews were nine single spaced pages. All of the stakeholders appeared relaxed during the interviews and were happy to answer all of the questions. Throughout the interviews clarification was continually sought to ensure the stakeholder's perspective was understood. Some of the responses lead to in-depth discussions about certain questions whilst others responses were quite short. For example, the forensic scientist who worked with non-biological specimens had no contact with any ED healthcare professional and therefore did not comment about this question; whereas, the forensic pathologist had extensive responses to those questions that dealt with evidence collection.

Thematic analysis allowed the researcher to report the experiences of the stakeholder participants captured during the interview process. The discussion that follows contains a detailed description of how the researcher applied thematic analysis to the study data. Initially, the analysis process began when the researcher read each of the typed transcripts to obtain a feel for the contents. During this initial reading no codes or themes were identified because the goal of this process was for the researcher to familiarize herself with the text. According to Braun and Clarke (2006) it is vital for the researcher to immerse themselves in the data so that they can become familiar with the depth and breadth of the content. Therefore, after the initial reading of each transcript, the researcher read all of the transcripts multiple times.

Figure 7. Analysis Process of Stakeholder Interviews



During the multiple readings of the interview transcripts, the researcher began to write notes in the transcript margins about ideas, meanings or patterns the researcher felt were relevant to the study. An example of the researcher's initial transcript notes

can be seen in Appendix 25. At the end of this process, the researcher had compiled 236 significant statements and phrases that were deemed important and of particular interest to this study. Before continuing with any further analysis, the researcher set the transcripts aside for a period of two to three weeks. The researcher then read each transcript through again. The reasoning for revisiting the transcripts after the set time frame was so that the researcher could feel confident that all significant statements were identified and to ensure accurate and adequate representation of the data.

The researcher next categorized all related statements. By bringing together fragments of ideas or experiences conveyed by the stakeholders, the researcher was able to identify a comprehensive picture of collective experiences. Due to limited resources, time constraints, and level of complexity, there were some ideas identified during the interviews that the researcher was unable to incorporate into the forensic educational package. However, a complete list of topics identified during the stakeholder interview can be seen in Table 5.5. At this stage an experienced qualitative researcher was given a transcript to analyse. The categories identified were similar to the one the researcher had identified.

Stakeholder experiences were then organised into eight sub-categories themes. According to Braun and Clarke (2006, p. 82), a theme “captures something important about the data in relation to the research question, and represents some level of patterned response or meaning within the data set”. As interview ideas and sentences were listed together in the sub-categories, the researcher was able to notice themes and patterns emerging from the transcripts. During this process, the researcher noted that some interview statements were listed under more than one sub-category and that there was an overlapping between some significant statements and sub-category themes. For example, **HCS2** (shown in Appendix 25) stated:

There is no education and no awareness, then they (hospital policies) become obsolete, they are just not in line. Most of the domestic violence polices would just say call ‘D’ with which ever government department it is, but it doesn’t actually help you deal with a patient in front of you.

This statement had the possibility of becoming an example under three of the eight sub-categories including practice issues of interest and concern, knowledge and educational deficits, and gaps and problems.

Table 5.5. Stakeholder Ideas to Consider Including into Forensic Educational Package

Stakeholder Interview Data
Main ideas and needs identified by Forensic Stakeholders
<ul style="list-style-type: none"> • Healthcare professionals do not have a sound knowledge base about forensics topics. • A forensic liaison person could help to coordinate information and maximise efficiency between health and forensic workload. • Evidence collection has not been routinely collected well by healthcare professionals. • Regular forensic education may be beneficial and improve teamwork among healthcare and forensic professionals. • Healthcare professionals are not up to date on the latest legal statutes regarding forensic topics, especially evidence collection. • Healthcare professionals do not always look at the bigger picture when confronted with forensic cases.
Main ideas and needs identified by Healthcare Stakeholders
<ul style="list-style-type: none"> • Nurses are not aware of correct forensic chain of custody procedures. • Forensic evidence is being poorly or incorrectly packaged ie. All clothing put into the same plastic bag. • Current body diagrams to document injuries are not being utilised • The nurses do not have access to photography equipment to record all injuries. • Healthcare professionals do not consistently and correctly identify who are possible forensic patients. • Nurses do not document patient conversations and histories thoroughly. • Legal roles and responsibilities regarding forensic patient care is ambiguous • Healthcare and forensic communication is inadequate and inconsistent. • Comprehensive and standardised forensic policies and procedures do not exist.

The researcher could not find consistent guidelines within the published literature that discussed or described the proportion of a data set that needed to display evidence of the theme before a author could stipulate that a theme existed. A theme, as thought by some should not necessarily be dependent on quantifiable measures but rather on whether it captured something important in relation to the research objectives (Tuckett, 2005’ Braun and Clarke, 2006). Therefore, the goal for the researcher during this analysis process was to provide a rich thematic description of the entire data set.

Upon continued reflection and further analysis, the eight sub-categories were reduced into five main themes. During this final analysis phase the researcher found that

some of the sub-categories did not really have enough data to support them as themes and some contained data that could be combined more appropriately with another sub-category. Therefore, after careful consideration, reorganisation, and combination of data, the researcher developed five main themes to represent the data set. Once this thematic analysis process was completed, the researcher was able to formulate a list of elements that needed to be included in the educational package. The discussion that follows provides an elaboration about how the researcher finalised the main data themes.

Interview sub-category groupings

After all of the interviews were read and significant phrases were identified, the data were grouped into eight sub-categories. This process heightened the awareness of the researcher which resulted in the identification of salient themes, recurring ideas, and patterns that link people and settings together. This strategy of data immersion allowed the researcher to identify the areas of interest which assisted with the development of the forensic educational package (Polit, Beck and Hungler, 2001; Braun and Clarke, 2006). Below are examples of typical significant statements that the researcher identified during the review of the stakeholder interviews.

A healthcare stakeholder **HCS6** stated:

If we had police present with a perpetrator, asking us to collect forensic samples, which we are not prepared to, or qualified to, or trained to collect. There is no-one that we can contact to discuss this with, or to find out what alternative agencies might be available to help in this situation, or what protocols or procedures the police should be following and how the Emergency Department fits into that.

Furthermore, **HCS1** stated, “The collection of forensic evidence, we are not sure whether, from a legal perspective, we are able to collect that evidence, so there is the legal aspects we are unsure of”. In addition **HCS9** communicated about their professional experience by saying:

They never really come back to you and say “you know you really loused that up for us”. I think it’s because they know that we don’t really have adequate training in that, so they just tend to disregard the mistakes that we make.

Another example is where healthcare stakeholder **HCS2** stated, “I think generally nurses don’t understand the legal implications of their practices. There is no structure to the

nursing policies for forensics. There is nothing there. So I don't think most organisations do that very well".

The researcher separated the significant statements and phrases into groups and identified eight sub- categories based on similar meanings. The eight sub-categories included; confusion and uncertainty about the Western Australia forensic scene, practice issues of interest and concern, knowledge and educational deficits, documentation, interagency communication, roles, responsibilities and relationships, gaps and problems, and lastly stakeholder's wish lists. All of the significant statements and phrases were grouped under one of these headings while some were found to fit under more than one sub-category. The eight sub-categories and corresponding significant statements and phrases will be described below.

Confusion regarding the Western Australia forensic scene

Feedback about this sub-category came from both healthcare and forensic stakeholders. Comments from healthcare and forensic stakeholders indicated that there was a lack of clear directions pertaining to legal procedures and processes, professional expectations across all disciplines and which persons needed and should be contacted with certain forensic situations. Examples under this sub-category demonstrated the confusion stakeholders experienced during their normal work day when confronted with forensic patient issues. For example, one healthcare stakeholder, **HCS1**, stated:

We are not sure whether, from a legal perspective, we are able to collect that evidence...I understand that the legislation is changing now...but that still needs to be confirmed. That's a bit of a best kept secret at the moment.

Furthermore, another healthcare stakeholder, **HCS6**, stated "There is no sort of person, in terms of being identified as to be able to contact, or agency you can contact when you have a dispute – you know, an area contact". Lastly, **HCS8** stated:

You know... there really needs to be, like across knowledge of what the police expect, what the doctors, what the nursing expect from these kind of situations, so that everybody is working together. Instead of everyone narrowly working along their own pathway.

In addition to the uncertainties related to general forensic processes, the stakeholders also voiced their concern about clinical practice issues that will be discussed below.

Practice issues of interest and concern

There were many comments and differing opinions from forensic and healthcare stakeholders relating to clinical forensic skills and tasks. The comments provided under this sub-category relate predominately to evidence collection procedures and practices. Some typical examples include a statement by **FS5** who stated, “Each hospital has different protocols”. Furthermore, **FS8** commented by saying, “All medical interventions must be left insitu...Leave everything on the body...I don’t like the wound site to be used as evidence...My ideal thing is least touching”. There was concern expressed by **HCS4** about nurses being involved in the practice of evidence collection and stated:

Lack of confidence and lack of training and experience...because everyone’s happy to take a blood alcohol sample because its easy, but anything beyond, people get hesitant, because they are not familiar with it and they have usually got no formalised training, or real experience.

Forensic expert, **FS3**, commented, “It is very very important that the people collecting exhibits understand the risks involved in doing it and the need for packaging things so they cannot be lost or contaminated”. Lastly, **FS6**, commented on some disturbing practices that have occurred by stating:

You don’t actually get any evidence from them (nurses)... there is a problem of who takes it off the person...but we ideally record it as we take it... they would give me a bag of clothes, but it wouldn’t be timed and dated with anybody that took it off them, it would be just a fact of, I collected it and I would time and date it at that time.

The belief the stakeholders who commented on this topic agreed that having standard procedures and practices would be the ultimate goal. The comments highlighted that the clinical practices of forensic evidence collection was an important and problematic area that warranted attention. Associated with this topic was the suggestion that there was a need to address the issue of lack of knowledge. This topic will be explored below in the following sub-category.

Knowledge and educational deficits

Many of the comments by healthcare and forensic stakeholders were associated with the lack of knowledge or educational preparation. These two ideas were difficult to separate into different sub-categories as the comments often used these terms

interchangeably. The ideas and comments that are highlighted under this sub-category are statements that link a lack of knowledge and education to problems occurring within the forensic field or associated with specific forensic tasks and procedures. For example, **HCS8** confessed, “I am not even really that familiar with forensics, so forensic could be a whole lot of other things that I don’t know about”. Furthermore, **HCS1** stated, “We (nurses) have a very rudimentary understanding and that’s as far as it extends, but we have no skills in the collection of evidence”. Lastly, **FS8** had the general opinion that “They (healthcare professionals) are not taught correctly right from the beginning about forensic evidence collection. So they (healthcare professionals) have to know that we are going to want all samples. They need to know that the samples must be correctly labelled; the time must be put on there”. **FS8** stated, “I think it is ignorance...they don’t realise we need the notes, they don’t realise we need the samples. Both sides, both police and medical staff, it’s not one or the other, its often a combination of the two of them”. The occurrence of both general and specific comments observed in the above sub-category was also seen in the sub-category labelled documentation below.

Documentation

The topic of documentation was brought up both forensic and healthcare stakeholders. Opinions and comments in relation to this subcategory ranged from the clarity of handwriting to the issue of medical notes being comprehensive. For example, **FS8** stated, “Handwriting is a real problem. I do not like the use of abbreviations unless they are in some form of accepted or well noted hospital abbreviation”. Furthermore, **HCS1** believed that:

Nurses I think are generally poor with their documentation. It’s just right across the board, whether it’s a forensic patient or not, there could be a vast improvement. They will tell you they do not have time to write anything down.

Additionally, **HCS5** made specific comments regarding documentation and forensic cases by saying:

I don’t think it’s getting addressed well. I certainly think that there is scope for improvement and a lot of improvement... We don’t specifically talk about how to document an examination of say someone who is allegedly assaulted... I think there is certainly a lot of scope for improvement.

Probably the most confronting and disturbing comments came from **FS11** who stated, “I think it is reasonably well noted that nursing notes are inaccurate... basically nursing notes are viewed sceptically by the courts, because they’re renowned for their inaccuracies”.

The overall comments regarding documentation reflected a general consensus that documentation improvements could be made by all nurses. The ramification of incomplete documentation and/or illegible writing was shown to affect the jobs and outcomes of other forensic and healthcare professionals. Another area that had a multitude of impact was seen in the sub-category of interagency communication discussed below.

Interagency communication

The comments received about communication were predominately from healthcare stakeholders and frequently centred on the type, amount and absence of feedback between agencies. For example, **HCS4** stated:

There is a problem with feedback and I guess the worse group is probably the coronial inquiries, who keep everything top secret and pretty much tell you nothing... seeking feedback is quite hard and often takes many months... And if you don’t have that feedback you don’t know if what you are doing, at the end of the day, is right or wrong.

These feelings were corroborated by **HCS9** who stated:

Feedback no, I don’t think we ever get really satisfactory feedback. But certainly, you know, they are grateful for any help that you can give them... I mean there are often times when you think feedback would be helpful, to deal with the next time, because you sort of...you are not entirely sure of your rights and responsibilities.

Furthermore, some forensic stakeholders did make reference to the sub-category of communication in respect to the difficulty forensic stakeholders experience in gaining access to forensic patients, forensic evidence or being notified about forensic patients who had treated in the ED. For example, **FS6** stated:

It is a problem, because there is a continuity gap there. This continuity gap, it can be day or two days apart, whereby, if you get injured today... sometimes they (medical staff) say ok, this person is too ill, we can’t have you coming and taking photographs until 2 days time. So we don’t get that clothing for 2 days time. When we get it, its not

bagged tagged labelled anything, its just one big green plastic bag full of whatever – which is a problem, but we have never been pulled on about it in court, so I don't know if it will ever be a problem.

On the other hand, healthcare stakeholders wanted more clarification about communication in general. For example, HCS6 stated:

Gaps are certainly there in terms of the wider forensic community in that there is not much communication... There is no sort of person, in terms of being identified as to be able to contact... Unless something happens and we review the issue, we don't hear from anyone. We haven't the foggiest idea who is our forensic pathologist is who is on call, or how to get hold of him, or who is supposed to do anything, unless you phone around – you know... it's sort of hear-say at the moment, as to who you should be able to talk to.

Another sub-category that was identified related to issues pertaining to roles, responsibilities and relationships between forensic and healthcare professionals. Significant statements are discussed below.

