# DEVELOPING, IMPLEMENTING, AND EVALUATING AN EDUCATIONAL TOOL FOR PATIENTS AWAITING CARE IN THE EMERGENCY DEPARTMENT

BY

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A practicum project submitted to the Faculty of Graduate

Studies in partial fulfillment of the requirements for the degree

of

### MASTER OF NURSING

Department of Nursing

University of Manitoba

Winnipeg, Manitoba

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Developing, Implementing, and Evaluating an Educational Tool for

Patients Awaiting Care in the Emergency Department

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Helen Yaworski

A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University

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#### ABSTRACT

While the Emergency Department (ED) serves as a safety net for the health care system, many patients leave the waiting room of the ED without being seen by a physician. Often those patients who leave without being seen (LWBS) are of a lower acuity, and suffer no ill effects. However, the literature contains reports of negative patient outcomes, including death, after patients LWBS.

The LWBS rates at each of the Winnipeg EDs far exceed the national standard of two to three percent of total ED visits. This raises concerns for patient safety and patient satisfaction with the services provided. The situation is most acute at Health Sciences Centre (HSC) Adult ED, where the LWBS rate is four times greater than the industry standard.

The Confirmation/Disconfirmation Model of Customer Satisfaction and Maister's Principles of Waiting formed the framework for this project, which included the development, implementation, and evaluation of an educational brochure for patients and family awaiting care in the HSC Adult ED. It was important that the brochure met with staff satisfaction, was understandable to patients, and included the information that patients require about the ED.

Thus, for a period of one month, the brochure was distributed to each patient after initial triage assessment. 19 patients agreed to participate in an evaluation of the brochure. Their feedback was

reviewed with staff, and incorporated into the final brochure. Those patients who participated in the evaluation rated the brochure favorably in terms of readability, content, and layout.

A primary goal of this project was to determine whether an educational brochure, disseminated to patients and family members in the waiting room of HSC Adult ED, would improve patient satisfaction resulting in a decrease in the LWBS rate. The LWBS rate was compared over a three month period. While the reduction in LWBS rate in the month that the brochure was provided to patients did not reach statistical significance, it was clinically significant, particularly in the more acute triage categories. Further research, including a prospective cohort study with a larger sample size, is suggested to confirm these results.

#### CHAPTER 1: STATEMENT OF THE PROBLEM

#### Introduction

The emergency department (ED) provides a safety net for the health care system. It is here that patients present when they have a life-threatening ailment. Emergency departments are designed to rapidly assess and provide care to patients with such life-threatening conditions. However, most of the patients who attend to an ED do not fit this category. In fact, the majority of patients who are seen in the ED have less urgent or non-urgent complaints (Kellerman, 1994). Since the priority of care in the ED is justifiably focused on those who are in most urgent need of care, these other patients must wait. Not surprisingly, it is primarily these patients that tend to leave the ED without being seen by a physician (Fernandes, Price, & Christenson, 1997).

ED overcrowding has become a national phenomenon. Several cities within Canada have seen patients die in ED waiting rooms while awaiting care, or have had patients leave the ED without receiving the care they require, leading to negative outcomes. Additionally, left without being seen (LWBS) rates have continued to rise. Competition for health care dollars, concerns regarding legal liability, and a desire to meet the needs of patients for timely, accessible health care has led to an increased awareness of and concern about the patients who leave prior to physician evaluation.

While it is documented that the majority of patients who LWBS are triaged as less urgent or non-urgent (Fernandes et al, 1997), patients from all triage categories are represented in the LWBS population. Kellerman (1991) asserts that the patients who leave are generally as sick as those who stay, and most leave "because they were too sick to wait any longer" (p. 1123.) Accordingly, a Joint Commission on Accreditation of Health Care Facilities (2002) in the United States pointed out the need to identify and monitor those patients at risk for sentinel events and missed diagnosis, including those patients who LWBS.

The industry standard for an acceptable LWBS rate lies between two and three percent (Carlsson-Ried, 2002). Within the Winnipeg Regional Health Authority (WRHA), the Emergency Program has seen a six percent increase in total ED visits in the last five years (See Appendix A). At each of the six ED's within the city, the LWBS rate has increased during this time (See Appendix B). At the Health Sciences Centre (HSC) Adult ED there has been an increase of ED visits of 12% over this time frame. The LWBS rate has risen from 8.4% in 2000 to 12.9% in the first six months of the 2003-2004 reporting period (See Appendix B). This represents a 35% increase in the overall number of patients who leave this ED without being evaluated by a physician in the last five years alone. Of particular concern is that there are an increasing number of urgent patients who are leaving the HSC Adult ED without being seen (See Appendix C).

The fact that over 5,300 patients are leaving the Adult ED at HSC annually without being seen by a physician not only raises concerns for patient safety, it also places the ED and the Centre at significant risk of liability, as a duty to provide care is established when these patients arrive in the department (George, 1992; Laurent, 2003). Furthermore, it has obvious implications on the overall patient satisfaction with, and the reputation of, this tertiary care facility.

Many of the factors that lead to emergency department overcrowding, and thus lengthy waits, are outside of the control of the ED players (Hobbs, Kunzman, Tanbergm, & Sklar, 2000). However, there are steps that the ED team can take to ensure that patients are being cared for in a way that meets the patients' expectations for timely service. Interventions aimed at improving the overall service to patients at the HSC Adult ED in the last few years have included: improved staffing levels, increased triage resources, implementation of interdisciplinary rounds to identify patients who require additional supports to prevent lengthy ED stays or hospital admissions, and the redevelopment of the Observation Unit and Minor Treatment Area to increase total bed capacity within the department. While these initiatives should result in a decrease in the LWBS rate, this goal has not yet been realized.

An ED's LWBS rate can be used as a crude measure of how satisfied patients are with the care provided in that ED (Fernandes &

Christenson, 1995). The quality of interpersonal communication between health care providers and patients has been shown to significantly impact patient satisfaction (Boudreaux & O'Hea, 2004). Furthermore, providing patients who arrive at an ED with information regarding the anticipated waiting time and reasons for delays has been shown to improve patient satisfaction (Krishel & Baraff, 1993).

A 2003 public inquiry into the death of a young man who left two ED's in Calgary without being seen and subsequently died of intraoperative complications at another health care facility led to the recommendation that, among other things, the emergency program develop an educational handout for patients awaiting care in the ED (Delong, 2003; Kermode-Scott, 2003). It was suggested that this handout should advise patients and their families to report to the triage nurse before leaving the ED (Delong, 2003). In 2002, the WRHA Emergency Program recommended that a communication process for informing patients and family members about the ED triage process, waiting times, and reprioritization process be developed for use at HSC (Carlsson-Ried, 2002).

#### **Purpose of the Practicum Project**

The purpose of this practicum project was to develop an education tool that can be distributed to patients / family members on their arrival in the Adult ED at HSC with the goal to improve patient satisfaction and to decrease the risk of the patient leaving without being seen.

#### **Objectives of the Practicum Project**

The specific objectives of the project were:

- 1. To develop an educational brochure, written at an appropriate reading level, that provides information to patients awaiting care in the ED about how the ED operates, the reasons for waiting, and the amenities available within the Centre. This brochure also recommends that the patient inform the triage nurse if they are about to leave without being seen by a physician.
- 2. To ensure that the tool met with staff satisfaction by reviewing the education tool with ED staff, including a select group of triage nurses at the Centre who are responsible for completing reassessments of patients in the waiting room.
- **3.** To determine, by surveying patients, if the brochure was read, if it was interesting/appealing, if it answered their questions relating to ED processes and waiting times, and whether it influenced their decision to stay or leave.
- **4.** To determine if use of the brochure led to a decreased number of patients who LWBS from the Adult ED waiting room at the HSC.

#### Summary

Patient satisfaction with the care provided in an ED is reflected in part, by the number of patients who leave the department without being seen by a physician. Within the WRHA, a significant number of patients leave the emergency departments without being seen. This is

particularly problematic at HSC, where the LWBS rate of 12.9% far exceeds that industry standard of 2-3%. The goal of this practicum project was to determine if the provision of an educational brochure in the ED would improve patient satisfaction, as measured by the LWBS rate in the HSC Adult ED.

#### CHAPTER 2: CONCEPTUAL FRAMEWORK

#### Introduction

The Confirmation/ Disconfirmation Model of Customer Satisfaction and Maister's Principles of Waiting were used as the framework for this project. While developed for the business setting, both have applicability to the ED setting.

## The Confirmation/Disconfirmation Model of Customer Satisfaction

The Confirmation/Disconfirmation (C/D) Model (Woodruff, Cadotte, & Jenkins, 1983) has been used to study satisfaction with service delivery within health care settings as well as in the broader marketplace (Davis & Vollmann, 1990; Swan, Richardson, & Hutton, 2003; Thompson & Yarnold, 1995, Woodruff et al, 1983). Figure 1 is a schematic of the C/D Model.

A customer presents with expectations of what the service will entail. These expectations are based on previous experience with the particular brand or with similar brands (Woodruff et al, 1983). The customer's beliefs about the specific brand are based on his/her personal experience, as well as the expectations of others who have used that brand. Marketing attempts by the company also play a part in the customer's expectations of brand performance, as do known industry norms for the item or service in question (Davis & Vollmann, 1990).

After using the brand or service, the customer makes a comparison between what he/she expected and what was received. If expectations

are met, or confirmation of expectations occurs, the service is said to fall within the zone of indifference (Woodruff et al, 1983). The service or product functions as expected, such that the customer does not take note of deviations from what was expected.

Disconfirmation of expectations leads to an emotional response by the customer (Woodruff et al, 1983). This, in turn, is translated into actions. Depending on the situation, possible outcomes include changes in the individual's attitude and intention to use the service in the future. Outcomes of negative disconfirmation can also include deciding not to use the brand or service again, providing word-of-mouth testimonials or warnings to others, complaining to the firm involved, initiating legal action (Woodruff et al), or as in the case of health care in Winnipeg, possibly calling the <u>Winnipeg Free Press</u> or the <u>Winnipeg Sun</u>.

Applying the Confirmation/Disconfirmation Model to the ED Setting and

#### LWBS

As shown in Figure 2, patients have ideas or expectations of what will happen during their health care encounter when they enter the ED. This is based on prior experience with the specific health care facility or other health care facilities, word-of-mouth from other patients, and knowledge of standards for length of waiting times. Although EDs (at least in Canada) generally do not advertise their services, there is information about health care waiting times and sentinel events in ED

settings that finds its way to the press on a frequent basis. This adds to the patient's expectations of the service in the ED.

If the ED meets the patient's expectation in terms of service provision, confirmation occurs. If however, the service falls outside of the patient's expectation for that ED, disconfirmation, either positive or negative, results. The patient whose expectations are surpassed may respond by writing a letter of thanks, passing on their positive experiences to others, and returning to the ED in the future. On the other hand, negative disconfirmation may result in the patient filing a complaint, providing negative testimonials about the care provided to others, seeking health care elsewhere in the future, or simply leaving the ED without receiving care.

