The Lived Experience Of Inpatients On Contact Precautions

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THE LIVED EXPERIENCE OF INPATIENTS
ON CONTACT PRECAUTIONS

Master’s Thesis
Submitted to the Faculty
Yale University School of Nursing

In Partial Fulfillment
of the Requirements for the Degree
Master of Science in Nursing

Amanda L. Ray

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The Master’s Thesis is accepted in partial fulfillment of the requirements for the degree Master of Science in Nursing.

Laura Kierol Andrews, PhD, APRN, ACNP-BC

Date: ________________________________
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Amanda L. Ray, RN, MSN Candidate 2013

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ABSTRACT

THE LIVED EXPERIENCE OF INPATIENTS ON CONTACT PRECAUTIONS

This phenomenological study was designed to explore the experiences and perceptions of patients on contact isolation precautions. Studies show mixed compliance rates among healthcare-workers, increased workload for staff, less time spent at the bedside, higher rates of adverse events, and higher rates of anxiety and depression for patients on contact precautions. Few, if any, studies describe the perception of contact precautions in patients’ own words. Interviews were conducted and analyzed using Colaizzi’s (1978) method for qualitative analysis. Themes identified included patient’s understanding of contact precautions, cleanliness and dirtiness, family and visitor perceptions, patient priorities, delays in care and staff attitudes, and protecting not isolating. Examination of these themes indicates that contact precautions are not perceived as burdensome, isolating, or distressing by most patients. Patients may even perceive precautions as protecting them from the hospital environment. Patients should be reminded of the indications for contact precautions often during their hospital stay. Families and patients showing signs of distress should be supported with information about transmission risks, infectious status, and the use of contact precautions routinely and frequently during a hospital stay. Staff compliance with contact precautions is regularly observed and analyzed by patients as reflective of hospital cleanliness.
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CHAPTER I: The Clinical Problem

Introduction

Contact precautions aim to prevent exposure of vulnerable patients, visitors, and health-care workers to potentially virulent or lethal infections by interrupting the method of bacterial transmission (Siegel, Rhinehart, Jackson, Chiarello, & the Healthcare Infection Control Practices Advisory Committee, 2006, 2007). They involve, at minimum, an impervious gown and gloves to protect body and clothing from contamination. Signs and equipment are commonly placed by a patient’s door, and everyone entering the patient’s environment must don a gown and gloves. This can affect every aspect of the hospital stay from transportation to meal delivery. While understanding and compliance with contact isolation precautions have been well studied and documented among health-care workers (Clock, Cohen, Behta, Ross, & Larson, 2010; Hass, 2010; Khan, Khakoo, & Hobbs, 2006; Manian & Ponzillo, 2007), the experiences of patients and the resulting effects on their hospitalizations, recoveries, and well-being have not.

Contact precautions are designed to prevent the transmission of microorganisms that spread via direct or indirect contact with an infected individual or the infected individual’s environment. Though many bacteria are transmitted via contact, contact isolation precautions are only used in the presence of organisms defined as clinically significant by the Center for Disease Control and Prevention (CDCP). These include organisms with high virulence (such as hemorrhagic fevers), multiple-drug resistance (e.g. VRE, MRSA), and organisms resistant to standard precautions measures such as hand-washing (e.g. *C. difficile*) (Siegel et al., 2006).
Contact precautions target transmission based on touch or contact with individuals or contaminated surfaces.

Successfully preventing transmission requires universal participation. Noncompliance by even one participant in the chain, including the patient, can negate all other efforts. Due to the extensive time, resources, and even emotional stress encountered in caring for patients on isolation precautions (Aboelela et al., 2006; Anderson et al., 2009; McGinigle, Gourlay, & Buchanan, 2008), contact precaution protocols should be designed that provide efficient and effective care. The negative effects of patient isolation in general have been examined in several studies, with effects including impaired immunity, increased rates of depression, anxiety, and anger, increased numbers of adverse events, and severe psychological distress (Davies & Rees, 2000; Gammon, 1998, 1999; Jones, 2010; Morgan, Diekema, Sepkowitz, & Perencevich, 2009). Inconsistency in study designs leads to questionable generalizability (Gammon 1999).

The results of these studies leave several basic questions unanswered: What is the lived experience of these patients? What do patients perceive regarding the attention they receive from staff? What are patients’ unique physiological and psychological needs, and are they being met? How is the patient’s identity affected in the community outside of the hospital? What is the perception of patients when they observe inconsistent compliance among hospital staff in maintaining their isolative precautions? These questions are not limited only to the psychology of isolation but extend to the practical and everyday aspects of isolation on patients’ recovery. These questions can be difficult to answer with a quantitative study and, therefore, are best addressed with a qualitative methodology. This study used Colaizzi’s (1978) method.
of phenomenological analysis to describe the lived experience of persons on contact precautions.

**Review of Literature**

**History**

Humans have long recognized the need to isolate infectious individuals to prevent transmission of disease, most memorably in the form of leper colonies and tuberculosis sanitariums. Isolating infectious patients within private rooms instead of in open hospital wards became routine in the 1970s and 1980s. *Universal precautions* were implemented in the late 1980s, in response to the HIV/AIDS epidemic (Morgan et al., 2009). Studies began to appear in the literature in the 1980s and 1990s documenting patient isolation interventions and experiences. Using these studies, the CDCP published its first set of comprehensive guidelines for isolation of potentially infectious patients in 1996, revising them once in 2007 (Siegel et al., 2007). With the rise in prevalence of multiple drug-resistant bacterial organisms (MDROs), the CDCP published its first comprehensive set of guidelines specifically standardizing isolation recommendations for MDRO-infected or -colonized individuals in 2006 (Siegel et al., 2006, 2007).

**Isolation of contact-transmitted infections**

The increasing prevalence of infections due to MDROs and virulent fomite infections (*C. difficile*, Norovirus) has led to new challenges in treatment options for infected patients and new dangers to all individuals exposed to the healthcare environment. Many of these organisms are easily transmitted through touch with an
infected or colonized individual as well as through contact with a contaminated environment (Bhalla et al., 2004; Duckro, Blom, Lyle, Weinstein, & Hayden, 2005; Siegel et al., 2006; Wu et al., 2005).

Several studies and reports indicate increased morbidity and mortality for patients with these infections, as well as increased hospital stays and associated costs of care. In their systematic review of the literature, Morgan et al. (2009) found nine high-quality studies and six additional studies examining the negative impact of contact precautions on patients. Observational and interview-based studies examined the behavior of healthcare workers with patients on contact precautions, concluding that healthcare workers spent fewer care hours with adult patients on contact precautions (Evans et al., 2003; Kirkland & Weinstein, 1999). Another study reviewed by Morgan et al. (2009) demonstrated a more than two-fold increase in the number of adverse events among patients on contact precautions (Stelfox, Bates, & Redelmeier, 2003). The key limitation in all three of these studies, as well as others reviewed by Morgan et al. (2009), was the lack of consideration of severity of illness. This is an inherent difficulty in designing studies of contact precautions, however, as MDRO infections tend to be more severe than non-resistant infections (Siegel et al., 2006). Assuming that all infections caused by MDROs are inherently more severe than non-resistant infections is also erroneous. It is possible that the patients in these studies were experiencing more or less care hours based on severity of illness or other undocumented factors. More adverse events could be the result of multiple unaccounted for co-morbidities, rather than based on the use of contact precautions. Given the complex environment in which healthcare is delivered and the individual health status of each patient, designing studies using proper cohorts is difficult.
Less open to dispute than the impact on care received is the cost associated with contact precautions. In a multi-center matched outcomes study, Anderson et al. (2009) determined that a MRSA infection (as opposed to a MSSA infection) led to $60,000 of additional healthcare costs, increased rates of readmission within 90 days, and notable increases in mortality, morbidity, and length of stay.

In a systematic review of 29 studies, Aboelela et al. (2006) highlight several gaps in our current knowledge about the effectiveness of contact precautions. Using rigorous standards of quality and comparison, Aboelela et al. (2006) determined study quality scores using a standardized tool. They found that most studies examining the efficacy of transmission-based precautions consisted of uniquely designed nonrandomized quasi-experimental methods, leading to poor generalizability of results. Of the studies rated with highest quality, results were mixed. More than one study found no difference between MDRO infection rates when comparing use of contact precautions (Cepeda et al., 2005; Slaughter et al., 1996; Trick et al., 2004), but other studies found statistically significant reductions in MDRO acquisition rates when using contact precautions (Chaix, Durand-Zaleski, Alberti, & Brun-Buisson, 1999; Silverblatt et al., 2000; Srinivasan et al., 2002; Wernitz et al., 2005). Aboelela et al. (2006) concluded that there were key flaws in the established body of literature at that time leading to inconsistent results and consensus. First and foremost was the lack of clear consensus guidelines from infection control agencies such as the CDCP (as the Healthcare Infection Control Practices Advisory Committee), the Society for Healthcare Epidemiologists of America (SHEA), and the Association for Professionals in Infection Control and Epidemiology (APIC). Many of the studies were conducted prior to 2006; and though the CDCP had released guidelines in 1996,
it had done so independently of SHEA and APIC (Morgan et al., 2009). These organizations remedied this lack of consensus by collaborating on the guidelines “Management of Multidrug-Resistant Organisms in Healthcare Settings” (Siegel et al., 2006) and “Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings” (Siegel et al., 2007).

Aboelela et al. (2006) also found fault in established studies because most of them did not monitor the extent or consistency of implementation of their prescribed interventions (i.e. compliance). As will be discussed shortly, multiple studies indicate mixed and even poor compliance rates among healthcare workers (Clock et al., 2010; Manian & Ponzillo, 2007). They also noted that another inherent challenge in studying contact precautions is that multiple interventions (hand-washing, gowns, gloves, and environmental isolation) are often used in combination, making evaluation of any specific intervention difficult. Based on all 26 of the articles reviewed, including those with weak methodology, Aboelela et al. (2006) concluded that general evidence indicated that contact precautions decrease the spread of MDROs.