Roles, responsibilities and relationships

There were many misconceptions identified about roles, responsibilities and relationships among all forensic and healthcare stakeholders. During the interviews, the researcher discovered that many of the interviewed professionals had limited insight into the roles and responsibilities of their colleagues. As a result, many comments indicated that the lack of insight had affected relationships. For example, one forensic expert, **FSS5**, stated, “You would probably have to talk to the administrators of the hospitals and see what they actually have in place and then try and explain what our procedures are and see how we can work towards meeting each other half way”. Additionally, **HCS5** stated:

They (police) are expecting that we will provide a service for them, without question and they also expect that we have expertise that we might not have. Also our ability to attend to their patient and their issues in a timely fashion, within the constraints of the Emergency Department, they do sometimes have an unreasonable expectation.

However, there were some stakeholders who voiced only praise regarding the types of roles, responsibilities and relationships they experienced. For example, **HCS1** stated, “Our relationship with the police has been the same for all of the years that I have been here. It has worked well, as long as we look after them, they will look after us”.

To explore whether there were any shortcomings in the current medico-legal system, as perceived by the stakeholders, the researcher asked all stakeholder participants whether they had noted or experienced any gaps or problems within their work environment. The findings from such a question will be discussed below.

Gaps and problems

The final sub-category included comments that focused on gaps and problems identified by experts which are occurring in the current system. Firstly, **HCS4** stated, “Oh yes there is a big gap and the gaps in expectation. They (police) expect to use Emergency Departments as a forensic collection place, whereas the one thing we are not trained for is collection of forensic evidence”. Secondly, **HCS9** stated:

If we get patients in the hospital before they have had any contact with the wider forensic community, police, lawyers and all the rest of it, we quite often don't think about the forensic side of things, probably we don't do them any favours at all, because you are destroying or tampering with what could be evidence.

Lastly, **HCS5** stated:

You know they (police) don't really know what to do. They come to us (staff in the ED) and say that we have to know what to do, so we need a clearer guideline or procedure, or some clear way of dealing with these problems – these sort of forensic issues. I think our positions need to be clarified in these situations.

Lastly, the researcher wanted to give all of the stakeholders the opportunity to have input as to the forensic educational package content. Therefore, all of the stakeholders were asked about what they perceived as essential topics that would improve their current work situation and the outcomes for forensic patients they have contact with. The results from this question are discussed below.

Stakeholder's wish lists

All of the stakeholders were asked to reveal some of their thoughts about the main items they would like to see (a wish list) incorporated into a forensic educational workshop for nurses. The wish list outlined topics the experts deemed most important. Comments by **HCS9** included:

Really I think things like standardised protocols, like when the police bring somebody in for blood tests, they bring their own kit and their own sort of guidelines and instructions, so you know that this is how

the evidence is meant to be collected and you do it this way and you do it in this order.

Ideas from **HCS3** were outlined in the statement:

You don't want turf protection, we want a collaborative framework, that is best for the patient, and. a protocol should be developed in collaboration and define the scope of practice and whose responsible. That gives the role clarity and I think that's important.

Furthermore, **FS1** stated:

Clothing needs to be separated into separate brown bags with gloved hands. Cross contamination issues need to be really addressed. Um, yea, documentation of any conversation in relation to the criminal aspect because that nurse or doctor may end up as a witness later on... Contacting the police. Those would be the high priorities.

In addition, **HCS8** stated, "It would be great if there were people, like in the community, a team in the metro area that you could call on, or a team that was based, or a person that was based somewhere". Other suggestions from **FS6** were:

Whatever you can implement to improve the collection, quality and chain of evidence in collecting objects for an examination of a crime scene, or a person who has been involved in a crime would be good...

Lastly, **HCS7** stated:

I think first of all education, top of the list. Getting the police or the forensic community to liaise and provide education sessions to us, to let us know what sort of issues they consider are forensic issues, or what sort of patients they consider as forensic patients. What are their needs and how can we help them.

Overall, the above examples were typical comments that described the eight sub-categories. However, in many instances, the comments could fit into more than one sub-category at one time. This was due to the fact that many of the comments had multiple issues contained within a single comment. Therefore, because this study could not address all issues that surfaced during the interviews, the researcher found it necessary to reorganise and further refine the categories into five main themes. The discussion below will elaborate on the five main themes.

Main interview themes

The eight sub-categories and the significant statements and phrases were organised into five overall themes that were to serve as the contextual framework for the forensic educational package in this study. In 19 of the 21 interviews, stakeholders made reference to at least four of the five main interview themes. There were some issues that were unable to be included in this study as they were outside the focus of this project. For example, **FS6** discussed the ideas of having a single liaison person at each ED that could assist the forensic community with forensic cases and improve the working relationship between forensic and healthcare professionals. It was impractical to include all of the ideas and suggestions made by all of the stakeholders. However, the content of the forensic educational package did incorporate the following five themes; identifying forensic patients, roles and responsibilities, evidence collection, legal issues, and communication. Each of these main themes and supportive testimonial data will be discussed in detail below.

Theme 1: identifying forensic patients

The most recurrent theme identified throughout the stakeholder interviews was the view that nurses were not able to consistently recognise who forensic patients. Forensic and healthcare stakeholders agreed that there were varied ideas about who exactly could be defined as a forensic patient and what needed to be done for such patients. Such uncertainty surrounding this theme was also exposed in the pre-questionnaire responses from HospB and HospC participants.

The stakeholders believed that in order to develop an effective educational package, the identity of who forensic patients were had to be clearly outlined. Some of the forensic stakeholders thought that healthcare professionals did not regularly identify forensic patients who came into the ED. In addition, some of the healthcare stakeholders did not feel that enough education or feedback had been provided to them by forensic experts about who exactly forensic patients were and what exactly needed to be done by healthcare professionals who cared for such patients.

HCS1 responded to an inquiry regarding the types of forensic patients their ED nurses see by saying, “We probably would have thought more towards Psych,

because I know that the Psych guys like using the term forensic... And of course we already know domestic violence and sexual assault victim”.

When asked whether ED staff have much contact with forensic patients, **HCS9** stated, “Not really, not a great deal...not really that many...Mainly children and accidents”.

HCS9 commented:

If we get patients in the hospital before they have had any contact with the wider forensic community, police, lawyers and all the rest of it, we quite often don't think about the forensic side of things, probably we don't do them any favours at all.

One ED manager, **HCS8**, stated, “I am not even really that familiar with forensic, so forensic could be a whole lot of other things that I don't know about...it's kind of an adhoc approach. I think there is a lack of knowledge all around”.

One clinical nurse, **HCS2**, commented about the types of forensic patients seen in her ED by stating:

I would say we have the contact, I would say that we didn't deal well with our contact. Either because we are not skilled in identifying or that we don't feel empowered to ask the questions and to deal with people. So I think it is the only area we do poorly.

The theme second in frequency to identifying who forensic patients was the issue of roles and responsibilities as applied to forensic care and procedures. There were some interesting beliefs revealed by both the forensic and healthcare stakeholders about who they thought was actually responsible for certain aspects of forensic care.

Theme 2: roles and responsibilities

There was a general consensus among the interviewees that care of the forensic patient should be a collaborative effort and that all medical and forensic professionals make valuable contributions. However, disagreements occurred among the stakeholders when discussions focused on the types of roles and responsibilities each profession should undertake. One area of debate and disagreement centred upon

how important forensic duties were and the priority that should be placed on ensuring that responsibilities like evidence collection were addressed.

Many of the healthcare stakeholders did not agree that forensic responsibilities such as evidence collection were the role of ED nurses and medical staff. Furthermore, healthcare care stakeholders, on the whole, believed that it was not their responsibility to contact police regarding patients (other than children) presenting with suspicious injuries (knife wounds). Further support for such perceptions will be discussed later under the heading that explored the nurse participant questionnaire responses to this topic.

HCS4 commented, by saying:

Police in our community don't really have their own internal medical support... and they (police) really expect the Emergency Department will provide that role andit's not our problem", that's how its most commonly addressed. You know if the police want something, it is up to them to organise getting it collected. So I guess they (forensic requirements of patients) are addressed by shifting the responsibility onto someone else and not seeming or expecting it to be our particularly responsibility – the forensic side.

HCS1 commented:

There is not a lot of resources out there for nurses to learn more about these forensic-type patients, what we can do from a nursing perspective ...we recognise it as a department, that we need to improve the care, but for us, on top of everything else that is expected of us in our working day...it's the developing of new education and we haven't got the time.

When exploring such a complex issue confronting nursing staff in Western Australia emergency departments, the researcher was somewhat surprised to hear a comment by the Department of Health nurse representative, **HCS3**, who stated:

Forensic has not come up as a major issue...I suppose when we are looking at why forensics hasn't come up, that's mainly because, I suppose there isn't a large number of nurses working in that area at this particularly point in time.

Such a statement was surprising after hearing conflicting opinions from the other forensic and healthcare stakeholders.

During the exploration of role identification during an interview, one ED medical consultant, **HCS5**, commented:

I don't think it is the role of the Emergency Department to be able to take the evidence. Some of the police and some of the detectives need to have an understanding that we don't have the expertise... They are probably expecting more than we can offer.

Further discussions regarding roles and responsibilities, one ED nurse manager, **HCS8**, commented, "... there really needs to be, like across knowledge of what the police expect, what the doctors, what the nursing expect from these kind of situations, so that everybody is working together".

One clinical nurse, **HCS1**, commented, "We don't feel comfortable in dealing with it... probably because it is not physical and it is not something that we can quick-fix now and get them out. It is too difficult, so we don't embrace it".

The forensic detectives, in contrast, saw that the preservation of any forensic evidence was an important responsibility for ED staff to consider. **FS5** stated:

When we take people to the hospital for blood tests and sometimes the doctors will baulk at it. That's probably one of the big issues. They won't take blood because of the possibility they might get sued civilly. There is a clause in statute law that covers doctors and nurses. But some doctors just don't want to take that risk".

In addition, the police saw nurses and ED medical staff as playing a key role in assisting them with their investigation. This idea centred on their belief that many crime victims and associated perpetrators were seen by hospital ED staff before police knew anything about a crime being committed. For example, **FS6** stated:

Where when we get it (physical evidence), its not bagged, tagged, labelled or anything, its just one big green plastic bag full of whatever, so we bag, tag and label it at that particular time. So there can be a continuity gap of 24, 48, 72 hours – which is a problem.

Although there were differences in opinions, all forensic and medical stakeholders did agree, and stated clearly, that emergent lifesaving measures always take top priority. For example, **FS5** made this comment:

Medical procedures have got to come first. Ours is second. Obviously the welfare of either the offender or a victim is paramount so if there are life threatening injuries we can't step in until the doctors or the medical people say yea ok.

Overall, there was a difference in opinion expressed amongst both the forensic and healthcare stakeholders regarding whose roles and responsibility it was particularly when the issue of evidence collection was discussed. In other words, some forensic stakeholders (especially the police) wanted and expected healthcare stakeholders to assist with this process while healthcare stakeholders were less confident about their involvement in the process. Due to the lack of role clarity and the fact that healthcare stakeholders were being requested to collect evidence the researcher believed that evidence collection was an important item to include as a topic in the educational package. Further discussion of this topic will occur below.

Theme 3: evidence collection

The forensic stakeholders all agreed that without correctly collected forensic samples, their jobs were made more difficult and often the lack of properly collected evidence samples hindered and jeopardized the outcome of cases. Many forensic stakeholders focused their comments solely on completing the task of evidence collection.

A typical comment received from a forensic detective, **FS5**, stated, “Evidentiary, I don't think the nurses would understand what we as investigators require as evidence”.

When discussing ways to improve evidence collection, one detective, **FS6**, commented. “Any improvements' gotta be better than what we have got now, because it is not great now. I don't think anyway”. Further support was provided by another detective, **FS4**, who stated:

In my experience it has been left entirely in the domain of the police officers to arrange to have it collected or for us to collect it ourselves. I couldn't say that I have counted one occasion where it has been done prior to us attending the hospital.

The healthcare stakeholders also felt that evidence collection was an important issue to address. However, the healthcare stakeholders were more focused about the time required to collect samples, whether it should be part of their job description, and the lack of training to perform such tasks. Another concern was the legal aspects of such an issue.

One ED physician, **HCS4**, commented by saying, “I think its no training, certainly in my case and I am not aware of much training other than novelty lectures at medical school here at the moment”.

When discussing educational issues, a clinical nurse, **HCS1**, responded, “The collection of forensic evidence, we (nurses) have a very rudimentary understanding and that’s as far as it extends, but we have no skills in the collection”. **HCS9** supported that view by commenting:

I think probably most of us would have a reasonable idea of sexual assault evidence, what we should and shouldn’t do, but certainly other things that come up in the forensic spotlight; we wouldn’t be as clear on what we should do.

In responding to the question of whether nurses should collect evidence, one of the forensic attorneys, **FS7**, commented:

I think they have an obligation, because they are in a sense the only people who can collect that. It is often gone, the evidence is gone, when they are out of the care of these people and I think from a community and justice perspective, I think they have an obligation to do that. It would be quite wrong to ignore it.

Due to the nature of forensics and forensic nursing, the topic of legal matters is usually a prominent theme. During the interviews for this study, legal issues were the fourth theme identified.

Theme 4: legal issues

Interviews with the healthcare stakeholders and two interviews with attorneys brought forth many of the legal concerns. The two main areas of concern from the legal aspect of forensic patient care was the ability to maintain chain of custody and the provision of thorough medical documentation. The healthcare stakeholders had more concern regarding how to maintain and what exactly was chain of custody. In

addition, healthcare stakeholders were apprehensive about going to court and providing evidence.

One forensic detective, **FS5**, commented by saying, “With inquires the end result is you go to court, continuity is a big thing in relation to can people tamper with evidence”.

One clinical nurse, **HCS1**, commented about the level of understanding nurses have regarding legal issues by saying, “We are not sure whether, from a legal perspective, we are able to collect that evidence, so there is the legal aspects we are unsure of”. Furthermore, **HCS9**, voiced similar concerns by stating, “you are not entirely sure of your rights and responsibilities, with how you should go about notifying them (DCD) or dealing with it”.