According to Merkouris and associates (1999), one formal complaint corresponds with six to ten serious and twenty to twenty-five less serious complaints that are not filed. The likelihood to recommend the ED to others can have a significant impact on the hospital's bottom line, as the "negative halo effect of low satisfaction" will influence future health care decisions in terms of ED or hospital use (McMillan, Younger, & DeWine, 1986). As Mack, File, Horowitz, and Prince (1995) found, a patient's choice of which ED to use is strongly influenced by referral from trusted sources regarding the care provided and by lack of negative word-of mouth.

It is important to note that an individual's expectations also change over time. If a service provider does not continually strive for excellence, positive satisfaction with that 'brand' will slowly decay as norms and expectations of service change (Woodruff et al, 1983). For example, if an ED does not continually strive to improve the service provided, the patient will no longer be satisfied with the status quo.







#### **Maister's Principles of Waiting**

As a backdrop to the concept of waiting, consider the words of Morrow, as quoted by Larson (1987):

Waiting is a form of imprisonment. One is doing time - but why? One is being punished not for an offense of one's own doing, but for the inefficiencies of those who impose the wait. Hence the peculiar rage that waits engender, the sense of injustice. Aside from the boredom and physical discomfort, the subtler misery of waiting is the knowledge that one's most precious resource, time, a fraction of one's life, is being stolen away, irrecoverably lost. (p. 897)

Controlling the perception of the waiting time can impact on a person's satisfaction with the time spent waiting. Maister (1985), a leading authority on professional service firms and consultant on waiting times, asserts that managers must concern themselves not only with the measurable reality of waiting times, but also with how these waits are experienced by their clients. Mowen, Licata, and McPhail (1993) and Fottler and Ford (2002), used the principles set forth by Maister regarding waiting times as a basis for their work. These principles include:

- Unoccupied waits seems longer than occupied waits
- Waiting for pre-process events seems longer than in-process
  waiting (i.e. waiting to get care started seems longer than the time
  spent receiving care, or people want to get started)

- Waits of uncertain length seem longer than certain waits
- Anxious waits seem longer than non-anxious waits
- Unexplained waiting time seems longer than explained waiting time
- Unfair or unjust waiting time seems longer than fair waiting (e.g. patients who seem to advance ahead of those who have been waiting, without known rationale)
- Waiting alone seems longer than waiting with a group
- □ Uncomfortable waits seem longer than comfortable waits
- Interesting waits seem shorter than uninteresting waits
- □ The more valuable the service, the longer the customer will wait.

#### Summary

The C/D Model of Customer Satisfaction and Maister's Principles of Waiting help to describe the relationship between patient expectations for service delivery and how these expectations relate to patient satisfaction with waiting times. The C/D model has been used in both the business and health care sector to describe customer satisfaction. While not developed specifically for the health care arena, Maister's principles are applicable to the ED setting. The following discussion will illustrate that by manipulating these principles; one can influence the patient's perception of his/her waiting time in the ED.

#### CHAPTER 3: LITERATURE REVIEW

#### Introduction

The literature is replete with studies regarding patient satisfaction with ED care and patients who leave without being seen. Using the C/D Model as a framework, this section will review the literature regarding performance norms for ED triage, patient's expectations of ED care, predictors of confirmation and disconfirmation of patient expectations with regards to ED care, and methods to change patients' expectations of the care in the ED in order to increase their satisfaction and reduce rates of LWBS.

#### Performance norms for the ED: ED Triage

Triage, in simplest terms, means to sort (Harris, Bell, Bembenek, Denomy, & Hollett, 1998). In an ED, this means the patients are sorted, based on their entrance complaint, physical findings, and medical history, into categories representing how long they can reasonably wait to see a physician. On arrival, the patient presents to the triage desk. If the triage nurse is available, a brief (two to five minute) assessment is completed immediately. If other patients are waiting to be triaged, the patient's name is placed on a list. Industry norms suggest that all patients should be triaged within ten minutes of arrival in the ED (Beveridge et al, 1999).

In 1999, the Canadian Association of Emergency Physicians (CAEP) and the National Emergency Nurses Association of Canada

(NENA) developed The Canadian Triage Acuity Scale (CTAS)(Beveridge et al, 1999). The CTAS replaced a previous four-level triage system that had been shown to have poor inter-rater reliability (Fernandes, Wuerz, Clark, & Djurdjev, 1999). Table 1 shows the triage categories and the suggested times to see an ED nurse and physician according to the CTAS guidelines. These categories are explained in more detail in Appendix D, including the types of presentations typical to each triage category.

Table 1

CTAS	Levels	and	Time	to	Nurse	and	Physicia	n	Assessm	ent
------	--------	-----	------	----	-------	-----	----------	---	---------	-----

Triage Level	Time to RN	Time to MD	Reassessment
	Assessment	Assessment	Interval
Level 1	Immediate	Immediate	N/A
Resuscitative			
Level 2	Immediate	15 minutes	Every 15 minutes
Emergent			
Level 3	30 minutes	30 minutes	Every 30 minutes
Urgent			
Level 4	60 minutes	60 minutes	Every 60 minutes
Less Urgent			
Level 5	120 minutes	120 minutes	Every 120 minutes
Non Urgent			

Note: Adapted from Beveridge et al, 1999

Triage is much more than a physical assessment. Beveridge et al (1999) and Harris et al (1998) highlight the need for good interpersonal communication at triage. Furthermore, NENA lists one of the goals of triage as the promotion of good public relations (Harris et al). For example, Bjorvell and Stieg (1991) found that the very first contact that a patient had with personnel on arrival in an ED appeared to be of great importance for their overall satisfaction with the department.

Additionally, as can be seen from Table 1, triage is not a static process. The status of the patient may change, necessitating reassessment by the triage nurse (Beveridge et al, 1999). Besides ensuring patient safety, frequent patient reassessment prevents patients from feeling that they have been forgotten or neglected.

#### Predictors of ED Patient Expectations: Confirmation vs.

#### Disconfirmation

As previously discussed, a patient who comes to the ED for care has expectations around what will occur during this visit. Whether these expectations are met or not is dependent on a number of factors. The literature suggests that the most common predictors of patient satisfaction with the care provided in ED are interpersonal communication with care providers, waiting times, social justice, and the setting in which the services are provided.

#### Interpersonal Communication with Providers

In a review of the available research regarding ED patient satisfaction, Boudreaux and O'Hea (2004) found that patient satisfaction with interpersonal interactions with ED providers was the indicator most strongly associated with overall patient satisfaction, willingness to return, and likelihood to recommend the ED to others. The expressive quality of staff interactions and their provision of information to patients, in other words, their "bedside manner" had the biggest impact on patient satisfaction in 10 out of the 13 multivariate studies reviewed by the authors (Boudreaux & O'Hea, 2004).

In their study Yarnold, Michelson, Thompson, and Adams (1998) found that patient satisfaction was strongly correlated with patient – rated expressive qualities of ED physician and nursing staff. Repeating identical patient satisfaction surveys four times over a 17-month period at a community ED, Boudreaux, d'Autremont, Wood, and Jones (2004) found that the only significant predictor of patient satisfaction across all surveys was the quality of nursing care. This included caring, concern, and courtesy displayed by the nurse, a sense that the nurse cared about them as a person, feeling that they and their families were kept informed, and the nurse's technical skills (Boudreaux et al, 2004).

"Caring" physicians and nurses were also found to be important predictors of patient satisfaction in a California ED study (Bursh, Beezy, & Shaw, 1993). Hedges, Trout, and Magnusson (2002) identified the

need to focus on interpersonal relationships, starting at triage to enhance patient satisfaction. This includes treating the patient with respect, attending to their needs, providing information, and protecting the patient's privacy (Hedges et al, 2002). Mowen et al, (1993) emphasize the significant impact that "trust" had on the satisfaction of ED patients. In their survey, "trust" meant competency, understanding the patient as a person, giving personal attention, feeling that the providers had the best interests of the patient at heart, and a sense that the patient could depend on the center.

Sun et al (2000) studied five urban American ED's and found that ratings of care correlated highly with ratings of courtesy, explanations provided, and the provision of discharge instructions. Furthermore, Sun, Adams, and Burstin (2001) found that "patients frequently perceive that ED's fail in these basic interactions" (p. 536). Based on similar findings, Thompson, Yarnold, Williams, and Adams (1996) emphasized the need to develop "emergency rapport" with patients.

In a 1998 study, Mayer, Cates, Mastrorovich, and Royalty found a dramatic improvement in patient satisfaction across all variables measured when they mandated that all their ED staff attend an eighthour customer service session. Not only did patient satisfaction ratings improve, the compliments received by the department increased by 100%, and complaints dropped by 77%. Interestingly, complaints of rude and uncaring behavior, waiting time, billing, and wait for a bed all

decreased. These findings support the significant impact of interpersonal communication on patient satisfaction. While it is often assumed that staff possess good interpersonal communication skills, as Mayer et al (1998) found, "customer service is a skill for which we hold our staff accountable but in which they have never been formally trained" (p. 432).

#### Waiting Times

There is consistent research evidence that waiting time is the number one reason why patients defect from the waiting room. However, Davis and Vollmann (1990) assert that the use of waiting time as a surrogate for customer satisfaction may not always be appropriate. For example, in applying the C/D model to the fast food environment, the authors suggest that customer expectations, availability of distractions while waiting, and the criticality of time to the customer all impact on the customer's perception of waiting times, and thus their overall satisfaction (Davis & Vollmann, 1990).

In their study of a community ED in Chicago, Thompson and Yarnold (1995) found that the patient's perception of his/her waiting time significantly impacted the satisfaction rating of the ED. Further, they found that this perception of waiting time was more important in terms of patient satisfaction than the actual waiting time, and that patients were actually very poor judges of the amount of time they spent waiting. Research evidence suggests that 50% of patients overestimate the actual waiting time to see a physician in an ED (Thompson &

Yarnold, 1995; Thompson, Yarnold, Adams, & Spacone, 1996). Hedges et al (2002) also found that while waiting times that were perceived as being too long by patients lead to dissatisfaction, actual waiting times had no impact on satisfaction. This finding was supported by Margaret, Clark, Warden, Magnusson, and Hedges (2002) in their study of pediatric emergency department patients and their parents. It would appear that it is not the actual waiting time, but the patient's perception of whether this was a reasonable amount of time to wait based on their expectations, that impacts on their level of satisfaction (Boudreaux, d'Autremont et al, 2004).

#### Social Justice

Larson (1987) adds the dimension of social justice to the discussion of queuing and customer satisfaction. In his research, Larson found that when customer's expectations of who should be seen first are violated, dissatisfaction occurs. For example, most people feel that a "first come, first serve" is a just approach to waiting lines, and are unhappy when someone is afforded the opportunity to "skip" ahead in the queue (Larson, 1987). Additionally, Maister (1985) points out that the customer's sense of equity may not always be obvious. This concept is of particular importance in the emergency setting, where nonlinearity is the rule. For example, patients with life-threatening injuries are necessarily seen ahead of those with less urgent medical concerns, regardless of their waiting time. This can lead to dissatisfaction, as

patients do not know the "rules" in the ED making the waiting game seem unjust (Mowen et al, 1993).