Experts from the CDCP, APIC, and SHEA have agreed on the 2007 guidelines set forth by the CDCP to decrease the skin-to-skin spread of nosocomial infections (Siegel et al., 2007). Directly stated in these guidelines, however, is an agreement with Aboelela et al. (2006) that present data are not rigorous enough to claim that the recommended interventions are evidence-based. Instead, using the best knowledge available, the recommended interventions operate under a principle of common sense assumption that they will reduce skin-to-skin or skin-to-contaminated-environment contact. They include patient isolation from non-colonized and/or
uninfected patients, the use of impervious gowns by individuals entering the room to prevent the contamination of both skin and clothing, the use of gloves for all patient and environmental contact, and the use of stringent environmental cleansing procedures for any shared or re-useable equipment that may be contaminated (Siegel et al., 2007).

Several small studies indicate the efficacy of policies and interventions included in these guidelines. Puzniak, Leet, Mayfield, Kollef, and Mundy (2002) examined gowning as an element of contact precautions in the spread of VRE during a thirty-month period. Using a matched diagnosis-related group cohort study design, they constructed event pathways to determine VRE colonization and infection in all admitted ICU patients during the study timeframe. For twelve months of the study period, gloves and standard precautions measures alone were used for patients with diagnosed VRE colonization or infection. Acquisition rates of VRE infection and colonization during this period were compared with the twelve months prior to the study and the six months after the study, during which gowns and gloves were used for patients with diagnosed VRE. The results indicated a statistically significant difference in VRE infection rates (both in colonized and non-colonized patients) during the gown-use period. In addition, Puzniak, Gillespie, Leet, Kollef, and Mundy (2004) demonstrated that the increased costs of gowning for VRE colonization are offset by the averted costs of acquired VRE-infection. The initial study (Puzniak et al., 2002) also observed the compliance rates of healthcare workers with the precautions protocol. When gloves-only was the standard, compliance by healthcare workers with glove-wearing was only 66%. During the period when gowns were also required prior to patient contact, compliance rose to 78%. This extended to cleansing
of shared environmental equipment (0% during gloves-only period versus 17% during the gowning period), and, to a lesser extent, to hand hygiene (48% gloves-only, 49% with gown use). Srinivasan et al. (2002) conducted a similar study documenting acquisition of VRE during periods with and without gowning. They concluded that gowns in addition to gloves significantly decreased the rate of VRE acquisition.

Despite these studies supporting the guidelines set forth by the CDCP and SHEA (Siegel et al., 2006; 2007), there exist other studies demonstrating questionable efficacy of contact precautions. Primary among these studies is that of Slaughter et al. (1996), which demonstrated no difference in VRE colonization rates when gowns and gloves were used together versus gloves alone. Of note, this study included aggressive education measures towards healthcare workers and monitored compliance data. The results included a 71% compliance with the protocol, and a VRE-acquisition rate of 25.8% in the gown-and-glove patients, and 23.9% in the glove-only patients. Despite being cited frequently as a study demonstrating inefficacy of contact precautions, Slaughter et al.’s (1996) study actually raises other questions about the role compliance rates play in contact transmission. Unaddressed in the study is the bypassing of contact precautions through environmental contamination and movement around the hospital for diagnostic and therapeutic interactions. Additional studies citing little or no prevention of transmission using contact precautions include studies by Bowen, Craighead, Klanchar, and Nieves-Garcia (2012) and Trick et al. (2004), both of which demonstrated that long-term care facilities do not show decreased transmission rates of MDROs when using contact precautions. As noted in these studies, possible reasons for this include more
patient/resident interaction in long-term care facilities than in the inpatient hospital setting.

No large-scale scientifically rigorous studies have been undertaken to provide evidence to support the use of contact isolation (Siegel et al., 2006). Significant differences in methods of the existing studies make systematic comparison difficult. The fact that evidence of decreased transmission when using these guidelines is arguably weak has led to controversy over their implementation. In addition to Aboelela et al. (2006) and Morgan et al.’s (2009) systematic literature reviews, Backman, Taylor, Sales, and Marck’s (2011) literature review of infection control interventions included studies on Extended Spectrum Beta-Lactamases (ESBL) and *C. difficile*. Unlike the previous literature reviews, Backman et al.’s (2011) literature review covers studies that targeted educational campaigns and active-surveillance studies in addition to physical barrier precaution interventions (i.e. gowning and isolation). Their literature review determined that multiple studies examined similar interventions to decrease MDRO infection rates: administrative measures, education of health care workers, antibiotic use, surveillance, infection control precautions, environmental measures, and decolonization. Though multiple studies examined similar interventions, rarely were any two designs set up the exact same way or comparing the exact same set of interventions. This mixed-bag approach studies have taken is to blame for the lack of clear consensus in the literature, according to Backman et al. (2011). While studies appear to conclude that the interventions mentioned before are decreasing infection rates, a systematic comparison to produce systematic guidelines is difficult due to the elemental differences in methodology.
Thus, the current base of literature leads the healthcare world to a common practice of contact precautions with controversial evidence supporting it.

The debate of using contact precautions focuses on multiple concerns: cost-effectiveness of precautions, adverse patient outcomes, efficacy of active-surveillance of all patients admitted to certain units or institutions, and the use of precautions on colonized patients without active infection. While the heated debate continues and the need for a large scale targeted intervention study is still present, the general consensus among expert panels and health care workers is that contact precautions make sense for now (Siegel et al., 2006, 2007).

**Compliance Data**

In addition to the lack of evidence for specific interventions, the data on compliance with contact precautions policies are mixed. Most studies suffer from being underpowered and institution specific. One of the most rigorous studies was performed by Clock et al. (2010), which compared signage, availability of personal protective equipment, and healthcare-worker behavior (i.e. hand-washing, equipment use) at three separate New York City hospitals. They found all three sites deficient in adherence to institutional infection control policies. Clock et al. (2010) brought to light the fact that it is hard to comment on the efficacy of contact precaution interventions when user compliance is not taken into account. Their direct observations categorized the most common areas of noncompliance: use of personal protective equipment (gown and gloves) and environmental contamination. Deficiencies were present to similar degrees at all three hospitals. Among all three sites, hand-hygiene compliance was 19.4% on room entry and 48.4% on exit; gloves
compliance was 67.5% and 63.5%, respectively; and gown compliance was 67.9% and 77.1%, respectively. Significant observations included the fact that appropriate use of one behavior (such as use of a gown or gloves) was associated with compliance with other contact precaution interventions (such as appropriate hand hygiene). This finding is similar to that of Puzniak et al. (2002), as discussed earlier. Clock et al. (2010) also noted that the ICUs studied had higher compliance rates among staff and visitors than the non-ICUs, and patient care staff were more likely to comply with precautions than other staff and visitors. Though not described in statistical terms, the authors mention observing 159 instances of environmental contamination due to staff and visitor failure to properly perform hand hygiene or dispose of personal protective equipment prior to accessing shared patient spaces or equipment.

The compliance data related by Clock et al. (2010) and Puzniak et al. (2002) is consistent with results from other studies. Manian and Ponzillo (2007) designed a prospective observational study at a large tertiary-care teaching hospital observing contact precautions compliance rates. They concluded that overall use was less than perfect (73%), and that ICU-staff and visitors were more likely to comply than floor-staff and visitors (91% and 51% respectively). Golan et al. (2006) also observed hand hygiene and gown and glove compliance in ICUs. They documented compliance rates of 10% to 36% (before and after patient care) for hand hygiene, and 62% to 63% (before and after care) for gown and glove use. The study conducted by Golan et al. (2006) sought to improve hand hygiene compliance rates by associating the behavior with mandatory gowning. Though they were unable to draw this conclusion based on their design criteria, their compliance data is consistent with the findings of Clock et
al. (2010) and Puzniak et al. (2002). Bearman et al. (2007) also observed hand hygiene and gowning compliance rates in an attempt to conduct a controlled trial comparing contact precautions with universal gloving. Though they were also unable to draw conclusions from their study, they did observe poor compliance rates: hand hygiene ranged from 11.4% to 18.7% before patient care and 52.5% to 57.7% after patient care, before and after study intervention, respectively. A slightly older trial by Pittet et al. (2000) observed hand-hygiene compliance improvement from 48% pre-intervention to 66% post-intervention during a hospital-wide educational program addressing hand-hygiene. Although the large teaching institution documented improvement over the three-year study, the authors observed 20,000 opportunities for hand-hygiene and still had at best a 66% compliance rate.

Though several of these studies were unable to contribute to a consensus on the efficacy of contact precaution interventions, their data collection highlights the fact that noncompliance is a baseline and continuing problem in infection control practices. Studies performed to evaluate interventions must include compliance data to be able to draw scientific conclusions, otherwise they are subject to intervention fidelity concerns. These studies also indicate that noncompliance is observable to all staff, patients, and visitors, and has a direct impact on the efficacy of infection control policies.

Patients and visitors are specifically included in CDC protocols (Siegel et al., 2007) and are required by institutions to follow precaution protocols, but there is a lack of well-defined or tested interventions and materials for educating patients and their visitors about the need for precautions. Specimen cultures may take up to 72 hours to show initial results, potentially contributing to patient and visitor concerns
and confusion about the timing of precautions implementation and the risks of organism transmission. Patients and families may feel overwhelmed and surprised by the sudden introduction of contact precautions during a hospital stay. Stigmatization and lack of understanding may also decrease the frequency of visitations to a patient, contributing to poor health outcomes and increased depression and anxiety. In a systematic review of the literature, Abad, Fearday, and Safdar et al. (2010) reviewed several studies that document a variety of negative patient experiences as a result of isolation precautions. As noted by Abad et al. (2010), these studies varied in design (some were based on questionnaires or psychometric tools, others were observational studies or medical chart reviews) making generalizability difficult. The trend among the reviewed literature, however, documented increased depression, anxiety, and anger scores among patients on contact precautions. Observational studies showed mixed results on time spent in direct patient care. A large medical chart review conducted by Stelfox et al. (2003) documented an increase in adverse events and patient complaints and fewer charted interactions with healthcare workers, such as vital signs and physician notes, among patients on contact precautions.