Upon discussing legal issues related to providing nursing care to forensic patients, another clinical nurse, **HCS2**, stated:

I don't think they (nurses) have much of an idea... I think generally nurses don't understand the legal implications of their practices... I know as students they are taught it. I find as practitioners they just forget about it... There is no structure to the nursing policies for forensics.

One of the legal professionals, **FS7**, commented:

Trends I have noticed in some, which seems to be a personal thing, is people completely shy away from tracking any notes at all, about reporting for fear of getting involved in the legal process... Not fear of the system itself, but more fear of am I doing the right thing by my patient.

Logic suggests that the complex nature and intricacies of forensic cases would promote and generate strong interconnected relationships between forensic and healthcare professionals. Unfortunately, such a trend was not always demonstrated strongly during the interviews nor confirmed within the last theme. Finally, the last of the five themes identified from the interview data to be discussed is that of communication. This theme will be explored below.

Theme 5: communication

The issue of good communication between and among all forensic and healthcare professionals was seen as paramount. The issues of verbal and written documentation were considered under the category of communication. Ongoing interagency communication regarding feedback and requests was a recurrent issue that was brought up and deemed important by both healthcare and forensic professionals.

One ED physician, **HCS4**, commented about receiving feedback by saying:

It's more to do with administration rather than anything clinically...There is a problem with feedback...Getting feedback to what was finally found to be cause of death, or reason of death. There is just a lack of feedback, even when you seek it...And if you don't have that feedback you don't know if what you are doing, at the end of the day, is right or wrong.

Regarding the lack of feedback from forensic community, one ED manager, **HCS7**, commented, "There doesn't seem to be that communication with police, with regard to forensic stuff in this Department...There doesn't seem to be a big push on that in regards to education...I mean I think we just do what we think we need to do".

Referring to the importance to written documentation, **FS8**, commented by saying, "I look through all of the documentation...they are not complete enough...I do not like the use of abbreviations without some form of accepted abbreviation...Handwriting is a real problem...just write what happened". Sentiments of questionable documentation were supported by one of the clinical nurses, **HCS1**, who stated:

Nurses I think are generally poor with their documentation. It's just right across the board, whether it's a forensic patient or not, there could be a vast improvement. They will tell you they do not have time to write anything down, but you don't have time not to.

When exploring the topic of communication between police and hospital staff, one of the clinical nurses, **HCS1** responded:

The assumption is made is that we would sort them out when they come here... as long as the patient tells us that we need to record their injuries for a police record, the doctor can take a much more detailed note and draw body maps and that sort of stuff.

One forensic detective, **FS4**, supported this statement by stating, “A lot of people present at hospitals and that information is never filtered through to us”. While one nurse manager, **HCS9** commented, “They (forensic professionals) are open in communicating in a sort of a down to earth manner, rather than a very official manner. Feedback no, I don’t think we ever get really satisfactory feedback”.

HCS6, a medical physician, commented about communication problems he had experienced by stating:

We haven’t the foggiest idea who our forensic pathologist is who is on call, or how to get hold of him, or who is supposed to do anything, unless you phone around – you know...it’s sort of hear-say at the moment, as to who you should be able to talk to.

The content of the forensic educational package was greatly influenced by the data collected from the healthcare and forensic stakeholders. Initially, the researcher read all of the interview transcripts thoroughly and identifying significant statements and phrases that were pertinent to this study. Five overall themes were created (identifying forensic patients, roles and responsibilities, evidence collection, legal issues, and communication) to guide the development of the forensic educational package and three intervention workshops.

Development of a forensic educational package

The development of the forensic educational package was influenced by data collected from; stakeholder interviews, review of HospB and HospC policy and procedure manuals, results from the replication of Pasqualone’s study, and data collected from questionnaires completed by stakeholders. All of the data that influenced and contributed to the development of the forensic educational package contents and associated workshops will be examined below.

Stakeholder interviews

During the stakeholder interviews, each participant was asked to identify their perceptions of the three top forensic issues that were vital to include into an educational package developed for ED nurses. There were five topics that were identified repeatedly throughout all 22 interviews. These topics included; better identification of forensic patients by nursing staff, improved written documentation,

need for more training in relation to forensic evidence collection procedures, increased awareness of legal processes associated with forensic cases, and the need for better communication between forensic and healthcare agencies.

Review of policy and procedure manuals

The electronic and paper based policy and procedure manuals at both hospital B and C were reviewed in order to identify policies that might impact this study. This was done because the researcher was interested in identifying whether any information in current policy and procedure manuals would affect answers participants provided in the questionnaires and whether any information provided in the educational packages would contradict current hospital policies. For example, both HospB and HospC forensic evidence collection policies called for the treating medical officer to sign and seal the evidence bags. Such policy guidelines could affect the study in two ways. Firstly, participants were asked (question 12) to identify what information should be placed on each bag of evidence. If participants identified the treating medical officer as information that must be placed on each evidence bag, such answers could not be identified as incorrect. Secondly, such methods are not usual standards for forensic evidence collection and therefore were not going to be taught during the intervention workshops (Lynch, 2006; James and Nordby, 2003; Saferstein, 2004). Further details of this activity will be discussed under the two participant hospital headings below.

Hospital B

During the policy and procedure manual review the researcher identified eight policies that could have had an impact upon the educational package content solely because of the forensic associated content. For example, content within policies on child abuse and domestic violence could have suggestions about how such forensic patients needed to be treated according to law. Such information could have influenced the scoring of the questionnaire if the policy information was not in agreement or different from the best forensic practice standards that were being introduced to participants in the study workshops. Therefore, each policy was reviewed for content to establish if information could alter, influence or bias participant's questionnaire responses. The policy documents reviewed from this hospital included; management of alcohol withdrawal guidelines, nursing

documentation guidelines, not for resuscitation orders, disposal of human tissue guidelines, substance abuse patient management guidelines, occupational health and safety, infection control, and forensic evidence guidelines.

The only policy that the researcher felt may influence the questionnaire responses provided by participants was the hospital's forensic evidence guidelines policy. There were three areas of concern identified in this policy which included; a step-by-step guideline outlining how to preserve evidence, the absence of any discussion regarding the need to maintain a chain of custody, and the type of information staff should place on bags containing evidence. For example, the hospital's forensic evidence policy advised staff to seal evidence bags with a stapler instead of tape. Using a stapler is not a usual practice in standard forensic collection procedures and therefore not a practice that was included in this study (James and Nordby, 2003). Furthermore, in the step-by-step guidelines, staff were directed to hand evidence bags to security officers to allow for storage of such items. Again no mention of completing a chain of custody form was included in the policy nor did the policy insist that all evidence be placed in a locked cabinet so that the issue of evidence tampering was addressed.

After collating the questionnaire responses, the researcher was not surprised that questionnaire results were not altered by the existing forensic policy at HospB because responses from question 10 indicated that 52% of participants were not sure if the hospital had a forensic evidence guidelines policy. Additionally, 12 of 27 (45%) cited that the ED did not have a forensic evidence collection policy. There was only one (3%) participant, **HB29**, which correctly acknowledged the existence of the forensic evidence collection policy. It was interesting to note, that the responses to question 12 and 14 were not affected by **HB29's** knowledge of the existing forensic evidence guidelines policy.

These findings could be due to several facts. Firstly, after the researcher spoke with participants about this issue, it was discovered that many participants admitted that they did not read hospital policies unless they needed guidance or clarification regarding a specific clinical practice issue. Furthermore, the staff development nurse commented to the researcher that some policies are created in response to a specific

patient incidence to provide quality improvement. For example, if evidence had been discarded in an important case, a forensic evidence policy could have been updated and circulated to nursing staff. However, if this policy had not been regularly distributed some participants could have missed being exposed to such information or not employed with the hospital at the time of distribution. These types of reasons could account for participants being unaware of policies and their content.

Hospital C

While reviewing the policy and procedure manuals, the researcher identified 10 policy titles that had the potential to impact data collected in this study. There was a difference in the number of policies that were reviewed at HospB and HospC even though the same process was used at all hospital sites. Possible explanations might include that HospB provided healthcare services that combined private and public facilities whereas HospA and HospC was solely a tertiary public facility. Differences in administration, budgets, and legal obligations could account for the number and types of policies contained in each of the ED policy and procedure manuals.

Similar to HospB, each policy within HospC's policy and procedure manuals was reviewed for content to ensure that no conflicts were present that could alter, influence or bias information participants provided in their questionnaire or with guidelines developed for the educational package. The policy documents reviewed from this hospital included; mental health, forensic psychiatric (over dose), aggressive and disturbed patients, child maltreatment and/or neglect, domestic violence, standards for clinical documentation, coronial cases, occupational health and safety, infection control and forensic evidence.

All of the policies reviewed contained subheadings that included; the designation of the hospital personnel who were able to care for specific patient populations, patient outcomes, equipment required, and steps required to accomplish care for patients. An example of a policy reviewed from HospC can be seen in Appendix 26. Two of the policies (forensic psychiatric -over dose and forensic evidence) contained flow diagrams to assist nurses when providing care. Three policy documents (child maltreatment and/or neglect, domestic violence, standards for clinical documentation) cited additional manuals and resources that could be consulted for

further assistance. Three documents (child maltreatment and/or neglect, domestic violence, and coronial cases) contained phone numbers staff could use for further assistance and three documents (child maltreatment and/or neglect, mental health, and coronial cases) contained legal references.

Overall, the researcher believed only the hospital's forensic evidence guidelines policy could influence the study. Similar to HospB, the primary areas of concern included; a step-by-step guideline regarding preserving evidence, the absence of any discussion regarding the need to maintain a chain of custody, and the information staff should place on bags containing evidence. For example, the policy advised the healthcare worker to stick a patient's medical label to any paper bag containing evidence, that a stapler should be used to seal evidence bags, and that the treating doctor needed to sign the sealed evidence bags. Such practices were not usual forensic collection procedures and therefore not practices that were going to be included in this study (James and Nordby, 2003).

The above items were discussed with the ED manager who agreed that the study guidelines included in the educational package were best practice. Therefore, during the workshops, all participants were taught evidence collection techniques that differed from the hospital policy but were best practice. When scoring the pre-test questionnaires, the researcher gave full marks to any answers that corresponded to hospital policy information. As with HospB, there were no participants who provided responses to question 12 or 14 that were consistent with the hospital's forensic evidence collection policy information. In fact, data from question 10 indicated that 17 of 22 (77%) respondents did not know if the ED had a forensic evidence collection policy and five of 22 (23%) cited that the ED did not have any forensic evidence collection policy.

Replication of Pasqualone's study

All of the educational material contained within the package was guided by the results obtained from replicating Pasqualone's research. The 27 categories of forensic patients identified in that replication study provided the researcher with information about the specific material that needed to be included in the educational sessions. The workshop content, evidence collection protocols and information

sheets focused on procedures and patient care standards relating to the 27 forensic patient categories identified in the replication study. Complete data results from the replication study have already been discussed in Chapter 4.

Stakeholder questionnaires

All of the forensic stakeholders were requested to complete sections of the pre-test questionnaire associated with their area of expertise. The information collected from this activity was utilised to verify and confirm workshop content and formalise the questionnaire marking key. For example, the forensic scientist and forensic pathologist experts provided advice about evidence collection addressed in question 12. Such professional feedback assisted the researcher in ensuring the accuracy of the workshop content and how to rate specific questions.

There were no major alterations that took place once all of the expert feedback had been analysed. The majority of feedback provided support to the methods that were contained within the educational package. There were, however, minor suggestions that the researcher acted upon. Many of the minor changes involved how different types of evidence were to be preserved. Some of the answers to specimen collection in question 12 went from being a one right response to having two or three correct options. For example, the packaging of debris (glass, paint chips, soil, and fingernail clippings) was originally to be collected in an envelope. However, both the forensic scientist and forensic pathologist experts agreed that such samples could also be effectively preserved in a yellow capped plastic specimen jar.

Overall, the framework and contents of the forensic education package was greatly influenced by three primary data sources. This data included stakeholder interviews, information gathered from the replication of Pasqualone's study, and the responses collated from the questionnaires completed by the stakeholders. The completion of such activities with the subsequent development of the educational package allowed the researcher to fulfil study objectives one and two. In order to fulfil study objectives three, four, five, and six, the researcher utilised data from the pre and post-questionnaires and other activities outlined in Figure 3.1. The data that address the study objectives three, four, five, and six will be discussed below.

Nurse perceptions on roles and responsibilities

From the 18 core questions, 12 (questions 4, 6, 7, 8, 9, 13, 15, 16, 17, 18, 19, and 20) focused upon the perceptions Western Australia emergency department RNs had regarding their roles and responsibilities related to forensic patient care. The 12 questions related to different aspects of nursing roles and responsibilities concerned with forensic patient care. The data collected was ratio level data as the scale of the scores had a possible range of between absolute zero and a maximum score of 41. After consulting with a statistician, a t-Test was suggested to examine the scores of the pre and post-questionnaire data.

Hospital B

The pre-test questionnaire data revealed that HospB participants had a mean score of 22.04 out of 41 (53.8%), while HospC participants mean score was 23.82 (58.1%). Using an independent t-Test, these scores did not prove to be statistically significant (see Tables 5.6 and 5.7). The second table, titled Independent Samples t-Test for HospB and HospC Pre-Questionnaire Roles and Responsibility Scores (Table 5.7), contains Levene's Test for Equality of Variances. This test indicates whether the variances for the two groups being compared are equivalent (Munro, 2001). If the Levene's test is not significant (Sig. is greater than .05), the two variances are considered not significantly different. From Table 5.7, the significance is .121, which is greater than .05. Therefore, by reading the top line in Table 5.7 (equal variances assumed), the pre-questionnaire data findings indicated (t value is 1.1) that the participants from both hospitals had similar perceptions about what was and was not part of their roles and responsibilities surrounding forensic patient care.