#### Patient Expectations

An ED's LWBS rate is an indication of the level of patient satisfaction within that particular ED (Fernandes et al, 1997). The ED also serves as the "gateway" to the hospital (American Health Consultants, 1999). Considering that the ED is the first, and often only, impression that a patient may have of the health care facility, the importance of the ED encounter to the hospital's reputation cannot be overstated.

Parasuraman, Zeithami, and Berry (1985) point out the difficulty with measuring quality in a service industry. Often the services provided are intangible, and the service provision is heterogeneous, varying from provider to provider. Service quality is also closely linked to customer expectations, as Parasuraman et al (1985) found in studying bank customers and managers. In their focus group study, Parasuraman et al identified several key determinants of satisfaction with financial institutions, including: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, and understanding or knowing the customer. Clearly, these determinants encompass both technical abilities and interpersonal communication skills, with a higher proportion of determinants speaking to interpersonal relationships between the customer and the service provider.

Linder-Pelz (1982a) defines patient satisfaction as a positive evaluation of distinct dimensions of health care, based on the patient's expectations and perceptions of how the service met these expectations. These expectations are powerful predictors of patient satisfaction. For example, Linder-Pelz (1982b) found that the patient's belief about the physician prior to the health care encounter played a significant role in the evaluation of the health care interaction, regardless of what the physician did. The author also found that because patient satisfaction is linked to patient expectations, the satisfaction with a service could change, despite the service remaining constant (Linder-Pelz, 1982a).

In contrast, Merkouris, Infantopoulos, Lanara, and Lemonidou (1999) suggest that patient expectations are not fixed on arrival, and that staff have an opportunity to shape patient expectations through interpersonal communication. Based on their research, Merkouris et al (1999) highlight the impact that nurses can have on patients' impressions of quality of care by virtue of the amount of time they spend with patients.

#### Acuity

Research based evidence supports the contention that acuity plays a role in patient satisfaction with ED care (Boudreaux, Friedman, Chansky, & Baumann, 2004; Sun et al, 2000; Thompson et al, 1996). This may be explained by the fact that higher acuity patients get seen quicker than other patients, and because of the severity of their illness,

receive more frequent, in-depth care from ED staff (Boudreaux, Friedman, et al, 2004).

#### The "Servicescape"

Whether the "servicescape", or physical surroundings, affect the patient's overall rating of satisfaction is controversial. Mack et al (1995) found that this was an important factor predicting patient satisfaction in their study of metropolitan ED's in five United States cities. Swan, Richardson, and Hutton (2003) reported similar findings in their comparison of standard and 'appealing' hospital wards. They found physicians, nurses, support staff, physical skills, and food were all rated more favorably on the appealing ward. Furthermore, the patients on the "nice" ward gave an overall higher rating of quality to the hospital and indicated a greater intent to use the facility again than did those patients on the standard ward (Swan et al, 2003). In contrast, Mowen et al (1993) found that tangibles such as staff neatness, clean and pleasant surroundings, and the presence of state of the art equipment had no impact on patient satisfaction.

# Negative disconfirmation: Patients who Leave Without Being Seen

Various researchers have examined what types of patients tend to leave the ED without being seen, why they chose to leave, and what happens to them after they leave. These are crucial questions to be answered if one wants to reduce the rates of LWBS.

#### Who Leaves: Characteristics of patients who LWBS

Typically, patients who leave without being seen are those with less urgent health care needs. However, research has determined that this is not always the case. Depending on the setting studied, different characteristics of patients who LWBS have been described.

Sun, Adams, Orav, Rucker, Brennan, and Burstin (2000) found that a low acuity rating, being African American, and being young led to an increased chance that a patient would LWBS. Similarly, Wartman, Taggart, and Palm (1984) found that those patients with a less serious entrance complaint, who lived near the hospital, and who lacked medical insurance or a family doctor, were most likely to leave without treatment. An Australian study found that uninsured, female patients from lower socioeconomic classes were most likely to LWBS (Moshin, Bauman, & Ieraci, 1998).

Weissberg, Heitner, and Keefer (1986) as well as Moshin et al (1998) found that there was a high prevalence of psychiatric concerns amongst patients who LWBS. In the Weissberg et al (1986) study, almost 75% of the LWBS patients were in acute psychiatric distress.

There is a commonly held belief that patients who choose to leave the ED without treatment, do not really need to be there in the first place. This notion has been challenged by many authors, including Kellerman (1991), who stated the reason that many patients leave is that "they are literally too sick to wait any longer" (Kellerman, 1991, p. 1123).

A Spanish study found that the number of patients who left the ED waiting room because they felt too sick to wait any longer almost equaled the number who left because they felt better (Ortega, Esteban, Miro, Sanchez, & Milla, 2000). On the other hand, Browne, Lam, Giles, McCaskill, Exley, and Fashner (2001) and Derschewitz and Paichel (1986) found that most of the pediatric patients they followed up who had LWBS had minor health ailments, and most suffered no ill effects. Derlet and Nishio (1990) found that it was safe to triage less urgent patients away from their ED. Although 0.1% of patients returned to ED, none of them had a worsening of symptoms.

The research shows that there is wide variation amongst patients who LWBS. The research (Fernandes, Daya, Barry, & Palmer, 1994; Yoon, Stiener, & Reinhardt et al, 1993) and regional statistics (see Appendix C) support the contention that the majority of LWBS patients have less urgent medical needs. However, patients from every triage category are included in the population of patients who LWBS. For example, one resuscitative and nine emergent category patients have left the Health Sciences Centre Adult ED without seeing a physician in the last six months (see Appendix C). Similarly, Weissberg et al (1986) found that there was no difference between LWBS patients and those patients who waited for treatment in terms of chief complaints.

Several of the characteristics described in the research literature are particularly relevant to the population served by the HSC Adult ED.
For example, Sun et al (2000) and Moshin et al (1998) found the correlation between lower social economic status and LWBS rates is an important factor to consider when looking at a facility that serves a core area population. Furthermore, Lambe and associates (2003) found longer waiting times at public hospitals, trauma centers, teaching hospitals, and those hospitals located in poorer areas based on zip codes. All of these factors are relevant to the HSC Adult ED, potentially leading to longer waiting times and increased rates of LWBS.

## Why They Leave: Patient Expectations

Fottler and Ford (2002) state that the number one reason that patients "defect" from the waiting room is prolonged waiting times. In most studies, a significant correlation has been found between waiting time and LWBS rates (Arendt, Sadosty, Weaver, Brent, & Bioe, 2003; Bindman, Grumbach, Keanne, Rauch, & Luce, 1991; dos Santos, Stewart, & Rosenberg, 1994; Fernandes et al, 1994; Stock, Bradley, Lewis, Baker, Sipsey, & Stevens, 1994 ). However, Weissberg et al (1986) found no significant difference in waiting times between those patients who stayed for treatment and those who left. The research by Baker, Stevens, and Brook (1991) supported this finding. This points to the importance that perceived waiting times may play in patient satisfaction and the decision to leave an ED without treatment.

Furthermore, patients' expectations of appropriate waiting time for ED care may be culturally based. For example, Liao et al (2002) found

that those patients who LWBS from a Taiwan ED waited an average of 60 minutes before walking out. The patients felt that they should have been seen within this time frame. On the other hand, a United Kingdom study found that patients waited an average of 2.44 hours before leaving (Khanna, Chaudhry, & Prescott, 1999).

In addition to waiting times, there are a number of other variables that affect a patient's decision to leave without being seen. For example, in a recent study of the patients who LWBS from an American ED, 18% left because they felt that they were treated poorly by the ED staff. (Arendt et al, 2003). Additionally, in a study of patients who left a Toronto inner city ED without being seen, Fernandes et al (1994) reported that reasons for leaving included:

- The waiting times were too long
- They had interpersonal difficulties with staff

 There were pressing matters elsewhere to which they had to attend Specific to this practicum project, a study of patients who LWBS
from a Winnipeg ED (Malone, 2003) found that the top five reasons given for this decision were:

• Waiting in pain

- □ Spoken to harshly, in a hurried, uncaring manner
- Concerns regarding a lack of privacy
- A feeling that they had been forgotten
- Long waiting times

Malone (2003) found that the number one reason given for LWBS was the experience of waiting in pain. However, nearly every patient surveyed said they felt that they had been forgotten by the ED staff (Malone, 2003). This points to the need to have ongoing communication with patients who are waiting and to keep them informed about the potential waiting times. For example, Arendt et al (2003), found that LWBS patients most frequently stated that the one thing that would have made them stay was more updates about the waiting time.

## What Happens to them: Outcomes Related to LWBS

The outcomes of patients who LWBS are difficult to accurately assess. Often these patients are lost to follow-up. One reason for this is that it is often difficult to contact patients by phone. For example, Horne and Ros (1995) attempted to call 250 consecutive pediatric patients who had presented to a University ED and subsequently LWBS. Even after phoning up to six times in a 72-hour period, they were only able to reach two-thirds of the patients. Similarly, Thiboudeau, Chan, Reilly, and Keyes (2000) found that using the telephone number generated by the clerical staff in a tertiary care ED resulted in only a 68.9% success rate in reaching patients. If the phone number was verified after registration, the success rate in reaching patients rose to over 80% (Thiboudeau et al, 2000). This highlights the need for registration staff to update the patient's demographics on each encounter. While this is policy at HSC,

it is not always followed, leading to difficulty reaching patients for followup care.

Another factor that makes follow-up difficult, specifically at HSC, is the somewhat transient population served by this inner city ED. Additionally, the resources are not in place to contact the over 16,500 patients who LWBS from WRHA ED's annually, including 5,354 from Health Sciences Centre alone. Therefore, we do not know who is leaving the HSC Adult ED, why they are leaving, and what happens to them after they leave.

However, studies from other ED's have found that approximately 50% of the patients who LWBS do not seek health care within the subsequent week (Baker et al, 1991; Dershewitz & Paichel, 1986). This leads one to believe that their health concerns were not all that urgent. Yet, a San Francisco public hospital ED study found that four percent of the patients who LWBS were later hospitalized, and 27% returned to the ED within the three weeks following their initial ED visit (Bindman et al, 1991). Baker et al (1991) studied those patients who LWBS from a Los Angeles public trauma center ED. Of these patients, 46% required emergent care based on their triage level. Eleven percent of the patients who LWBS required admission within one week of their initial ED visit, and 29% received care elsewhere within 24 to 48 hours. Furthermore, Baker et al (1991) found that 3% of LWBS patients, not including those patients lost to follow-up, required emergency surgery. They also found

no difference in terms of acuity, triage categorization, chief complaint, or self-reported health status between patients who remained in the ED for treatment and those who LWBS (Baker et al, 19991). These studies clearly indicate that a significant number of the patients who LWBS from EDs are at risk for deterioration in their health.