In a less rigorous literature review (the methods for literature inclusion and search are not included in the study), Jones (2010) discusses several reports of psychological problems among contact isolation patients. The author reports specific themes of frustration, separation from others, disconnect or lack of interaction with staff, boredom, attention seeking, anxiety, sensory deprivation, depression, stigmatization and nurse prejudice, inconsistent information sharing and confusion.
Though this review is not of high quality, it relates several studies that demonstrate a possible trend in the patient experience.

The healthcare community is missing an opportunity to increase compliance and patient care outcomes by not properly addressing the knowledge deficit faced by patients and their families/visitors. Before an assessment instrument or intervention bundle can be developed, data needs to be gathered that specifically identifies the challenges and misunderstandings faced by the patients and their visitors.

**The Burden**

Institutions have attempted to study specific burdens and shortcomings in an effort to identify ways to improve the cost-efficacy and patient outcomes associated with specific policies. In addition to Anderson et al.’s (2009) study documenting an increased cost burden of more than $60,000 per patient developing an active MRSA infection, Engemann et al. (2003) document a difference of $40,000 in increased hospital costs for patients with MRSA infections in comparison to those with MSSA infections. As mentioned, multiple studies document less than optimal compliance with institutional policies by both staff and visitors (Bearman et al., 2007; Clock et al., 2010; Golan et al., 2006; Manian & Ponzillo, 2007). Additional studies demonstrate an increased demand on nurse staffing and a decreased amount of nursing time spent in patient rooms as a result of contact precautions. As previously discussed, the review of medical charts by Stelfox et al. (2003) documented an 8-fold increase in adverse events among patients on contact precautions. Khan et al. (2006) used a piloted survey at a large tertiary care center to investigate perceptions and issues regarding contact precautions among healthcare workers. Almost half of
physicians (43%) and 26% of nurses felt that patient-care was different when patients were on contact precautions. Sixty-three percent of physicians and 33% of nurses felt this population was more prone to adverse effects, and 80% of physicians and 73% of nurses felt the mood of these patients differed from that of other patients. Half of physicians and as much as 11% of nurses felt these patients consumed “too much time” and got inadequate attention from healthcare workers. Though nurses seemed less inclined than physicians to report negative impacts among their patients, the results of the questionnaire demonstrate a significant trend among healthcare workers toward feeling differently about patients on contact precautions. If healthcare workers perceive differences, it is possible that patients and visitors perceive differences too. However, this has not been well-studied or documented in the literature.

One of the most frequently cited studies regarding the psychological impact of contact isolation precautions is Gammon’s (1998) quasi-experimental analysis of anxiety, depression, self-esteem, and sense of control among isolated and non-isolated patients. Using standardized scales and questionnaires for each measurement, Gammon (1998) determined that while many individuals experience detrimental psychological effects from hospitalization, infected isolated patients experience significantly higher rates of anxiety and depression as well as lower feelings of self-esteem and sense of control. Though this study is widely cited for its simple design and clear results, the subject sample is small (forty) and elderly, and it does not take into account the severity of illness experienced by participants. Though still frequently cited, this study was also conducted over a decade ago in a rapidly changing healthcare environment. The results may very well be outdated in
the current healthcare climate which allows patients to ambulate outside of their rooms while on contact precautions (Yale-New Haven Hospital, 2011), allows for cohorting of patients, and allows the use of precautions for colonized patients without active infection.

Though no control was used in their preliminary study to compare the prevalence of mood disturbances in contact precautions patients, Davies and Rees (2000) documented the existence of anxiety and depression using standardized questionnaires. Patients preferred to have the investigators fill out the questionnaires interview style rather than complete them independently. Though the research was conducted as a pilot study to a larger examination of the impacts of contact precautions, the researchers documented that 33% of the studied patients suffered from anxiety and/or depression. They concluded that this was at least twice the rate of depression and anxiety documented in the contemporary literature for hospitalized patients in general. One of the criticisms of both psychometric studies of contact precautions as well as studies that assess morbidity related to MDRO infections is that the studies often do not take into account severity of illness when comparing patient populations. Similar to the limitation cited in the literature review conducted by Morgan et al. (2009), Gammon (1998) and Davies and Rees (2000) cite neglect of proper severity-of-illness controls as one of the largest limitations of their studies.

At least one study regarding the negative psychological impact of contact precautions has attempted to address the problem of severity-of-illness controls and cohorts. Catalano et al. (2003) used the Hamilton Anxiety and Depression Rating Scales to determine the rates of anxiety and depression in hospitalized patients not critically ill on contact precautions. Though the sample was small (24 and 27
participants in control and isolation groups, respectively), they concluded that contact isolation directly correlated with increased rates of anxiety and depression. A similar study conducted by Tarzi, Kennedy, and Stone (2001) examined anxiety and depression rates in forty elderly rehabilitation patients, half of whom were on contact precautions. They concluded that the isolated patients experienced higher rates of anxiety and depression as a direct result of their contact precautions status. Though these are not the only studies indicating higher rates of depression, anxiety, and anger, they are routinely cited in the literature and fairly representative of current studies.

The problem with using questionnaires and scales, however, is that no one is talking to the patients directly to understand the root causes of their distress.

Table 1
*Summary of Key Studies in Literature*

<table>
<thead>
<tr>
<th>Author(s), Year</th>
<th>Purpose</th>
<th>Design and Methods</th>
<th>Findings</th>
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<tbody>
<tr>
<td>Catalano et al., 2003</td>
<td>To assess rates of anxiety and depression in patients who are not critically ill and are placed in isolation.</td>
<td>Observational study, non-ICU VRE/MRSA patients compared to non-infectious patients using Hamilton Anxiety and Depression Rating Scales (n=51)</td>
<td>Non-isolated patients had noticeable improvement in anxiety/depression scores during hospitalization, but isolated patients did not. There were also significant differences in baseline scores between the two groups.</td>
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<tr>
<td>Davies &amp; Rees (2000)</td>
<td>To determine the presence of mood disturbances in source-isolation patients</td>
<td>Interview based questionnaires of contact isolated patients, (n=21)</td>
<td>Isolated patients have higher rates of depression and anxiety than comparable patients. Often these mood disturbances are under-recognized by nurses</td>
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<tr>
<td>Gammon, 1998</td>
<td>To investigate if isolation because of an infection was more stressful than routine hospital admission</td>
<td>Quasi-experimental surveys using Hospital Anxiety and Depression Scale, Health Illness (Powerlessness) Questionnaire, Self Esteem Scale (n=40)</td>
<td>Hospitalization results in negative feelings that have detrimental effects on psychological well-being and coping. Isolated subjects had higher rates of anxiety and depression, and lower self-esteem.</td>
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<tr>
<td>Gasink et al., 2008</td>
<td>To study of the effects of contact isolation on patient satisfaction</td>
<td>Cross-sectional survey using CAHPS surveys (n=84)</td>
<td>Most patients lack knowledge regarding isolation but feel it improves their care. They are not less satisfied with care than non-isolated patients</td>
</tr>
<tr>
<td>Khan et al., 2006</td>
<td>To determine the impact of contact isolation on health care workers</td>
<td>Mailed questionnaires to nursing and physician staff (n=155)</td>
<td>Physicians were more likely than nurses to believe there was a difference in care provided to isolated patients as compared to non-isolated patients, believe that these patients consumed too much time, believe that they were more prone to adverse events and effects, and believe that they did not get adequate attention. Both nurses and physicians were concerned about contracting infection and perceived a difference in mood in isolated patients.</td>
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<tr>
<td>Knowles, 1993</td>
<td>To explore the perception of isolation form patient and nursing viewpoints</td>
<td>Phenomenology study, interviews with patients (n=8) and their nurses</td>
<td>Some patients valued privacy, solitude, and control of the situation. Expressions of neglect and isolation were common. Some patients perceived stigmatization and loneliness. Nurses cited time, environmental constraints, and fear of infection as limitations on interventions.</td>
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<tr>
<td>Authors</td>
<td>Methodology</td>
<td>Findings</td>
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<tr>
<td>Rees, Davis, Birchall, &amp; Price, 2000</td>
<td>To investigate relationships between mood, patient-satisfaction, and quality-of-care factors among isolation patients in acute &amp; rehabilitation settings</td>
<td>Mood disturbances existed in isolated patients. Patients were generally satisfied with care and surroundings. Factors associated with satisfaction included being kept up to date with plan of care, having a comfortable environment and good communication with staff.</td>
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<tr>
<td>Stelfox et al., 2003</td>
<td>To examine the quality of medical care received by patients isolated for infection control</td>
<td>Isolated patients were twice as likely to have adverse events, eight times as likely to experience preventable adverse events. Isolated patients more likely to complain to the hospital about their care, have fewer vital signs recorded, and more days without a physician note in their chart. No differences in hospital mortality were observed, no differences between CHF and general cohorts determined.</td>
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<tr>
<td>Tarzi et al., 2001</td>
<td>To investigate the impact of hospitalization and MRSA isolation on the psychological functioning of older adults undergoing rehabilitation</td>
<td>All participants had higher rates of anger than non-hospitalized pts. MRSA patients had higher anxiety and depression scores than non-MRSA patients. No correlation between length of hospitalization or duration of precautions.</td>
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<tr>
<td>Wilkins, Ellis, Dunbar, &amp; Gibbs, 1988</td>
<td>To determine if isolated patients experience more mood disturbances than non-isolated patients</td>
<td>Isolation was not found to be disconcerting to patients. Isolated patients experienced higher rates of anxiety, but this appeared to be related to illness and hospitalization, not to isolation.</td>
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Though fewer in number and less frequently cited, studies exist indicating that patients are not negatively impacted by contact precautions. Using the standardized Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Survey conducted in person, Gasink et al. (2008) found that isolated patients did not report any less satisfaction with care than non-isolated patients. Though not part of the protocol, the authors informally observed that many patients felt that isolation precautions improved their care. They also reported that patients on contact precautions lacked education and knowledge regarding isolation. Abad et al. (2010) mention additional studies drawing these conclusions, but they target pediatric populations and thus will not be discussed here. There also exists a more detailed but outdated study by Wilkins, Ellis, Dunbar, and Gibbs (1988) that conducted interviews with isolated patients on an infectious disease unit. They determined that isolation was not found to be disconcerting to patients. Isolated patients did experience higher rates of anxiety than the general population, but this appeared to be related to acute illness and hospitalization and not related to isolation. Despite its rigorous methodology, this study is not routinely cited in the literature, likely due to its age and qualitative nature.