Hospital C

When the pre and post-questionnaire scores from HospC were compared (see Table 5.8), the descriptive statistics revealed that there was an increase in the mean score from 23.82 (58.1%) to 31.09 (75.8%). This was an overall increase of 17.7%. Using a dependent paired t-Test, these scores proved to be statistically significant (see Tables 5.8, 5.9 and 5.10). The second table, titled Paired Samples Correlations of HospC Pre and Post-Test Questionnaire Role and Responsibility Scores (Table 5.9), provided the correlation statistic between the two variables (pre and post role and

Table 5.6: Group Statistics for HospB and HospC Pre-Test Questionnaire Role and Responsibility Scores

Group		N	Mean	Std. Deviation	Std. Error Mean
Pre-Questionnaire Role Score	HospB	27	22.0370	6.36989	1.22589
	HospC	22	23.8182	4.57359	.97509

Table 5.7: Independent Samples t-Test for HospB and HospC Pre-Test Questionnaire Roles and Responsibility Scores

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Upper	Lower
Pre-Role Score	Equal variances assumed	2.499	.121	1.100	47	.277	1.78114	1.61944	-1.47675	5.03904
	Equal variances not assumed			1.137	46.341	.261	1.78114	1.56640	-1.37123	4.93351

Table 5.8: Paired Samples Demographic Statistics of HospC Pre and Post-Test Questionnaire Role and Responsibility Scores

		Mean	N	Std. Deviation	Std. Error Mean
Hosp C	Pre Role Score	23.8182	22	4.57359	.97509
	Post Role Score	31.0909	22	3.36522	.71747

Table 5.9: Paired Samples Correlations of HospC Pre and Post-Test Questionnaire Role and Responsibility Scores

		N	Correlation	Sig.
Hosp C	Pre Role Score & Post Role Score	22	.663	.001

Table 5.10: Paired Samples t-Test of HospC Pre and Post-Test Questionnaire Role and Responsibility Scores

		Mean	Std. Deviation	Std. Error Mean	Paired Differences		t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
					Upper	Lower			
Hosp C	Pre Role Score – Post Role Score	-7.27273	3.43902	.73320	-8.79750	-5.74795	-9.919	21	.000

responsibility scores). A result of .663 indicates that there is a strong positive correlation between the two variables (pre and post role and responsibility scores).

The table titled Paired Samples t-Test of Pre and Post-Test Questionnaire of HospC Role and Responsibility Scores (Table 5.10) contains the statistical results of the pre and post- questionnaire paired samples test. The observed t -value, calculated as the mean difference (-7.27273) divided by its standard error (.733) is -9.919. The computed p -value had been shown to be .000. SPSS rounds off p -values to three decimal places (Kirkpatrick and Feeney, 2003). Therefore, any p -value less than .0005 is printed as .000. To verify this result, the researcher consulted experts to determine the critical t -value associated with 21 degrees of freedom and an alpha level of .001 (Munro, 2001, p.421). The tables indicated that a critical $t_{.001}(21) = 3.819$. The observed t -value of -7.27273 is greater than the critical t -value of 3.819. In other words, the statistical analysis support the argument that the educational package significantly altered the perceptions the treatment group nurses had regarding their roles and responsibilities associated with forensic patient care.

Question number four in the pre-test questionnaire asked the participant directly who they perceived as being responsible for addressing forensic patient needs. It was interesting to note that the majority of participants felt nurses, doctors and police were responsible for forensic patient care (see Table 5.11 below). The results from the pre and post test scores for HospC participants indicated that the educational package affected participant perceptions. The post scores showed a shift in perception with 100% of responses agreeing that nurses, doctors and police were all responsible for forensic patient care. The shift in perception came from five participants, who on the pre-test, indicated that the police or the individual (forensic patient) themselves were responsible for addressing forensic patient needs.

Although the data from the pre and post-test questionnaires indicated that participants were more accepting of their roles and responsibilities regarding the provision of forensic patient care, some participants still felt apprehensive and confused. For example, during the focus group interviews, participant **HC33** stated:

Once again back to the lady and daughter of the attempted murder/suicide. I did not know how much information I could give her without jeopardizing the case. I wanted to know what I can say to people. What do police expect from us? Who tells the lady what she wanted to know? It was very difficult and confusing.

Table 5.11: Professional Responsibility to Provide Forensic Patient Care

Participant	Person Who is Responsible for Taking Care of Forensic Care Issues			
	Nurses	Doctors	Police	Up to each individual (forensic patient)
Control	74.1%	81.5%	85.2%	7.4%
Treatment				
Pre	81.8%	81.8%	90.9%	9.1%
Post	100%	100%	100%	0

To address the study objectives four, five and six, a detailed evaluation of the questionnaire results, chart check audit data, and the forensic kit contents is required. The discussion that follows will address each of these study aspects independently.

Educational package effectiveness

To assess whether the forensic educational package was effective, data from six sources was considered and analysed. Data sources included; questionnaire results, chart check audits, forensic kit supplies, workshop evaluations, follow-up interviews, and the researcher’s phone log. The researcher was interested in identifying any increase in forensic related knowledge, whether the educational package promoted change in nursing practice, whether forensic kit items were utilised, and if the participants found the educational tools useful and effective. To evaluate the overall effectiveness of the educational package and identify whether any changes in nursing practice occurred, an in-depth evaluation of the six sources of data will be discussed below.

Questionnaire results

There were 18 identical core questions contained in both the pre and post-questionnaire that were used during the data analysis phase. Data collected from the pre and post-test questionnaire was recorded in a ratio scale. In other words, all of the questions in the pre and post-test questionnaire had the possibility of obtaining a score of absolute zero that was not arbitrary. In addition, all scores obtained by each

participant had equal intervals between them (Munro, 2001). In other words, the intervals between scores were noted in whole numbers such as a score of 42 versus a score of 45. In this chapter, all references made about particular question numbers in all discussions, tables, and charts will reflect the order in which they occur on the pre-test questionnaire. The 18 core questions did not appear in exactly the same order on the pre and post-test questionnaire due to a slight variation in questionnaire content (see Appendix 5 and 6 respectively).

Overall, there were five questions that differed between the pre and post-test questionnaire. Questions one and 10 only appeared on the pre-test questionnaire and questions six, 14, and 22 only appeared on the post test questionnaire. The reason for the variation in question content was that some questions related specifically to treatment group participant experiences. For example, question six on the post-test questionnaire asked treatment group participants if they gained useful forensic knowledge during their involvement in the study whereas post-test question 14 asked participants whether they felt their forensic knowledge had increased due to their involvement in this study.

All of the quantifiable data from the questionnaires was subjected to analysis using the Statistical Package for Social Sciences (SPSS), Version 15. A comparison of HospB and HospC pre-test data will be discussed initially under the heading of pre-test data. Following on from this discussion will be a comparison of pre versus post-test under individual hospital headings. Finally, a qualitative evaluation on post-test data from HospB and HospC will conclude this section on questionnaire results.

Pre-test data

The overall mean from the 18 core questions was tabulated for all HospB and HospC participants who completed and returned the pre-test questionnaire (see Table 5.12). In addition, a mean score for individual core questions was also calculated by adding together all of the participant responses from each question and dividing it by the total number of hospital participants from the two study sites. The results of this analysis can be found in Table 5.13 and 5.14. A pictorial depiction of the mean pre-test questionnaire scores of HospB and HospC participants is shown below in Figure 8.

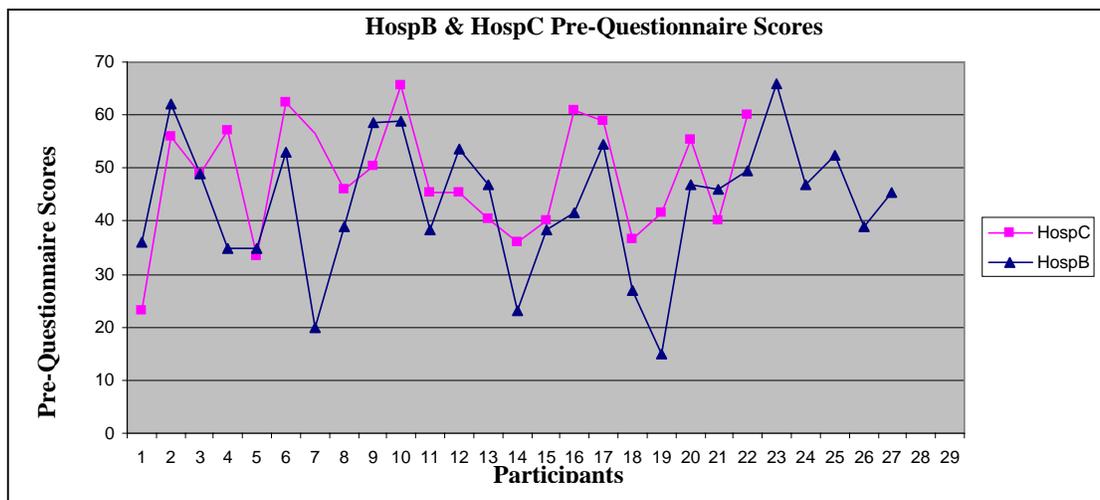
Table 5.12: HospB and HospC - Comparison of 18 Core Question Pre-Test Score Results

Question	Pre-score HospB Average N = 27	Pre-score HospC Average N = 22	Score Difference HospB - HospC	Total Score Possible
2	1.33	0.48	+0.85	2
3	11.55	14.09	-2.54	25
4	3.04	3.68	-0.64	5
5*	Personal opinion answer requested. No right or wrong answer.			
6	5.70	7.14	-1.44	11
7	4.37	4.32	+0.05	5
8	0.59	0.41	+0.18	1
9	0.37	0.54	-0.17	2
11*	Personal opinion answer requested. No right or wrong answer.			
12	6.30	6.68	-0.38	15
13	2.63	3.23	-0.60	6
14	3.22	3.36	-0.14	6
15	0.22	0.09	+0.13	1
16	1.26	1.45	-0.19	4
17	0.89	0.54	+0.35	1
18	1.63	1.45	+0.18	2
19	0.52	0.45	+0.07	2
20	0.67	0.41	+0.26	1
Total	43.61	48.18	-3.03	88
Percentage	49.56%	54.75%	-3.45%	

*Scores from these questions were not factored into the final score.

The overall pre-test questionnaire scores from the 18 core questions were analysed with SPSS using an independent *t*-Test. The descriptive data from the pre-test questionnaire revealed that HospB participants had an overall pre-test questionnaire mean score of 43.61 out of 88 (49.6%) while HospC participants had an overall pre-test questionnaire mean score of 48.18 (54.7%). Using an independent *t*-Test, these scores did not prove to be statistically significantly (see Tables 5.13).

Figure 8: HospB and HospC Pre-Test Questionnaire Scores



The second table titled Independent Samples Test for HospB & HospC 18 Core Pre-Questionnaire Scores (Table 5.14), contains Levene’s Test for Equality of Variances. From Table 5.14, the significance value is .684, which is greater than .05. Therefore, by reading the top line in Table 5.14 (equal variances assumed), the pre-test data findings indicated (T value is 1.328) that the participants from both hospitals had similar overall forensic knowledge before any of the study interventions were commenced. In other words, this test revealed that the pre-test scores from both HospB and HospC participants were not significantly different.

In addition to the calculation of the overall mean pre-test questionnaire score, the mean of each core pre-test question was calculated and compared between HospB and HospC to discover if any large discrepancies existed between specific questions. For the majority of questions (13 of the 18 or 72%), the mean difference was small (ranging between .05 and .38). There were five questions (two, three, four, six, and 13) where the mean scores between the two hospitals differed by more than .5. For example, HospB participants obtained a mean of 11.55 out of a possible 25 for question 3, while HospC participants had a mean of 14.09 (a difference of 2.54). This was the largest difference noted of any of the questions when hospital scores were compared.

Table 5.13: Group Statistics for HospB & HospC 18 Core Pre-Test Questionnaire Scores

Group	N	Mean	Std. Deviation	Std. Error Mean
HospB	27	43.6111	12.66608	2.43759
HospC	22	48.1818	11.06963	2.36005

Table 5.14: Independent Samples Test for HospB & HospC 18 Core Pre-Test Questionnaire Scores

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	.167	.684	1.328	47	.190	4.57071	3.44056	-2.35080	11.49222
Equal variances not assumed			1.347	46.741	.184	4.57071	3.39289	-2.25590	11.39732

Although question two only had a total possible score of two, this question displayed the third largest mean difference between the hospital sites. Question two asked participants to define forensic nursing. A response received the maximum of two points if the participant stated that forensic nursing incorporated nursing practice and the law. Partial marks were also allocated to responses where participants included the existence of legal topics and issues.

For example, **HC29** defined forensic nursing as “involves being aware/preserving any evidence, that may be needed for further investigations of criminal activity, abuse”. Such a response received credit for being partially correct. In the post-questionnaire answer, **HC29** defined forensic nursing as “collection of data in such a way that preserves a chain of evidence should it be required at a later date by courts of law”. Due to the mention of a connection with the law, such a definition received full credit for being correct or two marks.

The numbers of partial and completely correct responses obtained from HospB and HospC participants in their pre -test questionnaires were similar. On the pre-test questionnaire, four HospB participants (14.8%) received full marks for their forensic nursing definition as compared to three HospC participants (13.6%). The similarities in correct responses suggest that both groups had similar knowledge regarding their ability to define forensic nursing.

However, the researcher did note that HospC participants did show a slightly higher percentage (45.4%) of partially correct answers than HospB participants (33.3%). This result could be due to the fact that HospC had twice the number of participants who were over 40 years old and participants also had a higher mean number of years working in the ED than participants from HospB (17 and 11 years respectively). It is possible that the greater amount of life experiences and exposure to the ED environment could account for the differences between HospB and HospC responses. The results of this question analysis can be found in Table 5.15 below.

Table 5.15: HospB and HospC Pre-Test Results for Definitions of Forensic Nursing

Definition Score	HospB Pre-test score N=27	HospC Pre-test score N=22
Blank or “No idea”	9 33.3%	7 31.8%
Wrong	5 18.5%	2 9.1%
Partially correct	9 33.3%	10 45.4%
Correct	4 14.8%	3 13.6%

A question that produced a surprisingly low mean score difference (0.38) was question 12. Question 12 asked participants to identify how certain forensic evidence samples should be collected and stored. Many of the forensic evidence items listed in question 12 contained items that would have been routinely encountered by nursing staff who work in the ED setting. Regular exposure to such items may account for the similarity in scores between hospital sites. Participants could have been familiar with how to collect and store common types of evidence (such as clothes) and therefore had some common knowledge and experience about the collection process of such items.