Finally, while the majority of patients who leave without being seen have less urgent complaints, suffer no ill effects, and do not require immediate care, the Calgary inquest (Delong, 2003) and <u>Poe vs. South</u> <u>Fulton Medical Centre (Laurent, 2003)</u>, both of which deal with cases wherein patients died after leaving Eds without seeing a physician, highlight that some of the patients who leave do require emergent care, and therefore reinforce that LWBS is a significant ED issue.

### **Altering Patient Expectations of ED Care**

There are a number of actions that one can undertake to improve patient satisfaction with the care that they receive in the ED. The literature suggests that perceived waiting time and the quality of interactions with staff are the key determinants of patient satisfaction with care provided in the emergency department (Boudreaux, d'Autremont, et al, 2004).

Interventions aimed at improving the flow of patients through the ED will result in decreased waiting times for patients. One can, and should, expend resources to decrease waiting times in the ED by reducing overcrowding and improving the efficiency of the ED.

Suggestions to do so include: streamlining triage and registration processes (American Health Consultants, 1999; Black, 2003; Fernandes & Christenson, 1995), improving teamwork within the ED (Browne et al, 2000; Lau & Leung, 1997), using nurse practioners to treat patients with minor illness or injuries (Blunt, 1998; Cooper, Lindsay, Kinn, & Swann, 2002; Covington, Erwin, & Sellers, 1992; Nurses Board of Victoria, 2002; Shrimpling, 2002; Wright, Erwin, Blanton, & Covington, 1992), developing clinical pathways that can be initiated by nursing staff (Browne et al, 2003; Bursch et al, 2003; Jones, 1996), developing a fast track or minor treatment area for less ill patients (American Health Consultants, 1999; Fernandes et al, 1997), delegating minor procedures to nursing staff (Lau & Lueng, 1997; Purnell, 1995), partnering with inpatient units to facilitate transfer of admitted patients to the ward in a timely manner (Lynn & Kellerman, 1991), utilizing stat labs within the ED to improve turn-around-times for diagnostic testing (American Health Consultants, 1999; Parnell, 1995), and developing observation units for patients requiring a period of "watchful waiting" before a decision regarding disposition is made (American Health Consultants, 1999).

Miro et al (1999) go so far as to suggest managing ED overcrowding by allowing wait times to build at triage so that patients self-select away from the ED. One could take this one step further and divert patients away from the ED by limiting ambulances (Lynn & Kellerman, 1991), or triaging less urgent patients away from the ED as Derlet and Nishio

(1990) did. However, as Kellerman (1991) points out, it is difficult to determine the true acuity of a patient prior to completion of a detailed assessment and diagnostics, neither of which are available at triage.

However, the literature also suggests that the focus of attention should be on changing the patient's perceptions of his/her waiting time. For example, as Thompson, Yarnold, Williams, and Adams (1996) found, perceived, but not actual, waiting time is strongly correlated with patient satisfaction. According to Fottler and Ford (2002), "managing the perception of the wait is as effective a technique as managing the actual waiting time" (p. 59). Similarly, Boudreaux et al (2004) claim that managing expectations of waiting time, by using brochures, explanations, and videos, may be more effective than improving actual waiting times to increase patient satisfaction, and is certainly more cost effective.

As shown in Table 2, Maister's (1985) principles of waiting can be applied to the ED setting to change the patient's perceptions of their waiting time. The bolded interventions could be accomplished, in part, by providing patients and their families with an educational brochure at the time of triage.

## Table 2

# Application of Maister's Principles to an ED Setting

Waiting Time Principle	Possible Interventions		
Occupied time feels	Magazines, TV, education material avaible in the waiting		
shorter than	room (Fottler & Ford, 2002; Zimmerman, 2001)		
unoccupied time			
Time waiting for service	Initiate care at triage (Browne et al, 2000; Bursch et al,		
seems longer than time	1993; Jones, 1996)		
during service delivery	Reassess patients who are waiting		
Anxious waits seem	Provide education about what will happen in ED (Fottler &		
longer than non-	Ford, 2002; Bradshaw & Leemis; 1995; Corbett, White, &		
anxious waits	Whittlake, 2000; Kologlu, Agiler, & Commack, 1999; Krishe		
	& Baraff, 1993)		
	Supplement verbal explanations with written information		
	(Krishel & Baraff, 1993)		
	Use verbal and nonverbal communication to show patient		
	that his/her concerns are understood and cared about		
	(McMillan et al, 1986)		
	Greeter or patient advocate in ED or parking lot (Fottler &		
	Ford, 2002; Zimmerman, 2001)		
Waits of uncertain	Provide patients will an estimate of how long their wait will		
length seem longer than	be (McMillan et al, 1986; Mowen et al, 1993; Nauman &		
certain ones	Miles, 2001) (Think Disneyland: experts at customer service,		
	indicate how long waits for rides will be; Larson, 1987)		
Unexplained waits seem	Ensure patients cannot see unoccupied staff or empty beds		
longer than explained	from the waiting rooms (Fettler & Ford, 2002; Maister, 1985)		
waits	Explain rationale for wait being longer than expected (Hedges		

	et al, 2002)		
Unfair waits seem	Explain why patients may not be seen in first come, first		
longer than fair waits	serve order (Maister, 1985; Mowen et al, 1993)		
	Allow patients to explain their health concerns (Naumann $\&$		
	Miles, 2001)		
	Announce arrival of critically ill patients to waiting room i.e.		
	"gunshot wound coming through" (Fottler & Ford, 2002)		
	Separate entrances for minor injury patients who may be		
	seen ahead of sicker patients because of space availability		
	(Nelson, Coleman, & Walker, 1997)		
Solo waits seem longer	Arrange seating in communication clusters (Fottler & Ford,		
than group waits	2002)		
Uncomfortable waits	First aid treatments (ice, splints, etc) initiated at triage		
seem longer than	(American Health Consultants, 1999; Arendt et al, 2003;		
comfortable waits	Shrimpling, 2002)		
	Standing orders for analgesia at triage		
	Comfortable seating, temperature, cleanliness, availability of		
	phones, refreshments (Mack et al, 1995; Fottler & Ford,		
	2002; Swan et al, 2003; Zimmerman, 2001)		
Interesting waits seem	Reassessments by nurse will help pass time (Fottler & Ford,		
shorter than	2002), as well as ensure patient safety		
uninteresting ones	Frequent updates regarding waiting times (Arendt et al,		
	2003; Lau & Leung, 1997; Tran, Schutte, Muelleman, &		
	Wadman, 2002; Zimmerman, 2001)		
	Imaginative lobby designs (Larson, 1987)		
	TV, video games, VCR, aquarium in waiting room		
	(Zimmerman, 2001)		

A key concept is that unexplained waiting seems longer than explained waiting. If the nurse were to provide information at triage regarding the nature of the ED and the reasons for delays, the patients' expectations of how quickly they will be seen may be altered. According to the C/D Model, this will impact on the perception of their waiting time and overall customer satisfaction. In addition, if the written information highlights the importance of speaking to the triage nurse before leaving, this may lessen the chance that the patient will disappear from the waiting room. This would provide the opportunity for the triage nurse to reassess the patient, and if necessary, change their triage rating to have them seen sooner, if their condition has deteriorated. At the very least, it allows the triage nurse to advise the patient of the importance of waiting to be seen, and if they choose not to, accurate documentation of this decision and the advice provided can be recorded.

## **Information Provision at Triage**

Research supports the provision of information to patients regarding the anticipated wait time to receive treatment on the basis that it improves patient satisfaction and deceases the likelihood that they will leave without being seen (Arendt et al, 2003; Boudreaux et al, 2004; Boudreaux & O'Hea, 2004; Corbett et al, 2000; Krishel & Baraff, 1993; Kologlu et al, 1999; Larson, 1987; Mowen et al; 1993; Naumann & Miles, 2001; Nelson et al, 1997; Sun et al, 2000; Thompson et al, 1996; Tran, et

al, 2002; Trout, Magnusson, & Hedges, 2000). However, as Thompson et al (1996) point out, how the information regarding ED processes and potential wait times should be delivered to best achieve this goal has not yet been established.

Several authors describe the use of written material to supplement the explanation provided by the triage nurse (Kologlu et al, 1999; Krishel & Baraff, 1993; Nelson et al, 1997). Krishel and Baraff (1993) developed a lengthy handout for patients describing the role of the ED in caring for patients with injuries that cannot wait to be seen by their family physician. The handout discusses the roles of the various ED team members, and the process of care delivery within the department from triage to discharge. Although the authors do not discuss readability of their handout, it appears to be written at above a grade six level, which is the recommended level for health information brochures (Maynard, 1999). The researchers did not question patients about the handout itself, instead focusing on overall satisfaction with care. They found that the patient's who received the handout rated overall satisfaction with care in the ED significantly higher than those patients who did not receive this information (Krishell & Baraff, 1993). Specifically, the group of patients receiving the education handout rated the staff's ability to decrease their anxiety level and to provide information higher than the patients who did not receive the handout. They also indicated that they

were significantly more likely to use the ED again (Krishell & Baraff, 1993).

Kologlu et al (1999) developed an educational handout because of their observation that patients were not well informed about the functioning of the ED and the information provided to patients in their ED was inadequate. They found that those patients who received and read the handout were more satisfied with their care overall. These patients were more satisfied with their waiting time, felt they received more information about the department and their condition, and reported that they would be more likely to use this ED again (Kologlu et al, 1999). Interestingly, the researchers found that only 62% of the patients who were given the handout read it. Reasons for not reading the handout included: being in a hurry, being too anxious, not being able to concentrate, and not knowing what the handout was for (Kologlu et al, 1999). Again, the readability of the tool was not rated, and it appears to be at an advanced level. Further, the form ends with the comment "we hope you will be tolerant about the little problems that you may face here" (Kologlu et al, p. 246). This may be seen a condescending by some patients, as problems and delays faced by anxious patients seldom seem "little."

Corbett et al (2000) describe the use of a six-minute videotape that played in the waiting room of an ED. This video explained reasons for delays, ED steps from entry to discharge, and the team members' roles

within the ED. In a subsequent telephone survey, the researchers found a significant improvement in feelings of anxiety and appropriateness of delays encountered (Corbett et al, 2000).

Nelson et al (1997) and Bradshaw and Leemis (1995) developed brochures that included maps of the ED. The driving force behind the development of the brochures was to answer frequently asked questions of patients and their family members. Nelson et al (1997) also found that the majority of the complaints filed by patients in their ED related to a lack of information regarding waiting times.

While Bradshaw and Leemis (1995) did not discuss an evaluation of their brochure, they comment that informal feedback from patients has been "outstanding." In contrast, Nelson et al (1997) attached a questionnaire to their brochure when they piloted it with 50 patients. All responding patients found the brochure helpful in understanding how the department operated, and no concerns were expressed regarding readability. The authors went on to develop a poster format of the brochure information to place in the waiting room to supplement the handout (Nelson et al, 1997).

Unlike the other educational tools developed for EDs, Bradshaw and Leemis (1995) also included the phone numbers of outpatient clinics at their facility, and "save your life" tips, such as knowing your blood pressure. This brochure also included a picture of staff at work and utilized an easy to read layout, showing entrances to the ED, plus the

location of amenities such as washrooms, phones, the gift shop, and perhaps most importantly, the coffee shop.