Anecdotes from healthcare workers are numerous and represent their perspectives as both caregivers and, occasionally, as patients on isolation precautions. Hass (2010) describes the loss of therapeutic and diagnostic touch when interacting with his patients in his personal narrative as a physician who developed a MRSA infection after direct contact with patients. Oldman-Pritchard (2003), a nurse, describes her experience as a patient on neutropenic isolation precautions as
“tortuous” and lonely. These narratives highlight the awareness among the medical profession that patients on contact precautions crave human interaction and physical touch and that they suffer psychological consequences from the deprivation. Hass’s (2010) essay, in particular, explains the health-care worker point of view taken while providing care. As narratives, however, these anecdotes can only serve as glimpses rather than exhaustive descriptions representative of the whole experience of the population.

A current comprehensive description of the patient experience is lacking in the literature. In 1993, Knowles interviewed eight patients and their nurses to examine their perceptions of patient isolation. Often cited in the literature, the small London study revealed that patient attitude toward precautions varies. Some patients in the study appreciated the solitude and privacy provided by the isolation and voiced feelings of control the situation provided. Other patients felt stigmatized, neglected by the nursing staff, and lonely. These latter patients’ experiences were bolstered by nurses’ perceptions that constraints on time, physical environment, and the fear of infection limited nursing interventions to alleviate this response. While Knowles (1993) began to shed light on the phenomenon, the study is now outdated. At the time and location where the study was conducted, the patients were either nursed in wards (large rooms with more than twenty patients) or in single rooms that they were not allowed to leave as part of their isolation. Contact precautions and hospital design have greatly changed since this study was conducted. Wards are less common and cohorting contact precautions patients has become more common in many hospitals. Though Knowles (1993) is still cited frequently in literature as evidence
for patients feeling negatively about contact isolation, no other studies have been done that attempt to reproduce or expand on the results.

Health care delivery in the U.S. has undergone rapid progression and institutional change over the past few decades, possibly rendering other studies outdated as well. The age of most phenomenological studies, the geographical limitations of these studies, and the loosely specified results all contribute to the lack of a generalized understanding of the patient experience of contact isolation precautions. Without a clear understanding of this experience, it becomes almost impossible to target interventions that will improve psychological or physiological outcomes for these patients and the institutions that care for them.

<table>
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<th>Table 2</th>
<th><strong>Summary of Literature Reviews</strong></th>
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<tr>
<td><strong>Author(s), Year</strong></td>
<td><strong>Purpose</strong></td>
</tr>
<tr>
<td>Abad et al., 2010</td>
<td>To determine whether contact isolation leads to psychological or physical problems for patients</td>
</tr>
<tr>
<td>Aboelela et al., 2006</td>
<td>A review of recommendations, guidelines, and evidence regarding barrier precautions, patient isolation, and surveillance cultures to prevent MDRO transmission</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Objective Description</td>
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<tr>
<td>Backman et al., 2011</td>
<td>To review and critique the literature on the relationship between an MDRO infection and control program and MDRO rates in acute care hospitals</td>
</tr>
<tr>
<td>Gammon, 1999</td>
<td>To define and examine historical developments of source isolation and discuss possible effects on psychological well-being</td>
</tr>
<tr>
<td>Jones, 2010</td>
<td>To explore the effects of isolation based on themes: 1) isolation environment and psychological care, 2) stigma of MRSA, 3) nursing care</td>
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Research Question

What is the lived experience of hospitalized patients on contact isolation precautions?

Operational Definitions

*Lived experience* is a phenomenology term used to describe the everyday experiences and perceptions of a given group of individuals, and to give meaning to each subject’s perception of the particular situation or event in terms of his/her environment, body, time, and relationships with others. In health research, the group in question usually is defined as sharing a specific health diagnosis or symptom (Polit & Beck, 2008).

This study looks at the lived experience of hospitalized inpatients. The term inpatient refers to any patient that is admitted to a hospital or healthcare facility and assigned to a bed while undergoing a procedure or diagnosis, or receiving treatment and care (Inpatient, 2008). More specifically, this study looks at inpatients placed on contact isolation precautions.

| Morgan et al., 2009 | To review studies and reports of "worse noninfectious outcomes" in patients placed on contact precautions. | Literature review, 15 studies, 9 high quality | Four main adverse outcomes related to contact precautions: 1) less patient/Healthcare-worker contact, 2) changes in systems of care that produce delays and more noninfectious adverse events, 3) increased symptoms of depression and anxiety, 4) decreased patient satisfaction with care |
The definition of contact precautions states that any entrant to an infected or colonized individual’s room must wear an impervious gown and gloves that must be discarded before exiting the room. Contact precautions differ from standard precautions, such as hand-washing, in that they are not routinely used on every patient but are used in a specific subset of the patient population as identified by an institution’s specific infection control policy.
CHAPTER II: Research Methods

Design

The purpose of this qualitative study was to examine the lived experience of hospitalized patients on contact precautions. Patients were interviewed and the resulting data analyzed using Colaizzi’s (1978) method of phenomenology.

Sample and Setting

Participants were recruited from medical and surgical inpatient units at an academic tertiary care hospital in New England. Eligible subjects were 18 years or older and included alert and oriented patients on contact precautions for greater than 72 hours, including previous hospital admissions. Subjects on additional droplet or airborne precautions were excluded. Sampling was purposive, and subjects were enrolled in the study until the data reached a saturation point defined as no new themes emerging from data analysis. Ten subjects were enrolled before reaching saturation.

Procedure

Data collection took place in the form of interviews based on the prompt: “Tell me about your experience on contact precautions.” Interviews were audio recorded and transcribed verbatim by the researcher. Research approval was acquired from the author’s university Internal Review Board, the hospital’s primary nurse researcher, and the respective unit managers. Nurses on the units were informed of the study via flyers posted in conference and break rooms.
On scheduled days, the researcher arrived on the unit and consulted with unit nurses to identify potential subjects and to determine each patient’s ability to consent, level of alertness, and the number of days on contact precautions. Any patient fulfilling the eligibility criteria was then asked by the assigned nurse if the researcher could enter the room with further information about the study. After discussion of the study’s goals, risks, and methods, consent from willing participants was obtained in written form and the interviews began.

Interviews were audio recorded on a digital recorder (an Olympus Digital Voice Recorder VN-3100PC) and transcribed using standard word processing software without inclusion of patient identifiers. No questionnaire or preset list of questions were used. Follow-up questions were only used for clarification of patients’ experiences or to elicit further information. Interviews were conducted with only the subject and researcher present and the patient’s door closed. Interviews paused when hospital personnel or visitors needed to enter the room. Basic biographical and contact information along with the rationale for precautions were obtained from the patient. On the occasion when a subject was unable to clarify the reason for the precautions, the researcher asked the nurse to identify the reason for use. No medical records were ever accessed by the researcher.

**Data Analysis**

Once transcribed, interviews were analyzed using Colaizzi’s (1978) method for phenomenological research analysis (See Table 3). An exhaustive description of the patient experience was then mailed to study participants for feedback and
validation using the contact information the subject provided during the interview.

Five of the ten subjects responded, agreeing with the statement.

<table>
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<th>Table 3</th>
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<tr>
<td>Steps for Colaizzi’s Method of Phenomenological Analysis</td>
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<tr>
<td>1. Read all transcriptions twice to acquire a feeling for them.</td>
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<tr>
<td>2. Review each transcript and extract significant statements.</td>
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<tr>
<td>3. Formulate meanings from these significant statements and phrases.</td>
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<tr>
<td>4. Organize the formulated meanings into clusters of themes and validate them in the context of the original statements from the transcripts.</td>
</tr>
<tr>
<td>5. Integrate results into an exhaustive description of the phenomenon under study.</td>
</tr>
<tr>
<td>6. Formulate an exhaustive description of the phenomenon under study in as unequivocal a statement of identification as possible.</td>
</tr>
<tr>
<td>7. Ask participants about the findings thus far as a final validating step.</td>
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*Note. Adapted from Polit & Beck (2008) and Colaizzi (1978)*
CHAPTER III: Results

Analysis of Themes

Patient’s Understanding of Contact Precautions

Patients had varying levels of knowledge regarding their contact precautions status. Six of the ten patients interviewed were able to verbalize the organisms they were on precautions for and how contact precautions prevented transmission; the rest were only vaguely aware of either their precaution indications or status. A few patients verbalized simplified but accurate understandings of the pathophysiology of the particular pathogen with which they were infected.

Four of the six patients who understood their reason for precautions knew exactly where and when they acquired the infectious organism. All of these patients reported that they had acquired the infection in the process of managing another medical condition.

- “I had fluid in the abdomen. They put a drain in, and that was infected. So then they said I had MRSA.”
- “Because I got my gallbladder taken out. Instead I got worse. I went in there and I got it [C. difficile]…. I used to stay in my house. I didn’t go anywhere else. I just went to the hospital to get my gallbladder out.”
- “I’ve been in probably at least fifty of these rooms since I was in a car accident 15 years ago, and it left me with [Methicillin Resistant] Staph.”
- “I had a knee replacement, and it got infected. They had to re-open it up to scrape it, re-close it. Seemed to go well except that I got MRSA.”