There were two questions (five and 11), that due to the nature of the question, the responses were not factored into the final mean score. These two questions required participants to provide their personal opinion; therefore, a judgement regarding any absolute correctness could not be established and therefore the questions were excluded from the overall mean average calculations. In addition, question five asked participants if they believed they had enough forensic knowledge to address their patient’s needs. It was interesting to note that only one participant from HospC answered yes to this question. All other participants felt they did not have enough forensic knowledge to address their patient’s needs. Of further interest was that the participant who thought they had enough forensic knowledge only obtained a total pre-test questionnaire score of 48 out of a total of 88 (54%).

Question 11 asked participants to identify the areas that they would like more forensic education about. Once again, the results of this question were similar

between HospB and HospC. At both hospital sites, legal issues was the forensic topic the majority of participants ranked least important to include in future forensic educational material in relation to the remaining topics of forensic patient identification, documentation, and evidence collection. The detailed results of this question can be seen in Table 5.16 below.

Table 5.16: Topics of Forensic Educational Requested by HospB and HospC Participants

Topics of Requested Forensic Education	HospB N=27	HospC N=22
Legal issues	21 (78%)	17 (72%)
Forensic patient identification	23 (85%)	21 (95%)
Documentation	24 (89%)	20 (91%)
Evidence collection	24 (89%)	22 (100%)
Other	1 - “everything”	0
Satisfied with current knowledge	0	0
No response	1	0

Lastly, there were two questions that appeared only on the pre-test questionnaire, question one and 10. Question one on the pre-test questionnaire asked participants whether they felt having updated forensic knowledge was important. The majority of participants from HospB (63%) and HospC (73%) agreed that updated forensic knowledge was crucial in their work environment (see Table 5.17 below).

Table 5.17: The Importance of Updated Forensic Knowledge

Study Site	Pre-Test Question One		
	Yes	No	No response
Hosp B N = 27	17 63%	2 7%	8 30%
HospC N = 22	16 73%	1 4%	5 23%

Question 10 asked participants whether educational material describing how to handle forensic evidence was available in the ED. There was only one participant from HospB that correctly answered this question. The researcher was surprised to

find that only one person out of 49 participants knew the correct answer as both hospitals did have policies that discussed how to handle forensic evidence.

Overall, the statistical analysis of the pre-test questionnaire scores between HospB and HospC indicated that initial participant knowledge regarding forensic nursing issues was similar among all study participants before any of the study interventions were commenced. Below the discussion will focus upon data analysis of the second post-test questionnaire. To maintain consistency, the post-test questionnaire data analysis results will be discussed under the two study hospital sites (HospB and HospC).

Hospital B

Unfortunately, a large drop out rate was observed when HospB participants were requested to complete and return their post-test questionnaire. Each participant was contacted twice about returning their post-test questionnaire; however, only seven of the original 27 participants (26%) followed through and returned their completed second questionnaire. Due to the small number of control group participants who completed and returned a pre and post-test questionnaire, statistical investigations used to identify the existence of any relationships between pre and post-test questionnaire data was not possible. Therefore, the researcher was unable to comment whether the educational package made a significant difference to participant knowledge as indicated by comparing HospB and HospC pre and post-test questionnaire scores.

Hospital C

The pre and post-test questionnaire means from the 18 core questions were tabulated for HospC participants (see Table 5.18). The data analysis revealed that there was an increase of 23.11% between the pre and post-test questionnaire mean for HospC participants. The pre-test questionnaire mean increased from 48.18 to a post-test mean score of 68.52. Once again, due to the nature of the question, the responses to question 5 and 11 were not factored into the final questionnaire mean. These two questions requested a personal opinion from the participant and therefore a correct answer could not be established.

Table 5.18: HospC – Pre and Post-Test Questionnaire Results

Question	Pre-score Average N=22	Post-score Average N=22	Score Difference	Total Score Possible
2	0.48	1.07	+0.59	2
3	14.09	22.41	+8.32	25
4	3.68	4.59	+0.91	5
5*	Personal opinion answer requested. No right or wrong answer possible.			
6	7.14	8.27	+1.13	11
7	4.32	4.77	+0.45	5
8	0.41	0.95	+0.54	1
9	0.54	1.09	+0.55	2
11*	Personal opinion answer requested. No right or wrong answer possible.			
12	6.68	9.68	+3.00	15
13	3.23	5.23	+2.00	6
14	3.36	4.45	+1.09	6
15	0.09	0.23	+0.14	1
16	1.45	2.18	+0.73	4
17	0.54	0.82	+0.28	1
18	1.45	1.73	+0.28	2
19	0.45	1.00	+0.55	2
20	0.41	0.82	+0.41	1
Total	48.18	68.52	+20.97	88
Percentage	54.75%	77.86%	+23.11%	

*Scores from these questions were not factored into the final score.

The statistical analysis completed on HospC pre and post-questionnaire data is presented in Tables 5.19-5.21. A pictorial representation of the mean score differences can be seen in Figure 9 and Figure 10.

The demographic statistics (see Table 5.19) revealed that there was an increase in the mean questionnaire score from pre-test mean of 48.18 (54.75%) to a post-test mean score of 68.52 (77.86%). This was an overall increase of 23.11%. Furthermore, it was noted that there were similar pre and post standard deviation values (pre=11.06 and post=8.68) which indicated that there was low variability of the sample mean about the true population.

Figure 9: HospC Pre and Post-Test Questionnaire Scores

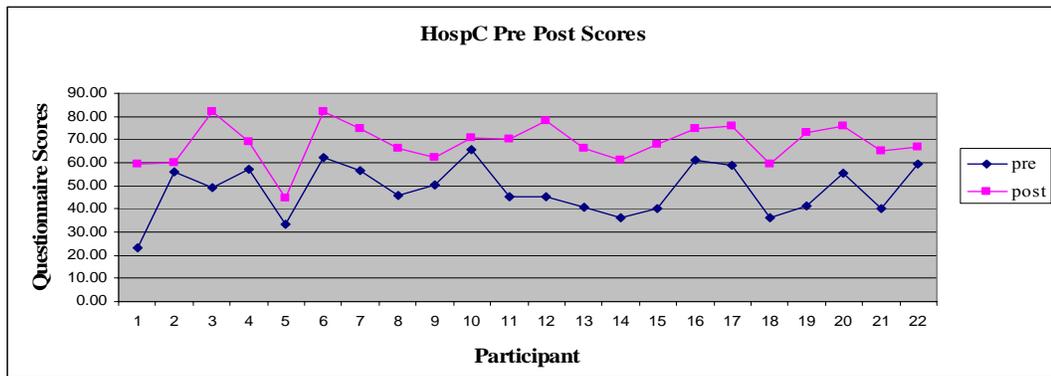
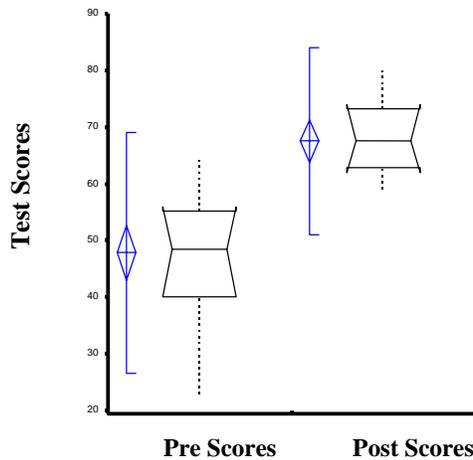


Figure 10: HospC - Mean Difference between Pre and Post-Test Questionnaire Scores



The second table, titled Paired Samples Correlations for HospC Pre and Post-Questionnaire Scores (Table 5.20), provided the correlation statistic between the two variables. The results of .589 indicate that there is a strong positive correlation between the two variables. Correlations of .35 or higher are considered significant (Munro, 2001).

Lastly, the scores were analysed with a Dependent-Paired Samples t-Test. The results of this test revealed that the pre and post score were significantly different at a level of <math><0.0001</math>. The observed t-value was calculated as the mean difference (-20.34) divided by its standard error (1.96) which gave a value of -10.371. The computed p -value has been shown to be .000. Statistical tables indicated that a critical $t_{.001}(21) = 3.819$ (Hicks, 2004, p. 278). The observed t -value of -10.371 is greater than the

Table 5.19: Paired Samples Demographic Statistics for HospC Pre and Post-Test Questionnaire Scores

HospC	Mean	N	Std. Deviation	Std. Error Mean
Pre-score	48.1818	22	11.06963	2.36005
Post-score	68.5227	22	8.68013	1.85061

Table 5.20: Paired Samples Correlations for HospC Pre and Post-Test Questionnaire Scores

	N	Correlation	Sig.
Pair 1 HospC Pre-score & Post-score	22	.589	.004

Table 5.21: Paired Samples Test for HospC Pre and Post-Test Questionnaire Scores

	Paired Differences	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1 CPrescore - CPostscore		-20.34091	9.19936	1.96131	-24.41968	-16.26214	-10.371	21	.000

critical *t*-value of 3.819. In other words, the statistical analysis indicates that the forensic educational package did have a significant effect on the difference in pre- and post-intervention questionnaire scores.

Participants were asked to define forensic nursing in both the pre and post-test questionnaire (question 2 and 1 respectively). There was a big difference in the number of partial and completely correct responses HospC participants provided on their pre and post-test questionnaires. On the pre-test questionnaire, only three participants (13%) received full credit marks for their forensic nursing definition. However, on the post-test questionnaire, the number of participants who received full credit marks for their forensic nursing definition increased from 3 on the pre-test questionnaire to 11 (50%) on the post-test questionnaire. In addition, the number of partial credit marks decreased from 45 percent (10 participants) to 27 percent or 6 participants. Finally, the number of incorrect answers, questions left blank or “no idea” responses decreased from 32% to 23 % (see Table 5.22). Such findings support the argument that the forensic educational package was successful in increasing forensic knowledge of HospC participants.

Table 5.22: HospC Definitions of Forensic Nursing

Definition Results	n = 22			
	Pre Education score	Pre Education %	Post Education score	Post Education %
Left Blank	5	32	5	23
“No idea/ Unknown”	1		0	
Wrong	1		0	
Partial credit	10	45	6	27
Correct	3	13	11	50

Question 11 on the pre-test questionnaire, asked participants to indicate the topics of forensic education they believed would benefit their practice. The responses indicated that none of the participants were satisfied with their current level of forensic knowledge. All participants indicated that the four questionnaire options (legal issues, documentation, evidence collection, and forensic patient identification) would be of similar importance to include in any future educational workshops (see Table 5.23).

Table 5.23: HospC Forensic Educational preferences

N = 22	Pre-test preferences	Post-test preferences
Legal issues	17	8
Forensic patient identification	21	2
Documentation	20	4
Evidence collection	22	2
Other	0	3
Satisfied with current knowledge	0	10
No response	0	1

It was interesting to note that the post-test preferences for post-test question 10 were vastly different from the pre-test responses. Unlike the pre-test, there were 10 participants that indicated that they were satisfied with their level of forensic knowledge. Eight participants indicated that they would like more forensic education relating to legal issues, four for documentation, two for evidence collection and forensic patient identification and one participant did not respond to this question (see Table 5.23). There were three participants that ticked “other”. All three “other” responses indicated that participants would like regular updates to reinforce the educational content and be provided with any updated information.

Question one in the pre-test questionnaire explored whether participants believed updated forensic knowledge was crucial to have in their work environment. The results from this question indicated that the majority of HospC participants (72.7%) thought that forensic knowledge was crucial for their unit. There was one participant who believed that forensic knowledge was not crucial for their unit and five participants responded that they did not know.

It was interesting to note that the one participant, **HC20**, who believed that forensic knowledge was not crucial for their unit also indicated that they believed they did not have enough forensic knowledge to address their patient’s needs on both the pre and post-test questionnaire (question 5 and 4 respectively). Furthermore, in the post-test questionnaire, **HC20** commented that, “I am more aware of forensic issues with my

nursing practise and will collect evidence and preserve evidence on patients better now”.

The five participants (**HC8, HC12, HC14, HC16, and HC21**) who responded that they did not know if forensic knowledge was crucial for their unit all responded that they did not have enough forensic knowledge to address their patient’s needs (pre-test question 5). These five participants provided mixed responses in their post-test questionnaires. **HC14** did not believe they had enough forensic knowledge to address their patient’s needs, **HC8** believed they did, and **HC12, HC16, and HC21** responded they did not know. Similar to **HC20**, all five participants demonstrated an increase in their post-test questionnaire scores by an average of 15 marks. Finally, comments from all five participants indicated that they found the information from the workshops valuable. For example, **HC12** stated, “Forensic nursing is all new to me. The package info made me aware of the ‘forensic side’ of things and also altered my way of documenting”.

There were three questions that were unique to the post-test questionnaire (questions six, 14, and 22). These questions only appeared on the post-test questionnaire completed by HospC participants. All three questions requested information that could only be provided by those participants who were exposed to the content of the educational package. Of the 22 participants, 21 (95%) believed they gained useful forensic knowledge from the workshops (question six). This data adds strength to the suggestion that the educational package was successful. Furthermore, there was only one participant who ticked the response “do not know” to question six.

Question 14 requested participants to indicate the areas of forensic knowledge that had increased due to their involvement in the study. There were four options available including; legal issues, forensic patient identification, documentation and evidence collection. An option of “other” was also included in case participants wanted to add their own topics. The results of the pre and post-test data enabled the researcher to further evaluate the educational package’s level of success. The comparison of pre and post-test data allowed the researcher to identify whether the areas for educational focus identified on the pre-test questionnaire had been addressed satisfactorily in the workshops. Responses in the post-test data suggested

that participants felt that there had been overall improvements made in their knowledge base.

There were 12 of the 22 participants (55%) that believed their forensic knowledge had improved in all four areas (legal issues, forensic patient identification, documentation and evidence collection). Eight of the 22 participants (36%) believed their forensic knowledge had improved in three of the four identified areas. Two participants (9%) cited improvement in one of the four identified areas. The area most participants sited for improvement was documentation with forensic patient identification and evidence collection following in the post-test ranking (see Table 5.24).

Table 5.24: HospC Forensic Educational Improvement

N = 22	Area for educational focus Pre-test	Areas of identified Improvement Post-test
Legal issues	17	13
Forensic patient identification	21	20
Documentation	20	21
Evidence collection	22	20
No response	0	0

Pre and post-test question 15 dealt with issues surrounding Australia's National *Privacy Act*. This question, overall, was the most frequently missed question on both the pre and post-test questionnaire. Although the number of HospC participants that answered this question incorrectly decreased from 21 to 17, such results indicated that case study scenarios that dealt with legal issues were an area in need of further attention. Overall, legal questions contained within the questionnaire and legal issues discussed within the workshop attracted the highest level of incorrect responses and the greatest level of participant interest. Due to the importance and interconnectedness of the law and forensic nursing principles, it is important that future nursing education focus on legal practices.