While it has been clearly shown that providing patients and their families with information regarding the ED and reasons for delays in service improves patient satisfaction, the best way to provide this information has yet to be determined. However, those emergency departments that have used written brochures have found an improvement in patient understanding of the ED, a decrease in patient anxiety, and an increase in overall patient satisfaction ratings.

#### Summary

Research lends support to the argument that an important aspect of patient satisfaction with ED care is the expectations that patients have regarding the care they are about to receive. Perceptions is an important component of patient satisfaction. Research has shown that providing patients with information regarding the ED and the reasons for waiting times and delays in receiving treatment is one mechanism by which expectations of care, and therefore satisfaction with care, can be altered. In a busy ED environment, supplementing verbal information about ED waiting times with a printed handout has been shown to be an effective tool for decreasing anxiety and improving patient satisfaction and decreasing LWBS rates.

## **CHAPTER 4: METHODOLOGY**

### Introduction

The purpose of this practicum project, as described earlier, was to develop an educational brochure that provides patients with information regarding how the ED functions, the reasons why waits may be incurred, and the importance of speaking to the triage nurse before leaving the waiting room. The project included the development, implementation, and evaluation of the brochure.

## The Practicum Design

### The Setting

This practicum project took place in the Adult ED of the HSC in Winnipeg, Manitoba. This site was chosen, in part, because it has the highest LWBS rate amongst the six WRHA EDs.

The HSC is a tertiary care facility that serves as the trauma center for all of Manitoba and northwestern Ontario. As well, it includes the Addictions' Unit and a large mental health complex. The HSC is located in the core area of the city of Winnipeg, and provides care to patients 17 years of age and older. Pediatric patients are stabilized and transferred to the Children's Hospital ED, which is also part of the HSC complex. Similarly, women who are greater than 20 weeks gestation are stabilized and transferred to the adjoining Womens' Hospital. Specific to the HSC Adult ED, this department provides care for approximately 40,000 patients annually. Approximately 5,300 (12.9%) of these patients leave without being seen by a physician (See Appendix C).

The HSC Adult ED currently has two triage nurses working from 0730 to 2330 daily, with single coverage on nights and during meal and rest breaks. A triage aide is on duty from 0900 to 2100 each day. The triage aide is responsible for greeting patients when the triage nurse is unavailable, transporting patients from the waiting room to the department, keeping the waiting room tidy, and providing a communication link between the patients and the triage nurse.

As in all WRHA ED sites, a computerized triage system was introduced in the HSC Adult ED in November, 2003. The goal of this system is to streamline the triage process and improve inter-rater reliability across the ED sites. It also includes a feature that prompts the triage nurse to instruct the patient to return to the triage desk if they feel worse in any way.

Beginning on April 26, 2004, an additional nurse was assigned to triage at HSC, from 1000 to 2200 hours, seven days a week. While the specific duties of this Reassessment Nurse are currently being refined, it will ensure double coverage at triage during times of peak patient volumes. The primary goal of this additional resource is to ensure that patients are reassessed in accordance with the CTAS guidelines (see Table 1).

#### The Procedures

## Developing the Tool

Using the C/D Model and Maister's Principles of Waiting as a framework, a brochure was designed that incorporated the following

elements:

□ Triage process

• Roles of staff members in the ED

Reasons for possible delays

• What to do if feeling worse while waiting

• When to expect reassessment

Amenities available in ED and hospital

• A map of the ED

## Refining the Tool

This brochure (see Appendix E) was tested using the Simplified Measure of Goobegygook (SMOG) formula. This is a simple formula that allows one to determine the readability of education materials (Maynard, 1999). The aim was to ensure the readability score does not exceed that of a Grade 6 level. Based on this formula, the finalized brochure had a reading level between Grade 6 and Grade 7.

Prior to implementation, informal feedback on the brochure was obtained from several sources, initially, from the ED Reassessment Nurses. The primary rationale for this strategy was that these are senior ED nurses, who have extensive experience in both ED nursing and triage.

## Staff Education

All ED staff were informed about the project and were invited to share their suggestions about the brochure's content at an informal presentation during a staff meeting. An enlarged copy of the brochure was also posted in the ED for staff to review. These measures were a crucial step in ensuring compliance with subsequent distribution of the brochures.

Once all feedback was incorporated, the brochure was finalized, and a one-month supply (3500 copies) was ordered from the HSC Print shop.

#### Implementation of the Tool

Beginning June 1, 2004, the triage nurses were to distribute the brochure to all patients after patient assessment. The goal was to provide a brochure to each patient at time of triage for a one-month period.

## Evaluation of the Tool

The effectiveness of this brochure was evaluated using three strategies, including: a patient evaluation of the brochure, validation of the patient feedback by staff in the ED, and a comparison of the LWBS rates before and after the implementation of the brochure.

## Patient feedback

The first strategy to evaluate the brochure included feedback from patients in the ED waiting room. To this end, during two twelve-hour periods in June (1000-2200 hours), a convenience sample of 20 patients was obtained from the population of patients presenting to the HSC Adult ED for care. Inclusion criteria were those patients who did not require immediate medical attention, were not acutely agitated or noticeably intoxicated, who were able to read and speak English, and who had been waiting for care in the department for a minimum of one hour.

The reassessment nurse speaks to each patient at intervals defined by the national triage guidelines. After completing their reassessment, patients who met the inclusion criteria, were asked by the reassessment nurse whether they received the brochure, and if so, had they read it. If they indicated 'yes,' to both questions, the patient was asked if they would be willing to speak with the nurse who was completing a project to assess the usefulness of the brochure. The reassessment nurse also told the patient that their care in the ED would not be influenced by their decision.

If the patient agreed, the reassessment nurse notified the project leader, who was on site in the department and carrying a pager during these times. The project leader approached the patient, explained the

purpose of the study, and obtained written informed consent (see Appendix F).

A short questionnaire (see Appendix G) was administered to patients to obtain their feedback on the ED brochure. The goals of this patient questionnaire were to determine: 1) if the content of the brochure met the patient's need for information, 2) whether the brochure was written at a level that was understandable to the patient, 3) if there was additional information that the patient would suggest including in the brochure, and 4) if the brochure influenced the patient's decision to stay in the ED for treatment. This face-to-face interview took approximately five minutes to complete.

## Staff review of patient feedback

Once the patient evaluation of the brochure was compiled, this information was be presented to the ED staff at a staff meeting, and their suggestions for incorporating this feedback into the final brochure was obtained.

### LWBS rate comparison

The LWBS rates were compared over a three-month period from April 1 to June 30, 2004. This data was readily available from the WRHA Emergency Program. This allowed for the isolation of the impact of the introduction of brochure from the impact of the introduction of the reassessment nurse role in the ED, which began essentially on May 1, 2004, on the LWBS rate. It was hypothesized that a decreased LWBS

rate would be realized in May 2004 related to the addition of the reassessment nurse at triage, and that a further decrease in the LWBS would occur in June, 2004, as a result of the ED brochure. The Goodness of Fit chi-square test was used to determine statistical significance of the changes in the LWBS rate during the three-month period.

## Ethical Considerations

This project was reviewed and approved by both the Education/Nursing Research Ethics Board at the University of Manitoba and the Research Department at the HSC (see Appendices H and I). Consent to participate in this project was obtained in writing. Ethical guidelines, as outlined by the Education/Nursing Ethics Board, University of Manitoba, were followed. The protocol for obtaining informed consent included the provision of verbal and written information about the project to each participant. Both the reassessment nurse and the project leader emphasized that participation in the evaluation is voluntary, and that it would in no way affect the care that the patient received during their ED stay.

Their right to refuse to speak with the project nurse at the time of recruitment established voluntary participation of the patients. As well, the right to refuse was verbally reinforced when the project leader met with the patient, and in writing on the consent form. Potential

participants were encouraged to read the consent form carefully prior to signing, and to raise any questions or concerns that they may have had.

In order to maintain anonymity, identifying information about the participants, including names and addresses was not collected. However, the participating patients were asked if they would like to receive a written summary of the evaluation outcomes. If they so desired, they would have been asked to provide their name and mailing address on the bottom of the consent form. This portion of the consent form would then have been removed and this information stored in a separate file. None of the participants indicated a desire to receive results of the evaluation.

Consent forms were kept in a separate locked file – accessible only by the project leader. Patients were advised that the information provided would be collated, and in no way would they be identifiable in published or disseminated outcomes. All data from this project will be kept in a locked cabinet in the project nurse's office, for a maximum of 5 years, and then destroyed in a paper shredder.

This project did not involve deception of participants. There were no physical or psychological risks to the patients participating in this project. The benefits to patients included an increased awareness of the workings of the ED to patients who read the brochure. Patients were not compensated for their participation in this evaluation.

## Summary

This practicum project involved the development, implementation, and evaluation of an educational brochure for use in the waiting room of the Adult ED at HSC. It was evaluated using a patient/family questionnaire, staff review of the outcomes of the questionnaire, and a compression of LWBS rate before and after implementation of the brochure.

## CHAPTER 5: RESULTS

#### Introduction

The provision of an educational brochure for patients awaiting care in the Adult ED was an intervention aimed at altering their expectations of care. It was hypothesized that this would lead to a decrease in the LWBS rate in the ED. The effectiveness of the brochure was evaluated using three strategies including a patient evaluation, staff review of the patient evaluation, and a LWBS rate comparison.

#### **Brochure Evaluation**

A total of 22 patients/ family members awaiting care in the HSC Adult ED agreed to participate in the brochure evaluation that took place in the department over a two-day period in the last week of June, 2004. Two patients were eliminated from the study when it became apparent to the project leader that they were too emotionally distraught to answer the questionnaire. Another patient was eliminated as he did not read the questionnaire because he "knew what it was about" without doing so. Thus, 19 patients completed the questionnaire.

## Patient Demographics

Age

The patients in this evaluation ranged in age from 18 to 81 years. The mean age of the participants was 43.7 years, with the majority of the participants being between 17 and 65 years of age, as shown in Table 3.

## Table 3

Age of evaluation participants

Age in years	Number of participants (N=19)
17-35	6
36-50	7
51-65	5
66+	1

Gender

Eight men and 11 women took part in this study.

## Education

The highest level of education achieved among the patients who took part in this evaluation ranged from Grade 6 to a University degree, as shown in Table 4. This finding reflects the diverse population served by the Adult ED. Nine of the participants had not completed high school, with 7 participants having a Grade 10 or less education. This reaffirms the relevance of the strategy undertaken to ensure the brochure was written at a Grade 6/7 reading level.

## Table 4

#### Highest Level of education completed Number of participants (N=19) Grade 6 1 Grade 8 2 5 Grade 10 Grade 11 1 Highest level of education completes Number of participants (N=19) Grade 12 7 University or college 4

## Highest Level of Education of Evaluation Participants

## Brochure Feedback

The comments that the participants provided about what they liked and didn't like about the brochure can be divided into three broad categories: readability, content, and layout (see Table 5).