Other patients were either unaware of any infection/colonization or could not state the indications for their contact precautions statuses. Their statements expressed a more laissez faire attitude toward the precautions. Some of their statements:

- “I’m not contagious I don’t believe…. I really don’t know why they have to wear that thing; but they do, so that’s alright with me.”
- “It’s to prevent infection and all that other business. There’s a million diseases, whatever.”
- “I don’t know how much good they do. They must have. I’m not even sure the reason they added them.”
- “I’m not sure of whatever it is. I don’t think they [the gowns] are for mosquitoes.”
- “I was admitted today; and the last time I was in the hospital, they put you on precautions for a little while. And I was taken off. Same thing at [rehabilitation facility]…. I don’t know what they were for.”

When the nurses for these patients were asked why they were on precautions, they either guessed or did not know. For two of the patients, assigned nurses guessed VRE, but each specifically stated that she could not recall and did not have it written down. For a third patient, the nurse stated that the patient was colonized with a less high-profile organism, and not one of the common discussed MDROs such as MRSA or VRE.

As the statements above indicate, the patients who were unclear regarding their infection or colonization status often stated or implied that they did not care why
they were on precautions. These patients and other patients with more awareness of their precautions status appeared to trust the medical judgment of their care providers. Additional statements from these patients attest to this notion:

- “They must have [done] research on it saying that we needed it.”
- “Well, this is a good precaution because the diseases or, you know, they’re very very outgoing now so it’s a very very great idea.”
- “[When you] get as sick as I’ve been, you go with the flow… It’s probably a good thing. Without a doubt, it’s probably a good thing.”

Only one patient directly disagreed with the need for her precautions. This patient was placed on precautions due to a history of MRSA infection:

I got put on contact precautions… when I had a drain infection. So I really forgot about it when I came to the hospital, you know, on Tuesday. So they said you have to have your own room, and you’re on the contact, so… I probably need to have it tested to see that I don’t need to be on the precautions…. I don’t have, you know, the drain’s out. It’s all healed up, but, yeah, I’m still considered on precautions.

The patient was compliant with the precautions, however, and stated, “I know, like everyone… could have MRSA Staph [sic]. You just don’t know.” Though she questioned her need for precautions, she respected the medical staff’s institution of precautions and continued to observe their requests whenever she left her room.
More than one patient described a simplified but accurate understanding of the pathophysiology and/or spread of their infection or colonizing organism.

- “It’s not air bound, you know, like if I talk to you and things like that. Only if you touch it.”
- From a patient with *C. difficile*, “The doctor said it’s like a ball; and when it splits, it opens up, and you get it again. It’s just something that’s in me.”

Three patients experienced multiple hospital admissions while on contact precautions. Repeat admissions made them keenly aware of the contact precautions requirements and able to monitor how their caregivers observed them. As the most experienced of these patients put it, “I think they’re all basically following the precautions. I know all the precautions myself by now by heart, just because I’ve been in so many hospitals and stuff.” Another patient understood that everyone entering the room was at risk, and that his role was to ensure “the precautions [so] that you don’t give it to the other people in the room with you.”

**Cleanliness and Dirtiness**

Many patients were acutely aware of sanitary procedures in the hospital as a direct result of the precautions. Some patients commented positively on the cleanliness of the staff, but others felt that the inconsistencies they saw made the hospital seem an unclean or dirty place.

One patient, a nurse herself, felt reassured about infection control procedures based on how her precautions status was initially discussed with her:
I think the staff’s been really good just with the basic hand-washing. You know, there are, like, signs all over. They told me like the minute I was admitted, ‘don’t forget to wash your hands, blah blah blah,’ and ‘gown up when you come out.’ And then, you know, I didn’t even say ‘well I’m a nurse already, I know you have to.’ But, you know, they were very good with that.

Another patient directly stated that he was impressed by the cleanliness of the staff:
“at shift-change in the morning, the common work-spaces over there are totally cleaned up. Everything’s put away. Everything’s well managed by the people.”

At least three patients felt strongly enough to comment on the dirtiness they perceived when they observed inconsistent precautions and hand-washing practices by care providers. The same patient that complimented the staff on hand-washing also commented, “I think the doctors aren’t as cooperative. Some of them have walked right in; they haven’t gowned up. Others have.” She continued to state that this made her feel “a little disappointed that they don’t pay attention to it. Because I wonder, if they don’t gown up sometimes, how are other things? How are hand-washing and all that?” Another patient was complimentary to the nurses but disparaging towards his physicians: “Can’t beat the nurses I’ll tell you. The doctors, ha, ha, forget it. They’re very sloppy, very sloppy.”

The nurses were not immune to disapproval, however:

I see nurses walk out in the hall with [gowns] on, walk back in, you know, just not use them properly. You’re supposed to throw them
away inside the room. Then when you come… back in again, put on again outside the room and then enter the room. You’re not allowed to leave the room. That’s how you cross-contaminate… bacterias [sic] and stuff like that.”

This patient had a lengthy history of hospitalizations involving contact precautions at multiple institutions. She was very concerned that the inconsistencies she observed among staff that cared for her might lead to another person acquiring her MRSA infection: “I can’t spare any part in as far as cross-contamination with things like that.” Her overall impression of the inconsistencies:

It just makes the hospital not as clean as it used to be, like years ago. Like when they used to clean the rooms they would really clean the rooms really good. Not just come in and dust the pictures and that. I never see them washing the beds down or anything like that.

She also noted the inherent problem with waiting for the results of cultures: “It takes a couple days to come back; and after that time, you seen that person already without a gown and glove on… You’re already exposed to that line of bacteria and all that’s going on.”
Family and Visitor Perceptions

The family and visitors of most patients did not voice or demonstrate concerns to the patient regarding the contact precautions requirements. Almost all patients either denied or did not report family or visitor distress at the idea of contact precautions. Visitors and family were supportive of the patient and readily compliant with institution policies.

- “They feel comfortable, and they feel like they’re safer, and we don’t talk much about that. But they feel very, very safe coming into the room.”
- “I get a bit of company. But, well, they just do it [wear the gown and gloves], that’s what they’re supposed to do, they do it.”
- “Well they know they have to wear it, so…. They’re just worried if I’m going to make it or not.”
- “[If] they don’t want to wear it, they don’t have to come.”
- “My friends come to see me. They have to put them on. And it doesn’t bother them. It doesn’t bother me.”

One patient did report significant distress experienced by her family, stating they were uncomfortable when they visited. She reported that her family was uncomfortable in her presence at home as well. Her entire description of her experience centered around uncertainty and subsequent anxiety on her part as well as her family’s. Her opening statement during the interview: “I don’t care for it [the precautions]. It upsets my family…. They don’t care for it, they don’t like it…. They think it makes me germy…. Especially my grandchildren, they think [I’m] full of
germs…. They get upset with me if I take a sip of their water: ‘ew!’ you know…”

This patient could not say why she was on precautions and that the explanations of why were “vague, very vague…. I don’t know why I’m on it now.” In this patient’s case, her limited understanding of the reasons for her precautions made it difficult for her to assess and explain her level of contagion. She states, “I don’t know what to tell them.”

**Patient Priorities**

Many patients felt that precautions were just “part of the experience” of being hospitalized. In other words, the precautions were not a separate part of the hospital experience, nor were they the patient or family’s focus. Two patients did prioritize their experience on contact precautions during the interview as a manifestation of their overall health status. Another patient focused on the precautions as central to her experience and a nuisance, but not as a reflection of her health status.

Most of the patients interviewed commented that not having to wear the gowns themselves made them relatively unaware of the inconvenience: “It doesn’t bother me in the least. I don’t have to wear it, I don’t have to put up with it, so it’s not an inconvenience to me.” “Yellow gowns, I mean I don’t know what they’re called. If you had them [on] long enough, they’re worth the money.”

When asked how long she had been on precautions, another patient replied, “About the time that I was getting sick. I don’t think I had ever put one on… I really don’t have much experience with them [the gowns]… I just see people coming in with them on.” When asked if she had anything she would tell other patients about
her experience on contact precautions, another patient responded, “Oh, I wouldn’t get excited about it.” To these patients, gowns are a passive experience rather than an active one. As one patient summarized, “[When you] get as sick as I’ve been, you go with the flow. You don’t worry about the cost of anything. What are you going to do next to get me better? You just go with the flow.”

One patient with an active MRSA infection put it more subtly. “I have another… infection. They don’t know if that came from the PICC line, or wherever. They did pull that. [The nurse] explained it to me. I can’t remember… anymore.” In this statement, the patient is referencing the fact that it was explained to him, but that his focus was not on remembering the details of the infectious agent. His mind was on the fact that he had an infection and on his overall physical and health status. He focused more on the treatment and prognosis than the causes or inconveniences of his infections.

When pressed, another gentleman was frankly surprised at the inquiry about his experience with precautions and specifically the fact that people had to gown up before entering his room:

I don’t care. I could care less what they’re wearing [when they enter my room]… I have no problem with that, I mean that’s up to them. They can either put it on or take it off. I’m not contagious, I don’t believe.

He proceeded to unequivocally agree that the need for gowns and gloves was not his priority during his hospitalization. He did not seem concerned either way about his precautions status. This may explain why some patients are not sure why they are on
precautions. While the purpose of the precautions may or may not have been explained to them, these patients are not focused on the precautions as much as on their own prognosis and symptoms. More than one patient kept reverting back to his or her own health status, which clearly preoccupied most minds: “I just don’t want to go for another operation, that’s all.”