Question 22 provided space for participants to comment about the workshop content, tools provided, any experiences they wanted to share, or suggestions relating to their involvement in this study. There were five participants who did not comment under this question. Overall, the comments could be grouped under three main topics. The three main ideas were that the information provided made participants more aware of forensic issues; the workshops were informative; and that more workshops of this nature would be appreciated. For example, **HC12** commented, “The forensic package and information made mw aware of the forensic side of things and also altered my way of documenting and the care I give to my patients”. Additionally, **HC3A** stated, “Informative. Interesting. You have given us valuable information”. Lastly, **HC30** stated, “The information provided has made me more aware of patients that I previously would not have thought of as forensic. I would love to have more sessions”. There was one participant, **HC20**, who comments about the educational package by stating, “The information given was rushed at times. The forensic files around the department made the information easily accessible and were good”.

Yet again, such findings support a conclusion that the educational package was beneficial to participants involved in this study. The above educational topics identified by the participants as topics of interest for future forensic education correlate to the main themes identified by the stakeholders during the stakeholder interviews. This cross over support provided strength and confidence to the overall study findings regarding the effectiveness of the educational package and the importance of partnering professional expertise with clinical demand.

Unfortunately, the researcher was only able to collect seven of the post-test questionnaires from HospB participants. Upon consultation with a statistician, the researcher was advised that any comparison between HospB and HospC post questionnaire data would be inappropriate due to the high drop out rate from HospB participants. However, substantial qualitative evidence from numerous other data sources was collected and will be discussed below.

Chart check audits

To assess whether participants utilised the forensic kit supplies and whether the educational package generated any change in nursing practice, the researcher audited

the medical records of forensic patients cared for by HospB and HospC participants. During the chart check audits, the researcher monitored participant nursing documentation and also screened each patient record for the presence of forms introduced during the workshops (HospC participant charts only). Forms of interest included; body diagrams, chain of custody forms and patient consent forms. The following discussion will focus on data collected during all participant chart check audits and findings that resulted from comparing HospB and HospC data.

There were 15 items that were monitored during the chart check audits. Items included: category of forensic patient (1-27), triage category (1 – 5), time of presentation to ED triage nurse, time seen by ED nursing staff, time left ED, discharge destination, total time spent in ED, nurses description of patient injuries, nurses documentation of the measurements of patient injuries, documentation of patient's history using quotes, documentation by nurses of notifying authorities regarding the patient's condition or presence in the ED, evidence collected, proof of how (if applicable) chain of custody was maintained, whether the patient was given referral numbers upon their discharge, and if the patient outcomes were documented. The reasons why each of the categories were included in this study will be included in the discussion for each separate category below.

Category of forensic patients

There were two chart check audits conducted at HospB and three at HospC (see Table 5.25). One pre-test audit took place at both hospital B and C while one post-test audit was completed at HospB and two post-test audits at HospC. Overall, 144 charts were audited at HospB and 221 charts at HospC. Of the 27 forensic patient categories outlined in Chapter 4, 15 of the 27 forensic patient categories were represented during the chart audit process. Furthermore, in total, there were 170 occasions where forensic patient categories were identified during HospB's chart check audits and 279 occasions during HospC's chart check audits. In other words, some of the forensic patients identified during this chart audit fell into more than one forensic patient category, therefore, a single patient could account for two or more occasions where forensic patient categories were identified.

Table 5.25: Forensic Patient Categories Encountered at HospB and HospC

*Forensic Patient Category		Hosp B		Hosp C	
		N= 170 charts		N= 279 charts	
1	Substance abuse	53	31.18%	64	23.79%
2	Occupational-related injury	10	5.88%	33	12.27%
3	Assault and battery	24	14.12%	42	15.61%
4	Transportation injury	41	24.12%	64	23.79%
5	Forensic psych	25	14.71%	37	13.75%
6	Child abuse	0		3	1.12%
7	Personal injury	4	2.35%	4	1.49%
8	Control of Communicable diseases	0		0	
9	Human and Animal bites	3	1.76%	8	2.97%
10	Medical malpractice and/or negligence	1	0.59%	0	
11	Not For Resuscitation (NFR)	1	0.59%	0	
12	Domestic Violence	1	0.59%	2	0.74%
13	Toxic Exposure	0		3	1.12%
14	Sharp force injury	0		0	
15	Elder abuse and neglect	0		0	
16	Firearm injury	0		0	
17	Organ and tissue donation	0		0	
18	Questioned death cases	0		1	0.37%
19	Abuse of the disabled	1	0.59%	0	
20	Sexual assault	0		0	
21	Clients in police custody	6	3.53%	18	6.69%
22	Burns over 5% BSA	0		0	
23	Transcultural medical practices	0		0	
24	Victims of mass destruction and terrorism	0		0	
25	Food and drug tampering	0		0	
26	Product liability	0		0	
27	Gang violence	0		0	

*The numerical listing of forensic categories occurs in the same order as cited in Chapter 4.

The chart audit data revealed that the top five most frequently encountered forensic patient categories were the same at HospB and HospC. In addition, the top five forensic patient categories accounted for 90% of the forensic patient types seen at HospB and 89.2% at HospC. The order of the most frequently seen forensic patient categories at HospB was 1, 4, 5, 3, and 2; whereas at HospC the order was 1 and 4 equal top, 3, 5, and 2. Overall, the findings surrounding types and frequency of forensic patients encountered during the chart check audits were similar at both HospB and HospC.

Triage category

The triage category was monitored during the chart check review because it is important that healthcare professionals have an appreciation that, over time, forensic evidence can degrade, get lost and be transferred on and between surfaces (James and Nordby, 2003; Lynch, 2006). According to Saferstein (2004, p43), changes in forensic evidence can arise through, “contamination, breakage, evaporation, accidental scratching or bending, or loss through improper or careless packaging”. Therefore, consideration should be given to physical and mental injuries as well as evidentiary issues when assessing and assigning triage categories to forensic patients. Due to the complex nature of forensic cases, intact forensic evidence may be crucial in resolving legal proceedings and obtaining justice (Pasqualone, 2003). During all of the chart check audits, the triage category of one to five was noted for every chart reviewed. The frequency of occurrence for each triage category was tallied and documented. The results of such data are described below in Table 5.26.

Table 5.26: Triage Score of Forensic Patients

Triage Category	Hosp B N = 221		Hosp C N= 144	
1	3	2.1%	3	0.9%
2	24	16.7%	35	15.8%
3	63	43.7%	78	35.3%
4	44	30.6%	80	36.2%
5	10	6.9%	25	11.3%

Nearly three quarters of all forensic patients treated at HospB (74.3%) and HospC (71.5%) were assigned a triage score of 3 (urgent) or 4 (semi-urgent). The frequency of the remaining triage scores (1, 2, and 5) assigned to forensic patients were the

same at both hospitals. In other words, after triage category 3 and 4, the most frequent triage category forensic patients received at both hospitals was a 2 (emergency), then a category 5 (non-urgent), and lastly, a 1 (resuscitation). Both HospB and HospC had three patients that were triaged as a priority one resuscitation.

Time of presentation to ED

There was no prior research that discussed times of the day most forensic patients present to the ED. The researcher thought this may be important for staffing issues and therefore could impact on forensic patient care. Therefore, to investigate when most forensic patients present to the ED for treatment, the time each forensic patient presented to the ED was recorded. The data collected has been presented in four hour time periods (see Table 5.27). The data indicated that there was no specific time of the day where forensic patient presented more frequently to the ED. However, the data did indicate that the time of day when the least number of forensic patients were seen at HospB (5.6%) and HospC (10.4%) was between the hours of four and eight in the morning.

Table 5.27: Times Forensic Patients Visited ED

Time presented to Triage	Hosp B N= 144		Hosp C N= 221	
0001 – 0400	28	19.4%	37	16.7%
0401 – 0800	8	5.6%	23	10.4%
0801 – 1200	23	16.0%	38	17.2%
1201 – 1600	29	20.1%	45	20.4%
1601 – 2000	22	15.3%	42	19.0%
2001 – 2400	34	23.6%	36	16.3%

Discharge from ED

On the back page of each triage form at HospB and HospC there is an option box relating to patient discharge information. It is hospital policy (at HospB and HospC) that all nursing staff complete such documentation by placing an “X” in a box that best describes where the patient was going once they left the ED environment. The options included; home, nursing home, hostel, transferred (to another facility), admitted, did not wait (DNW), discharged against medical advice (DAMA), and other (with space to specify).

The importance of knowing where the forensic patient was heading upon discharge from the ED could be vital when dealing with issues such as chain of custody and legal interventions. For example, a patient may be transferred to another facility with forensic evidence remaining on their person. The time a patient left the ED and their documented destination may prove vital if an issue such as evidence degradation or contaminations was brought up during legal proceedings. A documented time and place of discharge could also help scientists decide how likely it would be that the evidence had a chance to become altered or damaged during the time of travel between facilities.

The data regarding the discharge of forensic patients presented the most inconsistencies among hospital sites. The documentation concerning the discharge of forensic patients was lacking in 40.1% of the charts reviewed at HospB and 22.6% of charts at HospC. The large percentage of missing information greatly reduced the amount of data available for an accurate comparison between hospital settings. Therefore, conclusions as to whether HospB trends would have followed those of HospC (the majority of forensic patients were sent home) were not possible. The trends in the number of forensic patients admitted to hospital were also difficult to analyse. HospB data indicated that 15.2% more forensic patients were admitted in comparison to HospC. Due to the absence of documentation, trends surrounding this parameter were inconclusive (see Table 5.28). There is no obvious reason that the researcher could find for such inconsistencies. However, some nurses did anecdotally comment that ED doctors, occasionally, discharge the patients without the nurse's knowledge. This could be an area for future exploration.

Total time spent in ED

It is important for nursing and medical staff to realise that the longer a patient remains in the ED without being treated and evidence collected, the more likely it is that any evidence could be lost, damaged or degraded (James and Nordby, 2003; Saferstein, 2004). Therefore, during the chart check audits the researcher monitored the total time forensic patients spent in the ED (see Table 5.29). The total time spent in the ED was calculated from the time a patient was brought into the main ED department for treatment to the time the patient left the ED department.

Table 5.28: Discharge Location of Forensic Patients

Discharge	Hosp B N= 144	Hosp C N= 221
Home	35 (24.31%)	136 (61.54%)
Admit	33 (22.92%)	17 (7.69%)
Deceased	0	1 (.45%)
Other		
* Transfer	11 (7.64%)	11 (4.98%)
* Left against medical advice (AMA)	3 (2.08%)	5 (2.26%)
* Did not wait (DNW)	0	1 (.45%)
* Police custody	4 (2.78%)	0
* Data unavailable	58 (40.28%)	50 (22.62%)

The amount of time forensic patients spent in the ED at HospB ranged from 35 minutes to 32.5 hours while the amount of time forensic patients spent in the ED at HospC ranged from five minutes to 22.5 hours. The majority of forensic patients seen at HospB and HospC spent less than eight hours in the ED (41.7% and 67% respectively). In addition, the data provided in Table 5.29 indicated that there were 19% of forensic patients who spent over eight hours in the ED at both hospitals.

Table 5.29: Forensic Patient Length of Stay in the ED

Time spent in ED in hours	Hosp B N= 144		Hosp C N= 221	
< 2	13	9.1%	68	30.8%
>2 – 4	19	13.2%	46	20.8%
>4 – 6	17	11.8%	22	9.95%
>6 – 8	11	7.6%	12	5.4%
>8 – 10	8	5.6%	7	3.2%
>10 – 12	6	4.2%	9	4.1%
>12 – 14	2	1.4%	5	2.3%
>14 – 16	3	2.1%	5	2.3%
>16 – 18	1	0.69%	5	2.3%
>18 – 20	1	0.69%	5	2.3%
>20	7	4.9%	7	3.2%

There were seven patients identified from both hospitals that spent over 20 hours in the ED. On all seven occasions the lengthy stay was associated with forensic patients who had mental health issues. In addition, there were 14.4% of patients at HospB and 13.6% of patients at HospC where a length of stay could not be determined due to a lack of nursing documentation in the patient's medical chart. The lack of nursing documentation on all occasions was an absence of the time that indicated when the forensic patient left the ED.

All of the data collected from forensic patient charts during the pre and post-test chart audits were associated with the 22 HospB and 27 HospC participants. Originally, the researcher wanted to audit five forensic patient charts per participant. However, due to the number of available forensic related charts for each participant, the researcher was unable to audit five charts for every participant. Furthermore, the inconsistencies in the number of available charts for each individual prevented the researcher from completing statistical comparisons between individual participants. Therefore, the data was pooled and comparisons were limited to pre and post-test information within and between hospital sites.

Overall, the demographic data collected during the chart checks at HospB and HospC were similar. In other words, the study data suggested that the types of forensic patients treated, the acuity assigned to forensic patient conditions, time of presentation, time spent in the ED, and the frequency of forensic patient presentations were similar at both HospB and HospC.

Hospital B

After examining all of the pre and post-test chart check data, there was little variance noted in the findings. The one exception the researcher noted was the slight variation in frequency for responses to question number 15. The number of outcomes documented slightly increased during the second audit. Overall, that data indicated that the documentation standard for control group participants was consistent and was not impacted by participants completing the pre-test questionnaire (see Table 5.30).

Table 5.30: HospB Pre and Post-Test Chart Check Audit Results

Responses #8 - 15	Pre Chart Check N= 59	Post Chart Check N= 85
#8 = injuries described Yes No	22 (37.29%) 37 (62.71%)	31 (36.47%) 54 (63.53%)
#9 = injuries measured Yes No	1 (1.69%) 58 (98.31%)	1 (1.18%) 84 (98.82%)
#10 = patient history in quotes Yes No	2 (3.39%) 57 (96.61%)	5 (5.88%) 80 (94.12%)
#11 = authorities notified Yes No	19 (32.20%) 40 (67.80%)	26 (30.59%) 59 (69.41%)
#12 = evidence collected Yes No	1 (1.69%) 58 (98.31%)	0 85 (100%)
#13 = chain of custody documented Yes No	0 59 (100%)	0 85 (100%)
#14 = patient given referral numbers upon discharge Yes No	1 (1.69%) 58 (98.31%)	0 85 (100%)
#15 = outcomes documented Yes No	15 (25.42%) 44 (74.58%)	29 (34.12%) 56 (65.88%)

During the pre-test chart audit, the researcher was only able to find five forensically associated charts for one of the 27 participants. In total, four participants had four charts audited, four participants had three charts audited, seven participants had two charts audited, and five participants had one chart audited. There were six participants who had no forensically related charts that could be audited (see Table 5.31).