## Readability

The brochure was rated (using the SMOG scale) as having a readability level between Grade 6 and Grade 7. With the exception of one patient for whom English was a second language, all patients reported that the brochure was easy to read and understand.

# Table 5.

Υ.

# Participants' perceptions of the brochure

Criterion	Participant comments
Readability	18/19 felt brochure was easy to understand
	"Simple to read"
	"Explains things clearly"
	"Too basic"
Layout	Participants listed the following as positive features about the brochure:
	Colour, map, "planned out nice", attractive, not cluttered, pictures tell
	you at a glance
	One participant felt that it was difficult to identify which "box" (i.e. triage,
	registration, waiting room, treatment area) she was in
Content	"Explained waiting time"
	"Let's people know, don't have to ask"
	"Explained different situations- who needs to be seen first", explains
	"why some people come after and are seen first"
	"Informative", "gives information", "information for somebody who's never
	been there before"
	"Answered what to do if I'm feeling worse"
	"Tells people the proper procedure to follow"
	"Reiterated what's on the signs on the wall said the same thing – a waste
	of money"
	"Did not mention about the different areas"

#### Content

13 out of the 19 participants (68%) stated that the brochure answered all the questions that they had about the emergency department. Several of the participants (n=5) had been to this ED before, and stated that they had no questions about the ED process. While 9 of the participants felt that no additional information was needed on the brochure, other participants suggested including information regarding the expected waiting time in more detail (n=2), how the triage nurse determines the severity of the patient situation (n=1), what "serious" means (n=1), why armbands are given (n=1) and what the colours of armbands (other than red) mean (n=1), and more information about the various areas within the ED (n=1).

One participant felt that the information contained in the brochure was already available in the signage in the waiting room, and that the brochure was not necessary. Another participant stated that they had been in the Adult ED four times in the last month, and the brochure accurately depicted what had occurred on these occasions.

## Layout

Patients commented positively on the colour, pictures, map, and lack of clutter in the brochure.

#### Impact on Decision to LWBS

None of the participants felt that the brochure influenced their decision to stay for treatment or leave the department without being seen. However, two of the participants felt that was helpful in explaining what you go through while you are waiting and that because of the brochure they knew what to expect while they were waiting.

Suggestions for improving waiting times in the Adult ED

The participants in this evaluation provided a wide range of insights regarding how waiting times could be improved in the Adult ED at HSC. Several patients suggested increasing physician coverage in order that patients are seen quicker (n=5). As one patient said, "faster is better." Additionally, two patients suggested creating an area where less serious patients could be seen separately from the more serious patients. One of these patients suggested that every ED should have such an area, and that a nurse may be able to see patients of a less serious nature, thus making the physicians available to tend to sicker patients. Similarly, another patient noted that if an additional physician was hired to see the less ill patients, the other two physicians could deal with the acute emergencies, and flow would be better. Patients also suggested having a "bigger hospital" and "bigger emergency department" to improve waiting times to be seen.

Five participants suggested amenities for the waiting room that they felt would improve their waiting experience. These included a larger

waiting room, the ability to accommodate wheelchairs in the waiting room, recliners, more brochures about the waiting times, free coffee, and "canapés and champagne."

Despite having a number of suggestions for improving waiting times in the Adult ED, many patients commented favorably on the care that they had received in the waiting room. For example, one patient complimented the staff for giving her a meal tray while she was waiting, stating that this doesn't happen at "the other" ED she has visited in the city. Another patient stated that "this (ED) is better because I had someone keep coming out and checking on me – other places they get your information and forget about you." This statement gives credence to the importance of re-evaluating patients in the waiting room and supports the reassessment nurse role.

## **LWBS** Rate Comparison

To evaluate the impact of the educational brochure on the LWBS rate at HSC Adult ED, the LWBS rates for the months of April, May, and June 2004 were compared. Table 6 provides an overview of the LWBS rate for these three months.

## Table 6

# HSC Adult ED Total Visits and LWBS Rate: April – June 2004

Triage Category	April 2004	May 2004	June 2004	
	No reassessment	Reassessment	Reassessment	
	nurse	nurse, no brochure	nurse and brochure	
Resuscitative	0	0	0	
Emergent	20	22	17	
Urgent	131	103	93	
Less-Urgent	136	165	142	
Non-urgent	54	52	61	
Scheduled	4	0	0	
Total patients	345	342	313	
LWBS				
Total ED visits	3446	3649	3645	
% LWBS	10.0%	9.4%	8.6%	

## **Statistical Analysis**

The Chi square test can be used to determine if theoretical, or expected, outcomes fit with the actual findings (Spiegel, 2000). The Goodness of Fit Test, a means of determining the chi square, was used to determine if the changes in the LWBS rates in the three months studied were statistically significant (see Table 7). With a Chi square of 4.18, which falls below the critical value of 5.99 at p < 0.05, it was concluded that the reductions in the LWBS rate that occurred with the introduction

of the reassessment nurse and the use of the educational brochure were not statistically significant.

#### Table 7

Goodness of Fit Test to determine statistical significance

ENGLÜSER HEITERSTEINE BURGERGOPPORTUREN BARDERGUREN.		Month	********	#25049480000000000000000000000000000000000
LWBS Status	April 2004	May 2004	June 2004	Total
Yes	345	342	313	1000
	(321)	(340)	(339)	
No	3101	3307	3332	9740
	(3125)	(3309)	(3306)	
Total	3446	3649	3645	10740

Note: Expected LWBS rate and Non-LWBS rate shown in brackets

#### Summary

The patients who participated in evaluating the educational brochure felt that it answered their questions about the ED, provided information about how the ED functions and what to do should they feel worse. They did not, however, feel that the brochure influenced their decision to remain in the department for care. While there was a reduction in the Adult ED LWBS rate in the month of June 2004 compared to the previous two months, this difference did not reach statistical significance.

## CHAPTER 6: DISCUSSION

#### Introduction

The educational brochure was developed using the Maister's Principles of Waiting to affect change in the expectations that patients have regarding their ED visit in general, and their waiting time in particular. This intervention was aimed at preventing negative disconfirmation of the patient's expectations, which according to the C/D Model of Customer Satisfaction, can lead to undesirable outcomes, in this case a decision to LWBS. In addition to evaluating the brochure for a user point of view, patient feedback was sought on how to improve the waiting experience in the Adult ED. Finally, the impact of the brochure on the LWBS rate was explored.

#### **Brochure Content**

#### Patient Expectations

## Anxious waits seem longer than non-anxious waits

Information about ED processes has been shown to decrease patient anxiety and to increase patient satisfaction with ED care (Kologlu et al, 1999; Krishel & Baraff, 1993). In keeping with Maister's Principles of Waiting, the brochure was designed to provide information to patients about how the ED functions, the steps the patient could expect to go through in the ED visit, and the possible reasons for delays in receiving treatment. The majority of the participants were very positive in the evaluation of the brochure. Most felt that it was a good

idea, that it answered the questions that they or others may have about the department, and that both the layout and readability of the brochure was positive. Two of the participants suggested that more information regarding the waiting time be included in the brochure.

#### Waiting Times

## Waits of uncertain length seem longer than certain waits

The desire by patients to know exactly how long they will be waiting is consistent with Maister's principle that waits of uncertain length seem longer than certain ones. This also concurs with Arndt et al's (2003) findings that the number one factor preventing patients from LWBS was more frequent updates about waiting times. However, uncertainty is the very nature of the ED setting. Providing accurate information about potential waiting times is difficult.

The CTAS Guidelines (see Table 1) do provide response times for patients within each of the five triage categories. This information could be included in the brochure or posted in the waiting room. However, this would not be recommended, because, with the exception of Resuscitative and Emergent patients, these response times are seldom met. As Maister (1985) points out, people are generally content to wait a given amount of time for service, but once the stated time has elapsed, satisfaction falls rapidly. Providing patients with expected times to be seen by a physician that could not be realistically met would potentially lead to distrust of the triage staff, decreased patient satisfaction, and

increased LWBS rates. Furthermore, it is unlikely that the triage nurses would distribute a brochure containing such information. This was confirmed by the ED staff who reviewed the patient evaluation comments.

If a data abstracting system were in place in the Adult ED, an average waiting time for patients in each triage level in this ED could be obtained. However, there is such variation in the times to be seen that providing an average time may not be helpful to patients.

The difficulty in providing an accurate estimated waiting time is a likely the reason why none of the authors of ED educational brochures included this information in their brochures, instead taking an "it depends" approach to waiting times (Kologlu et al, 1999; Krishel & Baraff, 1993; Nelson et al, 1997). It is more appropriate to provide patients with an update regarding the possible waiting time when completing reassessments in the waiting room. This is consistent with recommendations found in the literature (Arendt et al, 2003, Lau & Leung, 1997; Tran et al, 2002, Zimmerman, 2001).

#### Social Justice

## Unfair waits seem longer than fair waits

It is often perceived that ED patients feel a sense of social injustice when patients are seen "out of order" (Fottler & Ford, 2002; Mowen et al, 1993). The comments of the participants in this project verified that they understood that more serious patients require priority care, and that

sometimes patients who arrive after them need to be seen sooner. However, this was a small sample of the ED population, and by virtue of the inclusion criteria, the patients most likely to LWBS may have been excluded.

### Serivcescape

## Uncomfortable waits seem longer than comfortable waits

A larger ED, larger waiting room, recliners, and the ability to accommodate wheelchairs in the waiting room were some of the suggestions provided to improve the waiting experience in the Adult ED. These suggestions should be taken into consideration when planning the new ED, set to open in 2005. Additionally, two patients suggested that refreshments, ranging from coffee to champagne, be served in the waiting room, and one patient commented on her pleasure at being provided a meal by the triage nurse.

#### Value of Service

## The more valuable the service, the longer the customer will wait

The patients in this study felt that the educational brochure did not influence their decision to LWBS or to stay for treatment. Rather, they indicated that they were planning to stay until they were seen because their health needs required that they do so. This may indicate that the patients were satisfied with the wait and care at HSC Adult ED. Several patients volunteered that they knew this was a busy ED, that they understood the waits, and that, as one patient put it, "staff are
doing their best to see patients as fast as they can." An interesting comment from one participant was that "the reputation from before was that this was a bad place to come. It takes a while to change this. It's changing – this will be the number one place to go to." This comment supports the ongoing efforts to improve ED care at HSC.

## Interpersonal Communication with Care Providers

Triage can be a challenging place to work. It is not uncommon for the triage nurse to feel that patients blame them for the waits that they incur. Boudreaux et al (2000) found that ED staff frequently underestimate patient satisfaction, and suggest that this may set up a self-fulfilling prophecy. None of the patients interviewed in this project indicated any dissatisfaction with the triage staff. On the contrary, they commented on the seemingly "little things" that the triage staff did for them, such as providing a meal tray, checking on them, and providing explanations about the various areas in the department and the reasons for waiting, that made their waiting time more bearable. This rapport developed between patients and triage staff is important, as it can set the stage for the remainder of the ED visit (Bjorvell & Stieg, 1991). Further, the patients in this study recognized that the HSC Adult ED was a busy ED and that staff were doing their best to see patients as quickly as possible. As was simply stated by one patient: "this is the best place to come for emergency care."