Three of the ten patients did focus on their precautions status. One of these three was a patient with recurrent *C. difficile* infection. She discussed the illness and how it made her feel debilitated and sick, but she did not talk about isolation. She repeated statements such as, “I’m just trying to figure out ‘why’…. I mean, I don’t do anything bad. I’m just trying to figure out why I have everything else.” When asked about how her family felt about the precautions, she pointed out that they too were focused on her health status and not the precautions: “Well they know they have to wear it, so [they do]…. It’s not that. They’re just worried if I’m going to make it or not.” In response to a question about her health status and prognosis, her answer was: “Let me tell you, it’s a long haul.” She could clearly verbalize the need for contact precautions, but her statements centered around her illness and health rather than any direct impact the isolation precautions may have had on her.

Another patient on precautions for an obscure organism that was not clear to either the patient or her nurse appeared focused on the precautions because she had few answers about her health status. It was causing strain on her family. Regarding contact precautions, she and her family “think it makes me germy…. Especially my grandchildren, they think [I’m] full of germs…. They get upset with me if I take a sip of their water: ‘ew!’ you know.” To this patient, the precautions represented a
knowledge barrier and a manifestation of illness. Her priority was on understanding how her infectious status would impact her activities of daily life.

The last patient focused on her precautions as burdensome, but did not see them as a manifestation of her health status. In fact, she saw her infectious status as resolved, making the precautions unnecessary. This patient was on precautions for a history of infection:

I got put on contact precautions… when I had a drain infection. So I really forgot about it when I came to the hospital, you know, on Tuesday. So they said you have to have your own room and you’re on the contact…. I probably need to have it tested to see that I don’t need to be on the precautions…. The drain’s out, it’s all healed up, but, yeah, I’m still considered on precautions.

This patient found the gowns annoying when she was required to use them every time she went out of the room to walk, which she was encouraged to do frequently:

A little thing, like just to walk, you know. I take a couple walks every hour, so it’s like gowning up every so often… I know it’s just a thing that they have to do. It’s just more irritating for me like when you want to just take a walk out in the hall you got to gown up and all that…. And it’s just a pain gowning up every time you have to go out of the room, you know, to walk in the hall and do anything.
Taken in context with the multiple people who commented that the gowns did not bother them because they were not required to wear them, it appears that patients are more inconvenienced if they are mobile and want to leave their room than patients who are sicker and are relatively limited in their mobility.

Delays in Care and Staff Attitudes

Few comments were made indicating delays in care or staff attitudes regarding gowning and gloving. Most patients either insisted that the staff were friendly and accommodating or simply denied any delays or negative experiences in their care. When pressed, some patients admitted to noticing displeasure by staff members if they had to repeatedly leave and re-enter a precautions room.

One patient stated, when asked how she felt about any perceived negative attitude towards gowning and gloving by staff, “I guess it doesn’t bother me particularly. I’ve been here so long I’m getting used to it.” Another patient specifically stated that the nurses addressed his every need. “The nurses, can’t beat them…. Anything you ask for they get for you.” Yet another patient noted that she did not think any staff expressed displeasure or annoyance toward gowning and gloving prior to entering. She felt that healthcare workers were invested in stopping the spread of infection to themselves at the very least. “I think they’re more concerned that they don’t get sick…. And they don’t shun you or anything. They care, you know.”

One patient who had stayed in multiple hospitals while on contact precautions noted that, “I find really on this floor nobody has about any problem at all. And they’re really nice…. But like I said, I have been on other floors where they just, you
know, they don’t want to put it on.” She later quantified, “Well, I haven’t found that [negative attitude] this time. I have found it a few times, but I haven’t found it recently. I’m usually hospitalized about three times a year.” This patient also related an instance of someone refusing to touch her:

I did have one surgeon once that used to come in the room and used to stand in the door, you know. I mean… his bedside manner was so rude… You know, and he was my surgeon that did my back surgery.

She pointed out that other than this instance:

I find all the doctors and everything are really great about it. Especially shaking hands and stuff like that… They have gloves on, you know, of course, but I mean, yeah. They won’t stand like ten feet away from you like they’re afraid of you.

Patients did notice occasional displeasure by staff, but it did not appear to have a lasting impact on them. One patient, when asked for clarification, did admit to sensing some negativity in the staff:

I think they get upset if they have to keep putting it on and off. Annoyed. In one sitting, if they have to go back in they have to put it on again. But I don’t know, I’m just guessing…. I don’t study them necessarily, but I think it’s just one more thing they got to do.
One patient noticed that having to gown increased the workload for hospital personnel. “I just say for time’s sake, because I know it takes awhile to gown up…. I do that to the dietary aide, ‘Don’t bother [to] gown, I’ll just get the tray from the door.’“ She also felt it was her responsibility to warn the staff member in advance of anything she might need prior to entering the room to decrease the number of times gowns were worn and removed:

I think I’m key to asking everybody to do everything at once instead of having to make trips back and forth…. If I was working on the floor, I would just make sure I ask the [contact precautions] patient everything, you know, ‘Do you need anything else because if we come in and gown up so to make it easier for you so you don’t have to wait, tell me everything that you need at once….’ Because you can go in and out, in and out every few minutes with something.

Though the patient denied experiencing any delays in her care, she appears to be proactively addressing the potential for them.

Only one patient referenced a specific delay in care. When asked if he ever felt isolated by contact precautions, he stated, “Yeah, a little bit, when it comes time to getting the food…. Because they bring it up to a segregation area, and sometimes it doesn’t get distributed as fast as you’d like to see.” He insisted that this was the only delay in care that he had experienced.
Protecting Not Isolating

Regardless of their understanding of the indications for precautions, all subjects verbalized an understanding that the precautions were to protect others from bacteria, germs, or other organisms. At least four of the patients interviewed observed, however, that the precautions had the additional effect of protecting themselves from outside germs. Patients generally agreed that contact precautions were in the best interest of everyone:

Well this is a good precaution because the diseases, you know, they’re very, very outgoing now, so it’s a very, very great idea…. It’s what I do, because there’s a lot of diseases; and I think it’s very, very well that you still have that type of uniform.

From a different patient, “No, it’s probably a good thing. Without a doubt it’s probably a good thing.” Another patient simply stated that those in his room “…Won’t handle any bacteria, and they don’t want to get it.”

Several comments were made about the benefit of protecting the patient on precautions from germs outside of their room:
- “It’ll hide the dirt from your clothes.”
- “I feel comfortable with you people putting the gloves on and the gowns on so you’re not dragging anything in from somebody else.”
- “Well, I can imagine most of the nurses and doctors all have Staph anymore.”
- “[My experience has been] very good. I think it’s great. Everybody gets protected.”
Multiple patients touched on the issue of isolation but indirectly indicated that they did not feel isolated: “I mean, they’re not afraid to touch me or anything like that. You know, I don’t feel like I’m alienated against or, you know, like I’m going to give them anything.” When the subject of “isolation” was brought up, one patient responded, “Oh bull… No problem, everything is fine. You may sleep well tonight because there is no problem with the gowns with me.” As related earlier, one patient did describe a single instance of her surgeon refusing to touch her. Despite this negative experience, the patient denied feeling isolated.

One patient, who had the opportunity to leave her room on a regular basis for exercise, did comment on feeling vulnerable and exposed but denied feeling isolated:

I think a negative is that when you walk, and people, visitors or some of the hospital staff (ancillary staff) that really don’t know why, like look at you because you’re gowned up… But no one has stopped me to say, ‘Why are you wearing the gown?’

When asked if this made her feel exposed, she replied, “Yeah, a little bit because I’m wearing the gown; and it’s so bright yellow, you can’t miss it.” Though the patient declined to say outright that she felt stigmatized, her word choices in expressing her vulnerability and the attention drawn suggest she felt stigmatized, even if no one directly questioned her. No other patients related an experience of requiring the precautions outside of the room.
<table>
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| **Patient’s Understanding of Contact Precautions** | - “I’m not contagious I don’t believe…. I really don’t know why they have to wear that thing but they do, so that’s alright with me.”  
- I had fluid in the abdomen they put a drain in and that was infected. So then they said I had MRSA.  
- “I was admitted today, and the last time I was in the hospital, they put you on precautions for a little while. And I was taken off. Same thing at [rehabilitation facility].... I don’t know what they were for.” |
| **Cleanliness and Dirtiness** | - “I see nurses walk out in the hall with [gowns] on, walk back in, you know, just not use them properly. You’re supposed to throw them away inside the room. Then when you come… back in again, put on again outside the room and then enter the room. You’re not allowed to leave the room. That’s how you cross-contaminate…I can’t spare any part in as far as cross-contamination with things like that.”  
- “…A little disappointed that they don’t pay attention to it. Because I wonder, if they don’t gown up sometimes, how are other things? How are hand-washing and all that?” |
| **Family and Visitor Perceptions** | - “They feel comfortable and they feel like they’re safer and we don’t talk much about that. But they feel very very safe coming into the room.”  
- “It upsets my family…. They don’t care for it, they don’t like it… They think it makes me germy…. Especially my grandchildren, they think [I’m] full of germs.” |
| **Patient Priorities** | - “It doesn’t bother me in the least. I don’t have to wear it, I don’t have to put up with it, so it’s not an inconvenience to me.”  
- “[When you] get as sick as I’ve been, you go with the flow. You don’t worry about the cost of anything. What are you going to do next to get me better? You just go with the flow.”  
- “Oh, I wouldn’t get excited about it.”  
- “I just don’t want to go for another operation, that’s all.” |
Themes identified as part of the experience of inpatients on contact precautions include understanding of infection, cleanliness and dirtiness, family and visitor perception, patient priorities, delays in care and staff attitudes, and protection over isolation.