During the post-test chart check audit the number of participants where five forensic patient charts could be audited improved. There are several possibilities that could account for such circumstances. Firstly, this could be due to random variability in regards to the types of patients the study participants were arranged. Secondly, some of the participants may have been sick or on holidays during the first chart check audit period. Thirdly, all participants may not have used the computer system to log

every patient they were given. Lastly, there may have been some participants who were assigned a coordinating nurse role. If any participants were acting in a coordinating role, the nurse would not have been involved with much direct patient care. Any of these situations or a combination of these circumstances could alter the number of entries that were listed on the original EDIS report sheet the researcher used to guide the chart check audits.

Table 5.31: Number of HospB Pre and Post-Test Charts Audited

Number of charts audited	Pre-test audit	Post-test audit
1	5	2
2	7	3
3	4	3
4	4	0
5	1	12
None	6	7

During the post-test chart audit, 12 participants had five charts audited, three participants had three charts audited, three participants had two charts audited, two participants had one chart audited and seven participants had no charts audited (see Table 5.31). There were four participants (**HB6**, **HB28**, **HB29** and **HB30**) that no charts could be found to audit during either the pre or post chart audit. Like above, there could have been several reasons for such occurrences. However, for three of the participants (**HB28**, **HB29** and **HB30**) it was noted that they held senior nursing roles in the ED. Consequently, the three participants may not have had much direct patient contact resulting in fewer patient charts available for consideration. Unfortunately, no specific reason for the absences of forensic patient charts could be identified for the **HB6** participant.

Hospital C

During the pre-test chart audit, the researcher found five forensically associated charts for 16 of the 22 participants (73%). Additionally, one participant had four charts audited, no participants had three charts audited, one participant had two charts audited, two participants had one chart audited and only one participant had no charts audited (see Table 5.32). Reasons for such findings could be two fold. Firstly,

the computer system utilised to assist the researcher find forensically related patient medical records had been introduced to staff six months prior to the commencement of this study. Therefore, staff were monitored by the Staff Development Nurse and therefore more diligent about logging their name next to patients under their care. Secondly, the staff development nurse revealed to the researcher that staff were regularly encouraged to utilise the computer systems as it was assisting them with other research being conducted in the department.

Unfortunately, the number of participants where five charts could be audited during the two post-test chart audit period diminished dramatically in comparison to the pre-test chart audit period (see Table 5.32). It was noted that during this post-intervention period, a new staff development nurse was employed in the ED. Feedback participants provided to the researcher indicated that the staff were not encouraged to utilise the computerised patient tracking system as much and that monitoring staff usage had ceased. Since this was the primary way the researcher obtained information about which charts were to be audited, such a change to the ED routine could account for the different frequencies observed in Table 5.32.

Table 5.32: Number of HospC Pre and Post-Test Charts Audited

Number of charts audited	Pre-test audit #1	Post-test audit #1	Post-test audit #2
1	2	9	2
2	1	3	5
3	0	2	4
4	1	3	2
5	16	2	3
None	1	3	6

To compensate for any change in computer usage by HospC participants, the researcher conducted additional random chart audits. To ensure that a change in ED procedure was not going to significantly affect data collection, the researcher audited ED charts at random even if the initial diagnosis was not obviously forensic related. It was hoped that the researcher would find charts that were not picked up during the initial EDIS computer searches. However, only 12 extra charts were detected during

this random chart audit. Therefore, the researcher concluded that the main reason for the decline in the number of forensic related charts was a lack of available data and not a change in participant behaviour. In other words, the researcher believed that even if study participants did not use EDIS as consistently as they did during the first chart audit, such behaviour appear to have had little effect on the number of available forensic patient charts.

There were only two participants (**HC2** and **HC30**) where no forensic related charts could be found to audit during either of the post chart check audits. One of the participants (**HC2**) changed her employment status to “casual”. This greatly reduced the number of shifts this participant was working in the ED and therefore the number of patients cared for during the post-intervention period of this study. In addition, **HC30** reduced her workload due to her pregnancy. Such findings could account for the absence of charts available for these two participants during the post-intervention chart audit period. All of the pre and post-intervention chart checking data can be seen in Table 5.33.

Responses to items eight, nine, and 10 revealed that participants improved in documenting patient injuries, measuring injuries, and putting relevant patient history in quotes. Data from the second and third chart check revealed that the percentage of participants who documented such items increased during the second and third chart audit. There was also a large increase in the number of incidents where authorities were notified (item 11) between chart check one and two (16.98% to 27.45%). This large increase was then followed by a decrease (15.62%) in the third chart audit. Such findings suggest that the educational package was beneficial and did help improve nursing documentation initially. However, continual reinforcement may be needed to help maintain documentation and practice changes over time.

There was no change in the low incidence of documentation relating to item 12 (evidence collected) and 13 (chain of custody documentation) across all three audits. Again, item 14 (patient given referral numbers upon discharge) showed similar findings to that of item 11 (authorities notified); that is, an increase in the first chart audit compared with the pre-test audit results and then a slight reduction in the third audit. The findings relating to item 15 (outcome documentation) remained similar

across the three chart audits. This finding indicated that the participants' practice of outcome documentation was not affected by the educational material and would need reassessment in any future interventions.

Table 5.33: HospC Pre and Post-Test Chart Check Audit Results

Responses #8 - 15	CC #1 N=106 charts	CC #2 N=51 charts	CC #3 N=64 charts
#8 = injuries described			
Yes	49 (46.23%)	24 (47.06%)	31 (48.44%)
No	57 (53.77%)	27 (52.94%)	33 (51.56%)
#9 = injuries measured			
Yes	2 (1.89%)	3 (5.88%)	2 (3.12%)
No	104 (98.11%)	48(94.12%)	61 (93.31%)
AMA			1 (1.56%)
#10 = patient history in quotes			
Yes	4 (3.77%)	8 (15.69%)	8 (12.50%)
No	102 (96.23%)	43 (84.31%)	56 (87.50%)
#11 = authorities notified			
Yes	18 (16.98%)	14 (27.45%)	10 (15.62%)
No	88 (83.02%)	36 (70.59%)	54 (84.38%)
DNW		1 (1.96%)	
#12 = evidence collected			
Yes	0	0	0
No	106 (100%)	50 (98.34%)	64 (100%)
DNW		1 (1.96%)	
#13 = chain of custody documented			
Yes	0	0	0
No	106 (100%)	50 (98.34%)	64 (100%)
DNW		1 (1.96%)	
#14 = patient given referral numbers upon discharge			
Yes	0	2 (3.92%)	1 (1.56%)
No	78 (73.58%)	33 (64.71%)	43 (67.19%)
Triage	28 (26.42%)	15 (29.41%)	20 (31.25%)
AMA		1 (1.96%)	
#15 = outcomes documented			
Yes	11 (10.38%)	5 (9.80%)	5 (7.81%)
No	67 (63.21%)	30 (58.82%)	39 (60.94%)
Triage	28 (26.42%)	15 (29.41%)	20 (31.25%)
AMA		1 (1.96%)	

Pre and post data comparisons

In the discussion that follows, each of the items (8-15) will be examined separately and data compared between HospB and HospC (see Table 5.34). During the auditing process, some of the patients did not wait (DNW) to be seen by a physician or left against medical advice (AMA). Therefore, these incidents are noted in Table 5.33 and 5.34 as these charts could not be fairly compared to others due to the unusual circumstances that might have prevented nurses from documenting items being assessed during the chart check audits. In addition, there were some participant charts that were audited while the participant was working at triage. This fact was also noted in Tables 5.33 and 5.34 as this too could have impacted the absence of data. For example, a participant working at triage would not be addressing item 14 (patient given referral numbers upon discharge) during their brief initial ED assessment. Therefore, such information would not have been present in the audited nursing notes.

Firstly, item eight monitored whether the participant documented patient injuries. There was little difference seen between each of the hospital pre and post-test scores. However, overall, HospC had 10% more charts that contained injury description. The 10% difference could not be solely attributed to the educational package because HospC pre-test data began nine percent greater than the pre-test scores of HospB. However, it was noted that there were slight incremental improvements in HospC data across the three chart check audits.

Item nine involved monitoring whether participants documented the measurements of patients' injuries. Initial pre-test scores from both hospitals indicated that the documentation standard for measuring injuries was similar. However, the post-test scores did vary between hospitals.

The treatment group scores increased from a pre-test score of 1.89% to 5.88 and 3.12% during the post-test audits. The control group pre and post-test scores did not vary considerably; therefore, the data supports the conclusion that the educational material did have a positive affect on changing nursing practice.

Table 5.34: Comparison of HospB and HospC Chart Check Audit

	Pre-Questionnaire Audit		Post-Questionnaire Audit		
	HospB	HospC	HospB	HospC	
Responses #8 - 15	CC#1 N = 59 charts	CC#1 N = 106 charts	CC#2 N = 85 charts	CC #2 N=51 charts	CC #3 N=64 charts
#8 = injuries described					
Yes	22 (37.29%)	49 (46.23%)	31 (36.47%)	24 (47.06%)	31 (48.44%)
No	37 (62.71%)	57 (53.77%)	54 (63.53%)	27 (52.94%)	33 (51.56%)
#9 = injuries measured					
Yes	1 (1.69%)	2 (1.89%)	1 (1.18%)	3 (5.88%)	2 (3.12%)
No	58 (98.31%)	104 (98.11%)	84 (98.82%)	48(94.12%)	61 (93.31%)
AMA					1 (1.56%)
#10 = patient history in quotes					
Yes	2 (3.39%)	4 (3.77%)	5 (5.88%)	8 (15.69%)	8 (12.50%)
No	57 (96.61%)	102 (96.23%)	80 (94.12%)	43 (84.31%)	56 (87.50%)
#11 = authorities notified					
Yes	19 (32.20%)	18 (16.98%)	26 (30.59%)	14 (27.45%)	10 (15.62%)
No	40 (67.80%)	88 (83.02%)	59 (69.41%)	36 (70.59%)	54 (84.38%)
DNW				1 (1.96%)	
#12 = evidence collected					
Yes	1 (1.69%)	0	0	0	0
No	58 (98.31%)	106 (100%)	85 (100%)	50 (98.34%)	64 (100%)
DNW				1 (1.96%)	
#13 = chain of custody documented					
Yes	0	0	0	0	0
No	59 (100%)	106 (100%)	85 (100%)	50 (98.34%)	64 (100%)
DNW				1 (1.96%)	
#14 = patient given referral numbers upon discharge					
Yes	1 (1.69%)	0	0	2 (3.92%)	1 (1.56%)
No	58 (98.31%)	78 (73.58%)	85 (100%)	33 (64.71%)	43 (67.19%)
Triage		28 (26.42%)		15 (29.41%)	20 (31.25%)
AMA				1 (1.96%)	
#15 = outcomes documented					
Yes	15 (25.42%)	11 (10.38%)	29 (34.12%)	5 (9.80%)	5 (7.81%)
No	44 (74.58%)	67 (63.21%)	56 (65.88%)	30 (58.82%)	39 (60.94%)
Triage		28 (26.42%)		15 (29.41%)	20 (31.25%)
AMA				1 (1.96%)	

Item 10 corresponded to whether participants put patient history in quotes. The data relating to this item demonstrated a 10% increase between the post-test score of HospB and the first post-test score of HospC, and a seven percent increase difference between the post-test score of HospB and the second post-test score of HospC. This finding was significant, because once again, the initial pre-test scores from both hospitals showed little difference.

Item 11 monitored nursing documentation for whether participants recorded if authorities were notified or if such steps were suggested to the patient. Overall, there was an increase noted between HospC's pre and first post-test scores. However, in general, both the pre and post-test scores of HospB participants were superior. This suggests that participants from HospB were more consistent recording their nursing interventions as they related to contacting authorities for forensic patients. Although the scores from HospC did not equal those from HospB, the educational package did demonstrate that there was some improvement between the pre and first post-test score for HospC participants.

Data collected on item 12 (evidence collection) and item 13 (chain of custody documentation) provided no evidence that supported that the educational package had any affect on nursing practice for any of the participants. There was no significant change in any of the pre and post-test scores across all chart check audits. This was a surprise finding as verbal feedback from participants in HospC provided evidence to the contrary. Therefore, follow-up interviews were conducted with HospC to clarify such discrepancy. The findings from the follow-up interviews will be discussed following the discussion of forensic kit supplies.

Item 14 dealt with whether participants provided forensic patients with referral numbers upon discharge. There was a slight improvement noted on the first post-test chart audit scores of HospC when compared to those of HospB. Such findings could be related to the shorter time period that had elapsed between attending the educational workshops and the chart audit. Therefore, it may have been possible to note a continual trend should reinforcement be provided to participants was throughout the study period as behavioural change requires practice and reinforcement.

Lastly, item 15 addressed whether participants had documented patient outcomes. For example, did nurses document if police had been notified and whether the patient was going to follow up with them in the next few days to sign a complaint form, file charges and if they had any questions about where to get help if they later required further assistance. There was no improvement noted across any of HospC scores, in fact, the incidences of outcome documentation was quite low (range from 7.81% to 10.38%). This was an unexpected and disappointing finding as the importance of documenting patient outcomes was addressed during the intervention workshops. The researcher had hoped to have noted improved changes in all areas of participant documentation corresponding to workshop content. The researcher did speak with participants regarding documentation during the follow-up interviews with a common response being “I forgot all about it” or “I did not have the time”.

The researcher did note that both the pre and post-test scores from HospB participants were substantially higher than those of HospC participants for question 15. The results from this data were interesting as there were no obvious reasons why such differences occurred. For example, there were no staff development educational programs taking place that directly addressed the issue of outcome documentation.