## **Reducing Waiting Times in the ED**

The patients interviewed had valuable insights for reducing the waiting times in the ED. Several of the patients interviewed in this project suggested enhanced physician coverage to improve the speed at which patients were seen. This suggestion has merit, as Lambe et al (2003) found that waiting times decreased by 30 minutes for each additional emergency physician. A suggestion was also made that a separate area for minor injuries should be designed, and that this area could be staffed either by a physician or a nurse. This is supported by the literature, as development of a fast track area has been shown to improve patient satisfaction and to decrease the LWBS rate of the ED (Covington et al, 1992; Fernandes et al, 1997). Further, research has shown that a fast track area can be safely and effectively staffed with a nurse practitioner, allowing the physician to care for more acutely ill patients within the ED (Blunt, 1998; Chang et al, 1999; Cooper et al, 2002; Covington et al, 1992). This role is being established in the HSC Adult ED in August 2004, with one of the primary goals being to decrease the LWBS rate in this ED.

## **LWBS** Rate Comparison

The hypothesis that a decreased LWBS rate would occur in May 2004 related to the addition of the reassessment nurse at triage, and that a further decrease in the LWBS would occur in June 2004 as a result of the ED brochure, was rejected as the reduction in the LWBS

rate did not reach statistical significance. However, the trend of reduction in LWBS rates, especially in the more acute triage categories (i.e. emergent and urgent), was clinically significant (see Figure 3). For example, 23% fewer emergent and 10% fewer urgent patients LWBS in June 2004 compared to the previous month.

Further, the distribution of the educational brochure in June 2004 was associated with a greater reduction in the LWBS rate than the introduction of the reassessment nurse (0.8% vs. 0.6%).

Figure 3



LWBS Rate April-June 2004

A reduction in the ED LWBS rate related to information provision has not been previously reported in the literature, as LWBS rate was not one of the outcomes measured. Based on the premise that the ED's LWBS rate is an indication of the level of patient satisfaction (Fernandes

et al, 1997), the decrease in LWBS rate found, while not statistically significant, does support the contention that by educating patients about the ED one can alter their expectation and thus enhance confirmation of these expectations.

### Limitations of the Project

An ED's LWBS rate can be influenced by numerous factors, including staffing patterns, departmental acuity, the number of admitted patients in the department, and the patient census on any given day. These factors were not controlled in this evaluation. It is possible that the lack of statistically significant changes in the Adult ED LWBS rates were due not to the brochure but related to other factors such as these within the department during the month of June. A larger study, involving more patients over a longer period of time, is suggested. In addition, further research regarding the population of patients who leave without being seen and the factors that influencing LWBS is suggested.

Although staff appeared to support the concept of a brochure for patients awaiting treatment, it was apparent from the number of brochures remaining at the end of the month that not every patient received a brochure when they arrived. Staff questioned felt that this was related to the fact that this was a new process, and as a consequence, they often forgot to hand out the brochure. Other staff felt compelled to provide an explanation when handing out the brochure,

and thus felt that this would take additional time, therefore were reluctant to distribute the brochure at triage.

It is unknown if better compliance on the part of the triage nurses in disseminating the brochures would have lead to a larger decrease in the LWBS rate in the month of June. However, the clinically significant decrease in the LWBS rate with the less than optimal compliance is reason for cautious optimism.

Although reminders were posted in the staff washroom, staff lounge, departmental communication book, at triage, and were e-mailed to all staff, perhaps additional inservicing and more lead-time would have enhanced distribution of the brochures. Introducing the brochure at a later date, when staff had acclimatized to other changes underway in the department, such as the addition of the Reassessment Nurse role and the redevelopment of the minor treatment area, may have increased the likelihood that staff would remember to distribute the brochure. Additionally, a discussion of what to tell patients when giving them the brochure, reassurance that this need not be a lengthy, may have led to an acceptable "script" for the triage nurse to follow, making this discussion easier to facilitate. As well, a greater emphasis on the purpose of the brochure - to provide information, which may actually decrease the time previously spent providing this information, may have resulted in better compliance.

Despite the inconsistent dissemination of brochures at triage, the triage nurses that did handout the brochure commented that the brochure helped them explain to patients how the ED works and the reason that they may be waiting. Several staff suggested that in addition to providing the brochure to patients individually, that brochure be made into a poster and situated at the entry to the department. Nelson et al (1997), did exactly this with their brochure based on staff feedback. Additionally, one of the reassessment nurses, finding the educational brochure helpful in HSC ED, sent one of the brochures to her colleagues in another tertiary care ED.

The research shows that staff interaction with patients significantly impacts patient satisfaction. The decrease in the LWBS rate may have been a result of the triage nurses changing their usual behavior towards patients because of the project underway in the department. The finding that the patients in this study were not even considering leaving the department may indicate a satisfaction with their interactions with the triage staff. Their comments clearly demonstrated that they noticed an increase in personal attention while waiting at the HSC Adult ED compared to other ED's. This lends support to the reassessment nurse role and the importance of customer service training for triage staff.

The relatively small number of participants (N=19) in this evaluation limits one's ability to generalize these findings to the entire ED

population or to other ED's. A larger study is suggested to test the validity of these findings. Additionally, because of the inclusion criteria, some of the patients who may be more likely to leave the Adult ED without treatment may have been excluded. This includes intoxicated patients, those with acute psychiatric concerns, and those who cannot read or write English. Finally, the waiting times of the participants in this evaluation may not reflect those of patients who LWBS. While an attempt was made to enroll patients who had waited 60 minutes or more, some patients recruited had not been waiting this long. In the interest of time, these patients were included in the evaluation; however, this may have biased the findings.

### **Recommendations for Future Research**

While this project demonstrated that providing written information to patients about the ED led to a clinically, but not statistically significant, decrease in the LWBS rate at HSC Adult ED, particularly for patients in the emergent and urgent triage categories, further research into the LWBS phenomenon is required. A prospective cohort study with a larger sample size is needed to provide further evidence of the impact of disseminating an educational brochure to patients awaiting care on the LWBS rate of an ED.

A pre and post evaluation to capture changes in patient expectations of ED service as a result of the use of the brochure would

assist in defining the impact of the written information of patient satisfaction in the ED environment.

A non-participatory observation of triage nurse communication with patients may assist in determining barriers to some triage nurses using a brochure in the ED waiting room setting. This would allow for modification of such barriers and tailored education to enhance information provision in the ED.

A review of the LWBS rate report generated by the HSC Admission, Transfer, and Discharge (ATD) system may provide valuable insights as to which patients are leaving. This report includes entrance complaints and triage levels, and thus is a rich source of information on which to build a composite of patients who LWBS. Sun et al (2000) and Moshin et al (1998) found a correlation between socioecominic status and LWBS rates. The inclusion of postal code data in this report would allow for preliminary conclusions regarding the relationship between income and LWBS rates. This would allow the ED to partner with community agencies to improve the health care provided to patients.

A telephone survey of patients who have left the Adult ED without being seen by a physician should be completed. Albeit there would be gaps in this survey related to lack of, or imprecise gathering of, phone numbers, this would provide the ED Program with data not only regarding why the patients chose to leave, but also if they required alternate care after leaving the department. Service delivery could then

be tailored to meet the needs of these patients, either in the ED or in collaboration with community resources.

A comparison of the LWBS rate in the HSC Adult ED in relation to factors shown by research to influence an ED's LWBS rate, such as number of admitted patients in the ED, acuity of ED patients, and length of stay of patients in the ED, may help define areas of improvement for the ED Program.

Finally, in this project, the LWBS rate was used as an indicator of overall patient satisfaction with the care provided in the ED. A patient satisfaction questionnaire may provide more insight into the factors influencing patient's satisfaction and provide a basis for improving the services provided to patients at the HSC Adult ED.

### **Dissemination of the Findings**

The results of this project will be presented to the WRHA ED Program. Based on the favorable responses of patients who evaluated the brochure, and the clinically significant trend of decreasing LWBS during the study period, the adaptation and use of the brochure at the other emergency sites within the city will be recommended. A presentation specifically for the HSC Adult ED staff will be held. Additionally, the results of this project will be collated and submitted to appropriate journals for publication. It is anticipated that these results will also be shared at a national emergency nursing conference.

### Conclusion

The C/D Model of Customer satisfaction provides an appropriate framework from which one can plan interventions aimed at altering patient expectations with ED service. This project demonstrated that the provision of an educational brochure that reinforces information regarding the ED processes and waiting times, may alter patients' expectations of ED care and lead to a trend of decreasing LWBS rates. Further research is required to confirm this finding.

Information provided in the format of an educational brochure was well-received, and answered many of the questions patients had regarding their ED experience, including what to do if they are feeling worse while waiting for care. Previous studies of ED brochures reported on the level of anxiety and overall satisfaction with care provided in the ED. These studies did not examine the outcomes related to these patient attitudes. Specifically, no studies were found linking information provision with the LWBS rate in an ED. This project adds this dimension to the study of patient satisfaction with the information provided in the ED waiting room, highlighting an area for further study.

Further research is required to provide additional insight into the LWBS phenomenon. Also, collaboration between researchers and clinical practitioners is needed to provide additional insight into strategies to reduce rates of LWBS.

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## Appendix A: WRHA ED Program Census 1999-2004

WRHA ED Program Patient Census 1999-2004

ED Site	1999-	2000-2001	2001-2002	2002-	2003-
	2000			2003	2004*
Concordia	30905	31807	30498	29989	32476
Grace	29383	32164	32232	30076	28888
HSC	N/A	36408**	37939	39110	41478
St. Boniface	36293	38451	38246	36537	39028
Seven Oaks	30809	33799	34197	34062	37078
Victoria	32994	32310	31331	30230	30996
Total			204,443	200,004	209,944

*Note:* WRHA= Winnipeg Regional Health Authority, ED= Emergency

Department, HSC = Health Sciences Centre Adult Emergency

Department, N/A = no data available for that time period

\*April - October 2003, projected last six months

\*\* 11 months starting May 2000

## Appendix B: WRHA ED Program LWBS Rate 1999-2004

## WRHA ED Program LWBS Rate 1999-2004

		er an			
Site	1999-	2000-	2001-	2002-	2003-
	2000	2001	2002	2003	2004*
Concordia	3.1%	4.8%	5.6%	5.1%	5.3%
Grace	5.4%	6.7%	9.9%	9.9%	12.9%
HSC	N/A	8.4%	9.9%	12.0%	12.9%
St. Boniface	3.5%	4.3%	4.3%	4.4%	4.6%
Seven Oaks	N/A	N/A	4.6%	5.5%	8.0%
Victoria	2.2%	3.1%	4.7%	5.3%	6.2%

*Note:* WRHA= Winnipeg Regional Health Authority, ED= Emergency Department, LWBS = left without being seen, HSC = Health Sciences Centre Adult Emergency Department, N/A = not available.