Patient knowledge and understanding of contact precautions varies. Patients who acquire organisms requiring contact precautions often acquire them while in the process of managing another medical condition (i.e. when they are exposed to the healthcare environment). Most patients are not focused on their contact precautions status, especially if the indications for the contact precautions do not include a symptomatic infectious process. Patients being treated for an active infection tend to be more knowledgeable about the indications for contact precautions but focus their attention on their state of health and prognosis. Few patients correlate contact

| Delays in Care and Staff Attitudes | “I find all the doctors and everything are really great about it. Especially shaking hands and stuff like that… They have gloves on, you know, of course, but I mean, yeah. They won’t stand like ten feet away from you like they’re afraid of you.”  
- I think they get upset if they have to keep putting it on and off. Annoyed. In one sitting, if they have to go back in they have to put it on again. But I don’t know, I’m just guessing…  |
| Protecting not Isolating | “It’ll hide the dirt from your clothes.”  
- “I feel comfortable with you people putting the gloves on and the gowns on so you’re not dragging anything in from somebody else.” |
precautions with their individual health status, prognosis, or sense of identity. Contact precautions are rarely seen as isolating, and only occasionally viewed as emblematic of disease state.

Most patients view the inconvenience of precautions as necessary for the protection of everyone. These patients often have the insight that contact precautions conversely protect them from exposure to pathogens present on the equipment, hands, and clothing of hospital personnel and others who may enter the patient’s environment. Patients routinely observe compliance by hospital staff and believe their observations reflect the cleanliness/dirtiness of the hospital environment as a whole. Perceived delays in care or negative attitudes by staff are not routinely experienced or acknowledged by patients. Though some strain on healthcare-workers is observed by patients, patients do not appear to internalize the behavior or to interpret this as being a burden to the healthcare-worker.

Most visitors and family members feel comfortable sharing an environment with patients while they are hospitalized and when they are discharged home. Among families that experience discomfort or have doubts about physical contact with the patient, information and knowledge about disease process and transmission risks is lacking. These patients and family members show signs of discomfort and distress while the patient is still hospitalized and often seek more information about the infection and transmission risks.

Patients who leave their rooms to ambulate are required to wear contact precautions gowns. Independent patients who leave their rooms frequently feel more inconvenienced than those that only occasionally leave their rooms. The bright yellow color of the gowns makes some patients feel vulnerable or exposed, and
possibly even stigmatized when wearing them in the hallways, though these patients do not feel isolated, neglected, or vulnerable while in their rooms.
CHAPTER IV: Discussion

Patient’s Understanding of Contact Precautions

Studies regarding the effectiveness of patient education regarding contact isolation are lacking in the literature. Good communication, however, may take the place of targeted educational interventions resulting in increased patient comfort and knowledge, negating the need for a study. This is consistent with Rees, Davis, Birchall, and Price’s (2000) analysis of interview data in terms of patient satisfaction. Though analysis of interviews in terms of mood disturbance (Davis and Rees, 2000) identified higher rates of depression and anxiety than among non-isolated patients, these same interviews demonstrated that patients were satisfied with the care they were receiving as long as the nurses and medical team communicated effectively (Rees et al., 2000).

The fact that patient knowledge and level of comfort with that knowledge varied in these interviews is consistent with the results of the cross-sectional survey of 86 isolated and non-isolated patients conducted by Gasink et al. in 2008. In comparison to non-isolated patients, Gasink et al. (2008) found that patient satisfaction scores were unaffected by contact precautions. Of note, less than half (46.2%) of isolated patients felt the rational and procedures for their isolation were adequately explained and 28.2% were not aware that the gown and gloves being worn were actually required. Patients were aware that the isolation was for the benefit of others (94.9%). Consistent with my findings, more than half (56.4%) felt isolation benefited both others and themselves. Only three participants (7.7%) felt isolation
worsened the care they received, and twenty-four (61.5%) felt it improved the care they received (Gasink et al., 2008). These results directly correlate with the statements made by patients in interviews here.

Though patient knowledge of contact precautions varies, patients appear to be comfortable with the level of information they are receiving. There are a few crucial exceptions to this notion, however. One patient in my study verbalized extreme distress regarding her lack of understanding of her infectious status. Though the literature on contact precautions does not directly correlate increased patient and family anxiety with poor knowledge regarding understanding of contact precautions, Rees et al. (2000) and Knowles (1993) concluded that education and communication between treatment team and patient is crucial for alleviating this distress. The statements made by this patient were the entire focus of her interview, indicating a need for focused intervention and education about her specific condition, infectious status, and risks of transmission with her as well as her family members prior to discharge. Unfortunately, in this patient’s case, the nurse caring for the patient reported a lack of knowledge herself about the patient’s transmission risks and specific organism. This demonstrates a lack of support for the nurse to carry out effective communication with the patient regarding infection control and health status. Nursing knowledge of infectious and contact precautions organisms is not apparent in the literature. This makes it hard to evaluate the ability of nurses to educate patients about infection control in relation to specific organisms, especially organisms other than the high profile MDROs such as MRSA and VRE.

In addition to the patient who verbalized her confusion, other patients may be candidates for more targeted education efforts as well. More than one patient
appeared to have been placed on precautions during the course of a prolonged hospital stay. These patients rarely remembered the reason for their precautions in comparison to the patients who were readmitted on contact precautions. Studies have shown that acutely-ill patients have poor memory during hospitalizations for multiple reasons including medications and physical and psychological distress (Bergbom, Svensson, Berggren, and Kamsula, 1999; Griffiths & Jones, 2001; Rockwood, 2012; Samuelson & Corrigan, 2009). These patients may benefit from repeated statements by the medical team as to why they are on precautions in an effort to improve compliance and patient knowledge.

**Cleanliness and Dirtiness**

Patient observations regarding healthcare worker compliance with precautions is not surprising given the number of studies in the literature documenting a wide spectrum of compliance rates (Bearman et al., 2007; Clock et al., 2010; Golan et al., 2006; Manian & Ponzillo, 2007; Pittet et al., 2000). Institutions should take note that patients are drawing direct conclusions about the cleanliness of the hospital as a whole as a result of these observations.

At least one patient directly commented on the fact that culture results require 48 to 72 hours and that patients are not always placed on precautions during this time. Similar concerns by hospital staff have led to policies that include the use of contact precautions on all patients admitted to high-risk areas (such as ICUs) by some institutions. As Pogorzelska, Stone, and Larson (2012) report in their integrate review of hospital infection control programs, the data on the cost efficacy of this practice is a primary reason for variable adoption of the policy. Administrators may
take note of this perception, however, as cleanliness of the hospital environment is a question on the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Survey. This national survey instrument is currently being used to compare hospitals from a consumer perspective as well as to influence Value-Based Purchasing and reimbursement payments from the Centers for Medicare & Medicaid Services (2012).

**Family and Visitor Perception**

According to these interviews, most family and visitors of patients on contact precautions do not contribute to patient feelings of stigmatization or isolation. If family and visitors are feeling increased anxiety or fear of infection, they do not appear to be expressing these concerns to the patient. There do exist exceptions to this observation. At least one patient’s family made her feel extremely isolated and stigmatized as a result of her contact precautions status, stating, “It upsets my family,” and “They think it makes me germy.” Family and visitor perception of transmission risks has not been studied and is not represented in the literature despite the fact that visitors to contact isolation patients are required to comply with infection control policies. Though anxiety on behalf of family and visitors specifically in regards to transmission risk appears to be infrequent, it is an occurring phenomenon that can affect patient and family psychological well-being. As discussed earlier, nurses observing evidence of this should aim to repeatedly reassure, educate, and empower both patients and family members in regards to infection control and transmission risks. As will be discussed later, the fact that contact precautions also
protect the patient from outside germs may be a positive to highlight regarding the use of contact precautions.

**Patient Priorities**

The studies in the literature citing increased rates of anxiety and depression among isolated patients (Abad et al., 2010; Catalano et al., 2003; Davies & Rees, 2000; Gammon, 1998; Jones, 2010; Tarzi et al., 2001) do not take into account patient satisfaction with care or patient perception of care. Those studies that do take this into account (Rees, et al., 2000; Gasink et al., 2008) in addition to my results imply that anxiety and depression among isolated patients do not correlate with patient satisfaction of care. Consistent with statements verbalized by the patients in my study, perhaps the reason for anxiety and depression in these patients is health status and prognosis rather than isolation. Statements made during interviews such as “I just don’t want to go for another operation, that’s all,” and “They’re just worried if I’m going to make it or not,” provide evidence of patient anxiety. They imply, however, that the anxiety felt is related to health status, which few patients associate with precautions. This stands in contrast to findings by Catalano et al. (2003) and Tarzi et al. (2001) both of which attempted to take severity into account in their findings of increased depression and anxiety rates. Though statistical analysis in these studies demonstrates a correlation between contact precautions and increased rates of depression and anxiety in comparison to non-isolated patient cohorts, causation cannot be concluded.

An alternative explanation may be that many patients on contact precautions have a higher acuity of illness. Some of the patients in my study had been in the
hospital repeatedly for reasons relating to the infection that mandated the use of contact precautions (i.e. recurrent infections from MRSA or C. difficile). As documented in the literature and discussed earlier, MDRO infections increase patient morbidity and mortality (Anderson et al., 2009; Engemann et al., 2003; Siegel et al., 2006) as well as the cost of care and patient length of stay (Anderson et al., 2009). It may be that the levels of anxiety, depression, and even anger cited in the literature are a reflection more of health status than isolation from contact precautions. Perception of health status may be influenced by contact precautions, but it also may be influenced by a host of other factors not addressed in studies correlating contact precautions and anxiety and depression rates.

In my study, subjects did not appear to consider contact precautions negatively reflective of their health status, or as a commentary on their care. This is in kind with the 1988 study by Wilkins et al. which found that patients isolated on an infection control ward were primarily concerned about their overall health status and disease state and not by the isolating infection control procedures. The fact that this result has been reproduced gives credence to the notion that patients do not see their contact precaution status as an important element of their stay in the hospital. Hospital workers on the other hand, may consider it to be a large intensive aspect of the patient’s hospital stay that requires special consideration and often work-arounds and extra equipment/labor (Khan et al., 2006).