Forensic kit supplies

The forensic kit contents were audited at two and four months after the completion of the three workshops. The researcher wanted to identify how many items from the kit were utilised by participants, if any (see Appendix 18). At the two month audit, the researcher noted that three yellow top plastic containers had been removed from the forensic box. These were replaced after the audit. In addition, the researcher noted a decrease in the number of brown paper bags (see Table 5.35). The two month post intervention audit suggested that the participants did utilise the forensic kit supplies. It is possible that other ED staff removed the yellow top plastic containers and brown bags from the locked cabinet. However, other ED staffs were not informed of the presence of brown bags in the department and the findings were consistent with information obtained later during the follow-up interviews (discussed below).

Table 5.35: Brown Bag Audit Results

Brown bag sizes	Numbers of Brown Bags		
	Commencement	2 Months	4 Months
Small	30	24	5
Medium	30	25	3
Large	15	11	5

In addition to assessing a change in the number of forensic kit items, an audit of the body diagrams, chain of custody forms and patient consent forms was conducted. Originally, there were 10 copies of each form in each of the three forensic files located within the department (at the nurses' station, triage desk, and in the resuscitation room). An accurate audit of how many forms were utilised proved more difficult to regulate than the brown bags that were locked in a cabinet. The number of forms missing during the first two month post audit indicated the forms were being used. For example, there were only six patient consent forms present in the forensic file located in the resuscitation room. However, during the 4-month post intervention audit, the forensic file contained eight copies. Because the files could have been easily moved, it was not possible to keep an exact count of how many of each form was used from each file. Therefore, to more accurately assess whether participants had been using the forms located in the forensic files, verbal feedback was sought from participants during follow-up interviews.

Follow-up interviews

Some of the data collected during the chart check audits was found to conflict with the data results obtained during the forensic kit audits. The researcher noted that the number of forensic kit items used and those found in the notes (body diagrams, patient consent forms, chain of custody forms and references to evidence collected in brown bags) during the chart check audits were inconsistent. Therefore, to try and clarify such findings, it was decided to conduct follow-up interviews with the participants to investigate the noted discrepancies. All of the follow-up interviews took place in the ED and the researcher spoke to each participant individually. There were a possible of six questions that each participant was asked (see Appendix 11). However, if a participant stated that they did not use any of the forensic kit items the interview only sought an answer to the first question.

There were only 16 of the 22 original participants still working in the ED at the time of the follow-up interviews. Of the 16 interviewed, five (31%) confirmed that they utilised documentation sheets from the forensic files during the data collection period. The remaining 11 participants stated that they did not use any of the kit items. The two main reasons given were that they “did not have the opportunity” and that they “forgot all about it”.

Of the different types of documentation sheets and kit supplies available, the four types of tools reported to have been used by participants included; body diagrams, consent forms, chain of custody forms and brown bags (see Table 5.36). The information collected during the follow-up interviews indicated that participants did use the forensic kit supplies. Additionally, all five participants that utilised the forms stated that they put the documentation in the patient’s notes. Furthermore, all five participants confirmed that the items indicated below in Table 5.36 were used on more than one occasion. For example, participant **HB23** stated, “I used them (body diagram forms) at least six times”. The researcher was unable to explain why none of the documents listed in Table 5.36 were located during any of the chart check audits. The “X” indicates the kit items utilised by participants.

Table 5.36 Forensic Kit Supplies Utilised

Participant code	Kit Supplies Utilised			
	Body diagram	Consent forms	Chain of Custody forms	Brown paper bags
HB3A	X		X	
HB4A	X		X	X
HB7	X		X	
HB21				X
HB23	X			

The final question on the follow-up interview requested feedback as to whether the forms utilised from the forensic kit guided their practice in a way that the participants had not thought about prior to their involvement in the study. From the five participants who stated they did use the forms, all five participants agreed that they

were helpful and made the decision to document injuries easier. For example, **HB7** stated:

They were useful to show accurate location of injuries. There was more room on the sheets so we could give a more detailed description of the injuries. There was lots of room to write. The ones we have are too small and not useful at all.

For the majority of participants, however, the documentation sheets were not utilised. This was a disappointing finding. The reasons for not utilising the forms were typically described as a lack of opportunity. For example, **HB33** stated, “I did not have any patients to use them on”. Other typical comments indicated that the participants were more informed and cognisant of forensic issues. **HB29** stated:

It has always been in the back of my mind. It is always possible things could turn into a forensic case. I just haven’t seen the patients I think I need to use them (sheets) on. I do document more in my notes like you taught us and I know they (sheets) are there.

Furthermore, **HB26** stated, “I didn’t use them but that was probably because of habit. I did not really think of it at the time. I saw people put things in brown bags when I was in resus (resuscitation room)”. Likewise, **HB16** stated, “I didn’t really have the patients. There wasn’t really an opportune time. I was too busy in resus to use the forms really”. Lastly, **HB5** stated, “I was co-ordinator most of the time right after that (the workshops). But I saw people use the sheets. They used the processes like the flow charts. I saw people get the bags out and label them”. From such comments, it appeared obvious to the researcher that forensic kit items were used and that there was a positive change in the work practices of participants regarding care provided to forensic patients.

Workshop evaluations

The participants were asked to complete a short workshop evaluation at the end of their third workshop session (see Appendix 16). Of the 22 participants, 16 (73%) completed and returned the workshop evaluation. Question one asked the participants to evaluate the content and presentation of the workshops and evaluate the practical component included within Workshop B. The participants were asked to rank their thoughts using the Likert scale of very satisfied (#1) to very unsatisfied (#5). The

results indicated that 92% of respondents were satisfied to very satisfied with the content, the workshop presentation, and the practical session.

There were three questionnaires where participants provided positive feedback comments yet marked all of the questions with a very unsatisfied mark. It is possible that these three participants misunderstood the scale. As this disparity was unable to be clarified by the researcher because the evaluations were anonymous the results from these questionnaires were not considered when calculating the final results.

Overall, 10 of 13 (77%) respondents left question two blank or had no further comment. Suggestions provided by participants focused on providing more information to them in the future. For example, comments included, “more aspects of law and documentation, more time, and more pictures to practice with”. One participant did suggest that role-playing might be beneficial.

Under question three, general comments, 4 of 13 (31%) respondents, left the question blank. The other 11 respondents provided positive feedback. For example, comments included: “I am looking forward to using this new knowledge and sharing the info with other staff members”; and “Would like to know more. Found workshop encouraging”; and finally, “I enjoyed all three workshops. They were interesting and inspired me to learn more”. There were no negative comments provided. Therefore, from the workshop evaluation data, the researcher concluded that the educational package and forensic kit tools were successfully received by participants. Overall, participants indicated that the information stimulated them to think about how they practiced nursing and improve the type of care they provided to forensic patients.

Focus group interviews

Focus groups were organised so that the researcher could obtain additional participant feedback regarding the research design, forensic materials and implementation activities. Therefore, the data collected from these groups served to assist the researcher evaluate the study’s contents and effectiveness. In total, there were 11 participants that volunteered to participate in the focus group interviews. These interviews occurred four months after participants attended their workshops and were not compulsory. In total, there were three focus group discussions

conducted. Two focus group sessions took place during the day and one was arranged for the permanent night duty nurses. The semi-structured interviews were all conducted by the researcher and lasted approximately 25 minutes. The open ended questions utilised during the focus group discussions centred on discovering what the nurses' perceptions were regarding the effect the educational package had on their daily nursing practices and whether they gained any benefit or practical assistance from the research tools (see Appendix 10).

The data from the interviews was analysed and the contents was categorised into overall themes which emerged during the discussions. Below, example statements from participants highlight the four main themes which included; nursing practice, educational material, forensic kit effectiveness, and general comments.

Impact on nursing practice

Data obtained during the focus groups revealed that participants felt that their involvement in this study had affected their nursing practice in a positive way. For example, **HB16** agreed with a statement made by **HB23** who stated, "It's made me more aware of documentation issues and assessing. I am much more aware with my measurements and wounds and where they are on the body". **HB12** and **HB3** reflected on a patient case and stated, "We have this guy that had jumped from a bridge and people just started doing it. It is easy to go into the cabinet in the trauma room and get the stuff you left us". **HB12** further described another patient case and stated, "We had a sexual assault of a girl come in. We were told to collect some stuff by SARC. The "girls" said lets get the file out. Everybody thought about your file".

Usefulness of educational material

HB4 believed the educational material had improved her practice and stated:

Before I would have just treated the patient and let them go home. You have given me a lot more information than I had before. I have come in contact with police a few times. At least I know now what to do. The police said I was a brilliant witness once because I put great detail into my notes about a patient.

Furthermore, **HB7** agreed that her involvement in the study had made a difference to her practice and that the educational package had been effective. **HB7** stated:

I feel more confident about it. I have collected a few times. The police commented when they came in about things being collected and bagged. They were impressed. We used the chain of custody form you gave us. The police were quite happy that there was a form and it made it easier for everyone.

When commenting on aspects of the educational package were most helpful, **HB4** further commented by saying, “The little ruler and card with your phone number was most helpful. It reminds you to write sizes which I have not done before. I am much more descriptive”.

Forensic kit effectiveness

Further descriptive support regarding the forensic kit effectiveness was provided by several participant statements. For example, **HB8** stated, “I am much more aware of using quotes for history, bagging things up rather than throwing them out, using paper bags and chain of custody things”. Additionally, **HB7** stated:

I like the diagrams, they are very helpful. They are big enough. I liked having the card and ruler with me. It was great. Outsiders saw the worth in it as well. I had a nurse the other night who had no idea so I showed her and she was amazed and very interested.

Lastly, **HB8** commented, “The pictures you reviewed with us and how we practiced describing the injuries was helpful and how to bag stuff up and keep it until the police come was helpful” (practical session in workshop B). Such comments reinforce that individuals learn differently and that to gain maximum outcomes it was important and valuable to use different teaching strategies.

Other comments about the forensic educational package had affected participant nursing practice, **HB14** said, “I look at patients now and think what did Chris say about this? I am thinking so much more now”. In addition, **HB33** commented, “I haven’t gotten to use my ruler yet but I keep looking for a chance”. Lastly, **HB19** stated, “We had a forensic patient come in the other day. When the police came in we had all the clothes bagged and taped. They were so impressed and happy”.

General comments

HB21 recounted one experience by stating, “It has brought more awareness of facts and things. Some of the patients are interested in me measuring things and say, “how

about this one, did you see this?” Further testimonial support for the intervention workshops included comments from **HB33** who stated, “All good. Because I never sat through anything forensic. I now look everywhere on the body. I now write what patients says like you told us in quotes”.

From all of the focus group data, all of the participants appeared to have gained from their involvement in the study. There were suggestions for improvement included having the prompt card made smaller to allow for nurses to carry it in their pocket (**HB12, HB3, HB21, HB23, and HB29**). Further suggestions included having regular session to update and reinforce the forensic kit information. Lastly, **HB14** suggested that the information be put into the hospital orientation kit so that all ED staff would be exposed to the information.

Personal communication

Information gained from the researcher’s phone log and personal conversations with participants were able to provide further proof that items contained within the forensic kit were utilised and participant perceptions about the overall effectiveness of the workshops and associated forms. The following statements were recorded by the researcher after conversation with various participants. The statements provide further proof about how and what the participants experienced in relation to the use and effectiveness of the forensic educational package.

One participant (**HB2**) phoned the researcher requesting more body surface diagrams as the master copy was absent from the files. **HB2** was caring for a young domestic violence victim and stated, “I have been talking to her and don’t want to leave it. She is willing to consent for me to call the police so I want to do it now. Can you please bring in some body surface diagrams?”

Another participant (**HB7**) spoke to the researcher personally and stated, “I have started to look at everything in a new light. It is very exciting. We had a death yesterday and I was so careful to document everything”. One participant (**HB15**) who did not complete all three workshops and therefore was not included in the final 22 participants stated:

I was on duty the other night and we had a guy that had been assaulted. One of the girls that did the class made sure the clothes were bagged and when the police came in they showed me what to do with the chain of custody form because I did not get to the classes. The police were impressed.

Conclusion

Both qualitative and quantitative data collection techniques contributed to the data reviewed in this chapter. The various data sources were analysed separately, compared between hospital groups when possible, and described on a case-by-case basis. The various reporting techniques were necessary due to the final number of treatment and control group participants and the high drop out rate of control group participants during the study. The effects of the forensic educational package over time indicated that the educational package was successful. The educational package proved to not only improve forensic knowledge but also influence nursing practice and participant perceptions regarding forensic patient care.

The evidence from the treatment group pre and post-test questionnaires demonstrated that there was a 23.83% increase in the mean forensic knowledge score. The majority of the chart check audit data suggested that there was no significant increase regarding most of the nursing documentation practices by HospC participants. However, some small changes were noted. In addition, qualitative data from the focus group interviews, forensic kit supplies, and workshop evaluations provided strong support regarding the positive effect the educational package had on forensic knowledge and nursing practices demonstrated by HospC participants.

Demographic data from the questionnaire revealed that the control and treatment group participants were comparable in age, gender, and work experience. Furthermore, pre-test questionnaire data indicated that the pre-test scores from both participant groups were similar. Lastly, some of the chart check data collected (category of forensic patient (1-27), triage category (1 – 5), time of presentation to ED triage nurse, time seen by ED nursing staff, time left ED, disposition, and total time spent in ED) indicated that both hospital ED environments were comparable. Due to the large drop out rate of control participants, extensive statistical analysis was unable to be calculated on the post-test questionnaire data comparing control and

treatment group participant data. All of the qualitative data, however, supported the belief that the educational package was successful. Participant comments outlined during the focus group interviews provided particularly strong evidence regarding the study's success. Further corroborating evidence regarding the success of the educational packages was seen in the data collected from the workshop evaluations.

The discussion within Chapter 6 will examine the major findings and implications of this study to those with a similar design. Furthermore an educational model for the enhancement of clinical forensic nursing practice will be described and compared with Lynch's forensic nursing integrated practice model. Lastly, the limitations of the study findings will be explored.

Thomas was taken to the staff tea room away from all the others. Daniel was still on the floor and his screaming echoed throughout the department. Thomas began to shake uncontrollably. Police, doctors, and nurses all standing around with jobs to do but unsure of where to begin and how best to proceed. Thomas knew the situation was foreign to them. There were no protocols to follow and no forms to provide guidance. Confusion wins again.