\* April - October 2003

## Appendix C: Health Sciences Centre Adult ED LWBS Rate 2000-2004

## HSC Adult ED LWBS Rate 2000-2004

Triage category	2000-01	2001-02	2002-03	2003-04*
Resuscitative	0	0	0	2
Emergent	25	16	27	18
Urgent	1175	1423	2096	2412
Less urgent	1391	1777	2072	2314
Nonurgent	25	508	473	596
Scheduled	6	12	6	10
Unknown	11	3	2	2
Total	3067	3739	4676	5354

*Note:* ED= Emergency Department, LWBS = left without being seen,

HSC = Health Sciences Centre Adult Emergency Department.

\* Projected based on first 6 months of data

## Appendix D: Canadian Triage Acuity Scale 5-level Triage Classification System

Triage level	Time to Assessment	Usual presentations
Level 1	RN: Immediate	Code/arrest, Major trauma, Shock states, Near death asthma, Severe respiratory distress, Altered mental status
Resuscitative	MD: Immediate	(unconscious, delirious), Seizures
Level 2	RN: Immediate	Head injury, Severe trauma, Altered mental status (Lethargic, drowsy, agitated), Severe allergic reaction, Chest pain,
Emergent	MD: 15 minutes	visceral, non traumatic, Overdose, Drug withdrawal, Abdominal pain, age >50, visceral, Vaginal bleeding, pain >5/10,
		abnormal VS, Back pain (non-traumatic, non MSK), Severe asthma, GI bleed with abnormal VS, Severe asthma,
		Moderate to severe dyspnea, Vomiting, diarrhea with dehydration, Signs of serious infections, Chemotherapy or
		immunocompromised, Fever (age < 3months), Acute psychosis with agitation, Diabetes – hypo or hyperglycemia,
		Headache (Pain >8/10), Pain 8-10/10, Sexual assault, Neonate
Level 3	RN: 30 min	Head injury (alert, vomiting), Moderate trauma, Abuse, neglect, assault, Vomiting & Diarrhea (<2 years old), Dialysis
Urgent	MD: 30 min	problems, Infection, Mild -moderate asthma, Mild- moderate dyspnea, Chest pain without visceral symptoms, no CAD,
		GI bleed with normal VS, Vaginal bleed with normal VS, Seizures (alert), Acute psychosis +/- suicidal ideation, Pain 4-
		7/10 for headache, CVA, back), Pain 8-10/10 for minor injuries
Level 4	RN: 60 min	Head injury (alert, no vomiting), Minor trauma, Acute abdominal pain, Earache, Chest pain (minor trauma, MSK, no
Less urgent	MD: 60 min	distress),Vomiting & diarrhea without dehydration, Suicidal ideation, Depression, Minor allergic reaction, Corneal
		Foreign body, Chronic back pain, URTI symptoms, Pain 4-7/10, Headache (not migraine, not sudden)
Level 5	RN: 120 min	Minor trauma, superficial lacerations, Sore throat, Diarrhea without dehydration, Vomiting with normal mental status,
Non urgent	MD: 120 min	Menses, Chronic abdominal pain, Psychiatric complaints, Pain < 4/10, Dressing changes, medication refills, cast
		checks

## CTAS 5-level Triage Classification System

## **Appendix E: Draft Brochure**

Front:

# What you need to know about the ER

Welcome to the Health Sciences Centre Adult Emergency Department

How do things work in ER? These boxes show the

steps you go through during your ER visit:

> Health Sciences Centre



Triage The triage nurse will ask questions and assess you to help decide how sick you are and how soon you need to see a doctor. Registration The clerk will ask you questions to make up a chart for you and give you

ad an armband. Red means you have an allergy.

Adult Emergency \$20 Sherbrook Stréet, Winnipeg, MB, R3A 1R9 (204) 787-3167



Waiting Room

A nurse will check on you to make sure your condition has not changed. Please let the nurse know if you are feeling worse or if you are leaving the waiting room.



#### Treatment Area Our team of doctors, nurses, and support staff will care for you. Testing, such as lab and x-ray are

open 24 hours a day.

#### Back:

## How long will I have to wait? People are seen in order of how ill they are.

Your wait will depend on:

- How sick you are
- . How sick the other patients in ER are
- The number of patients in the ER
- The need for specialized care
- · Open treatment space that meets your need

Quick facts about the HSC Adult ER

- Open 24 hours a day, seven days a week
- Manitoba's largest ER
- Over 40,000 visits each year
- Provincial Trauma and Burn Centre



Note: Double-sided, printed on lightweight card stock

## **Appendix F: Patient Consent Form**

Project title: Emergency Department Education Brochure EvaluationProject leader:Helen YaworskiProject Supervisor:Dr. Jo-Ann Sawatzky, Faculty of Nursing

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

This project is being conducted as part of the requirements for the Master of Nursing Program at the University of Manitoba. The project is to develop and evaluate an educational brochure, which is being designed for patients waiting to be seen in the Adult Emergency Department of the Health Sciences. The goal is to improve patients' understanding of the care processes in the emergency department and the reasons for delays in accessing care. This will lead to improved patient satisfaction and a decreased rate of patients leaving without being seen by a physician.

As part of this project, 20 patients are being asked to participate in the evaluation of this brochure. If you agree to participate, you will be asked to spend five to ten minutes with the project nurse to answer a series of questions about the brochure that you received. At any time during the interview, you can choose to quit without penalty.

Participation is voluntary; you are not required to participate in this project. If you choose not to participate, the care that you receive in this department will not be affected. Although your participation may not benefit you directly, it is hoped that the results of this project will benefit patients in the future by having a brochure that is helpful to patients in the emergency department waiting room.

There are no known risks to participating in this project. The cost to you would involve about ten minutes of your time to complete the evaluation. You do not have to answer all the questions.

The information that you provide will be kept strictly confidential. Only the project supervisor and myself will have access to the information that you provide. Your name will not be recorded on the evaluation form, and your consent form will be kept in a separate file. The findings of this project may be published or presented at conferences, but at no time will your name or any identifying information appear on any reports related to this project. Despite efforts to keep your personal information confidential, absolute confidentiality cannot be guaranteed. Your personal information may be disclosed if required by law. During and after the project, all the data will be stored in a locked cabinet in the project nurse's office, and kept for no more than five years and then destroyed using a paper shredder.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and/or refrain from answering any questions that you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

Project leader: Helen Yaworski

Project supervisor:

Dr. Jo-Ann Sawatzky 474-6684

This research has been approved by the Education and Nursing Ethical review Committee. If you have any concerns or complaints about this project, you may contact any of the above named persons or the Human Ethics Secretariat at 474-7122 or e-mail

<u>Margaret\_Bowman@umanitoba.ca</u>. A copy of this consent form has been given to you for your records and reference.

Participant's signature:		Date:
	·····	

If you would like to be sent a summary of the results of this evaluation, please complete the following:

Name: \_\_\_\_\_

Address:

## **Appendix G: Patient Evaluation Questionnaire**

- 1. Did you read the brochure? Yes/no
- 2. If no, why not?

*If #1 "no", stop here* 

- 3. Was the brochure easy to understand?
- 4. Did the brochure address the questions that you had about the emergency department?
- 5. Is there other information that you think should be included in the brochure?
- 6. What did you like about the brochure?
- 7. What didn't you like about the brochure?
- 8. Did the brochure influence your decision to stay in the emergency department for treatment?
- 9. Do you have any other suggestions for improving the waiting time in the emergency department?

Approximate waiting time: **Demographic Information** Age: Gender: M F Highest education level attained:

## **Appendix H: Ethics Certificate**

244 Engineering Bldg. Winnipeg, MR RJT 5V6 Telephone: (204) 474-8418 RESEARCH SERVICES & UNIVERSITY Pax: (204) 261-0325 PRÓGRAMS www.umanitoba.ca/research Office of the Vice-President (Research) OF MANITOBA APPROVAL CERTIFICATE 31 May 2004 (Advisor J. Sawatzky) Helen Yaworski TO: Principal Investigator Stan Straw, Chair FROM: Education/Nursing Research/Ethics/Beard (ENREB) Protocol #E2004:047 "Development and Evaluation of an Educational Brochure for Re: Patients Waiting in the Waiting Room" Please be advised that your above-referenced protocol has received human ethics approval by the Education/Nursing Research Ethics Board, which is organized and operates according to the Tri-Council Policy Statement. This approval is valid for one year only. Any significant changes of the protocol and/or informed consent form should be reported to the Human Ethics Secretariat in advance of implementation of such changes. Please note that, if you have received multi-year funding for this research, responsibility lies with you to apply for and obtain Renewal Approval at the expiry of the initial one-year approval: otherwise the account will be locked. Get to know Research ... at your University.

## **Appendix I: HSC Research Committee Approval**

Centre	M57 - 620 SHERBROOK STREET WINNPEG, MANTOBA R3A 1 RO DIAL DIRECT (204) 767-4514 FAX (204) 787-4547
OFFICE OF THE DIRECTOR OF RESEARCH	
June 9, 2004	
Ms Helen Yaworski Principal Investigator 106 River Springs Drive West St Paul, MB, R4A 2A3	
Dear Ms Yaworski	
RE: DEVELOPMENT & EVALUATION OF A PATIENTS WAITING IN THE EMERGENCY DE	AN EDUCATIONAL BROCHURE FOR PARTMENT.
ETHICS #: E2004:047 RIC #: RI04:089	
The above-named protocol, <u>has been evaluated and a</u> Committee.	pproved by the HSC Research Impact
The Department of Research wishes you much success v	with your study.
Sincerely	
Ms Karen Shaw	
Research Protocol Officer Health Sciences Centre	
cc: Director of Research Ancillary Services, Finance Division	

**Appendix J:** 

**Final Brochure** 

Front

# What you need to know about the ER

Registration

The clerk will ask you

questions to make up a

chart for you and give you

an armband. Red means

you have an allergy.

Welcome to the Health Sciences Centre Adult Emergency Department

## How do things work in ER?

These boxes show the steps you go through during your ER visit:

Health Sciences Centre



Triage An experienced ER nurse will ask questions and assess you to help decide how sick you are and how soon you need to see a doctor.

Adult Emergency 820 Sherbrook Street, Winnipeg, MB, R3A 1R9 (204) 787-3167



Waiting Room

A nurse will check on you to make sure your condition has not changed. Please let the nurse know if you are feeling worse or if you are leaving the waiting room.



## **Treatment Area**

Our team of doctors, nurses, and support staff will care for you. Testing, such as lab and x-ray are open 24 hours a day.

#### Back

#### How long will I have to wait?

There are no appointments. People are seen in order of how ill they are.

Your wait will depend on:

- · How sick you are
- · How sick the other patients in ER are
- · The number of patients in the ER
- The need to see a special type of doctor
- · Open treatment space that meets your need

#### Quick facts about the HSC Adult ER

- Open 24 hours a day, seven days a week
- Manitoba's largest ER
- Over 40,000 visits each year
- Provincial Trauma and Burn Centre