It seems the studies indicating increased rates of depression, anxiety, and adverse events along with lower satisfaction scores (Davies & Rees, 2000; Gammon, 1998, 1999; Jones, 2010; Morgan, Dickema, Sepkowitz, & Perencevich, 2009) are not reflective of contact precautions care but of other factors relating to the studied
patient populations. Individuals with prolonged hospitalizations, perhaps as a result of a complicated MDRO infection known to increase morbidity and length of stay (Anderson et al., 2009), may be more depressed because they are ill and not because they are feeling isolated.

Perhaps the studies conducted by Gammon (1998) and Knowles (1993) reflect a different era of precautions. As mentioned in my methods, I excluded patients on droplet and airborne precautions. I wanted to separate the use of contact precautions from the use of face masks in determining the sense of isolation. Contact precautions are far more common place in modern times than droplet, airborne, or neutropenic precautions (which include masking the face) (Siegel et al., 2007). Many of the studies present in the literature do not make this distinction in the population studied. Of the eight participants in Knowles’s 1993 study, three were on precautions requiring masks. Davies and Rees (2000) also included one patient with tuberculosis in their study (requiring a mask or respirator). Wilkins et al. (1988) stated that of the forty-one patients included in their study, seventeen had gastrointestinal tract infections, eight had hepatobiliary infections, five had respiratory infections, and eleven had “infections in other parts of the body.”

Though the targeted patient population for Catalano et al. (2003) was patients with VRE or MRSA, the authors do not report whether or not any participants were also on precautions requiring masks or if precautions requiring masks were exclusion criteria. The same is true for Gammon’s 1998 study (which included participants with MRSA, C. difficile, and salmonella enteritis), Stelfox et al.’s 2003 study (which included participants with MRSA, VRE, Acinobacter, and “infectious diarrhea”), and Tarzi et al.’s 2001 study (which targeted MRSA patients). Gasink et al. (2008) also
targeted patients on contact precautions such as MDROs, *C. difficile*, and “some skin infections”, but do not specify in their results which organisms were present in their participants or whether or not masks were required for any participants.

The lack of separation for contact precautions from airborne or droplet precautions gives rise to the possibility that what makes some patients feel isolated is not being able to see faces or exit a room without covering their own faces. Also possible with some of the older studies conducted on wards was the practice of preventing contact isolation patients from exiting their rooms. Though not studied in the literature, the institution where my study was conducted is one that allows for contact precautions patients to exit their rooms provided they wear personal protective gear to prevent environmental contamination (i.e. gowns) (Yale-New Haven Hospital, 2011). Guidelines from Siegel at al. (2007) recommend minimizing exit from the room to essential patient transport only, but it appears that some institutions are broadening the definition of essential to include patient ambulation to avoid debilitation.

Another possibility for the discrepancy between my results and those of other studies indicating dissatisfaction, anxiety, and depression (Abad et al., 2010; Catalano et al., 2003; Gammon, 1998, 1999; Jones, 2010; Morgan et al., 2009; Stelfox et al., 2003; Tarzi et al., 2001) is the possibility of institutional differences. One of the limitations of this study is that it was carried out at a Nursing Magnet hospital. Staffing ratios and unit performance have been indicated in decreased patient satisfaction and increased adverse events among patients (Aiken et al., 2012; Kutney-Lee et al., 2009). Conceivably the perceptions of the subjects in this study reflect
increased patient satisfaction as a result of the interventions used to achieve Magnet status.

**Delays in Care and Staff Attitudes**

Despite the multiple studies in the literature documenting less attention paid to patients on contact precautions (Abad et al., 2010; Catalano et al., 2003; Morgan et al., 2009; Stelfox et al., 2003), it appears from these interviews that patients may not be aware that they are receiving less of their caregivers’ time, or perhaps the attention being paid to them is more focused and efficient. Patients do not seem to feel isolated or neglected. In fact, patients perceive benefits to the precautions in the form of protection from other organisms. Studies have supported this belief, documenting that aggressive contact precautions instituted to decrease the spread of a specific MDRO have inadvertently decreased the spread of other organisms (Wright et al., 2004).

Though frequently cited and rigorous in design, the study by Stelfox et al. (2003) concluding a decrease in attention and an increase in adverse events among isolated patients only looks at charted data. It does not determine the cause for the findings. While a higher number of patient complaints were documented among the isolated patients studied by Stelfox et al. (2003), the complaints are not analyzed for content. Consistent with Rees et al.’s (2000) findings, patients do not appear bothered by these documented delays in care. Some patients appreciate the solitude (Rees et al., 2000) perhaps because their care is more clustered and efficient. Khan et al. (2006) report that most nursing staff feel patients on contact precautions receive the same standard and quality of care as non-isolated patients. While directly
questioning nurses about the care they provide is subject to significant reporter-bias, it demonstrates that patients and nursing staff are in agreement that negative attitudes and delays in care are the exception rather than the normal in caring for patients on contact precautions.

Protecting not Isolating

As discussed earlier, statements made by patients observing self-benefit of contact precautions is present elsewhere in the literature. Rees et al. (2000) quantified that the majority of patients studied are aware that gowns and gloves protect others as well as themselves. This may be a useful point for decreasing anxiety among patients, visitors, and healthcare workers that are specifically concerned about stigmatization and other perceived negative psychological effects of isolation. As Wright et al. (2004) documented in their study on controlling *Acinetobacter*, there is scientific evidence to support this self-protection belief. Contact precautions decrease the spread of organisms beyond those they are targeted to minimize (Wright et al., 2004). Hass (2010) and Oldman-Pritchard (2003) relate in their narratives that the loss of direct touch can decrease the sense of human connection between caregivers and patients. Trying to rephrase this viewpoint in terms of protection for all parties involved (including the patient on precautions) may alleviate some of this psychological burden.
Limitations

Subjects for this study were interviewed during their hospital stay for acute illnesses/surgeries and this may have impacted their ability to discuss their experiences. It also may have suppressed their expression of negative feelings and issues, despite confidentiality of findings. Although the recruitment of subjects ended when data was saturated, recruitment of patients from different hospitals (non-Magnet) may affect patient experiences.

Conclusions and Implications for Practice and Research

Further education and interventions will continue to ease the stress that MDRO and other virulent infections have on patients and health care facilities. Knowing that patients seek reassurance and knowledge about their health and illness may make providing education and insight easier for healthcare workers, especially nurses. Since education during the hospital stay and prior to discharge is primarily the responsibility of the staff nurse, staff nurses should be taught about the pathophysiology, prevalence, and spread of organisms requiring contact precautions which are endemic to the hospital they work in. Education should start in nursing school specifically focusing on MDROs, and be supplemented during orientations and continuing education opportunities required by healthcare institutions. Multiple steps and repeated education of similar materials allows for a stronger grasp of information. This education should spread beyond the most frequently referred to organisms (MRSA, VRE, C. difficile) and include organisms such as Extended-Spectrum Beta Lactamases (ESBLs) and Acinetobacter. Resources for education on
less common organisms requiring contact precautions should be available for nurses to access and share with patients and families.

Patients and family members exhibiting high levels of distress and concern should be supported with education and active listening repeatedly during the hospital stay. Accurate and easily understood information can significantly decrease stress and anxiety among patients and visitors. As a rule for all patients, education should be targeted to the specific organism and provided frequently. Because different organisms may require precautions for different durations of time, or use different cleaning requirements, it is prudent for health care workers know the exact reason for the patient to be on contact precautions.

Ideally, further research should be undertaken to determine the effectiveness of contact precautions at preventing or decreasing the spread of infection. It may also be useful to design a study comparing non-isolated patients, patients on contact-only precautions (excluding droplet or airborne) for inactive infections or colonization, and patients with an active infection using the depression and anxiety scales of previous studies. This study could potentially clarify that contact precautions alone do not create increased depression or anxiety, but that acuity of illness or masking of the face may be the primary culprits. In the meantime, contact precautions themselves are relatively inconsequential to the patient population. Examining their consequences from a healthcare provider and institutional perspective appears to be more strongly needed in the hopes of improving compliance and cost-effectiveness.
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Appendix

ASSURANCES
As the PRINCIPAL INVESTIGATOR of this research project, I certify that:
- The information provided in this application is complete and accurate.
- I assume full responsibility for the protection of human subjects and the proper conduct of the research.
- Subject safety will be of paramount concern, and every effort will be made to protect subjects’ rights and welfare.
- The research will be performed according to ethical principles and in compliance with all federal, state and local laws, as well as institutional regulations and policies regarding the protection of human subjects.
- All members of the research team will be kept apprised of research goals.
- I will obtain approval for this research study and any subsequent revisions prior to my initiating the study or any change and I will obtain continuing approval of this study prior to the expiration date of any approval period.
- I will report to the HIC any serious injuries and/or other unanticipated problems involving risk to participants.
- I am in compliance with the requirements set by the University and qualify to serve as the principal investigator of this project or have acquired the appropriate approval from the Dean’s Office or Office of the Provost, or the Human Subject Protection Administrator at Yale-New Haven Hospital, or have a faculty advisor.
- I will identify a qualified successor should I cease my role as principal investigator and facilitate a smooth transfer of investigator responsibilities.

[Signature]

As the FACULTY ADVISOR of this research project, I certify that:
- The information provided in this application is complete and accurate.
- This project has scientific value and merit and that the student or trainee investigator has the necessary resources to complete the project and achieve the aims.
- I will train the student investigator in matters of appropriate research compliance, protection of human subjects and proper conduct of research.
- The research will be performed according to ethical principles and in compliance with all federal, state and local laws, as well as institutional regulations and policies regarding the protection of human subjects.
- The student investigator will obtain approval for this research study and any subsequent revisions prior to initiating the study or revision and will obtain continuing approval prior to the expiration of any approval period.
- The student investigator will report to the HIC any serious injuries and/or other unanticipated problems involving risk to participants.
- I am in compliance with the requirements set forth by the University and qualify to serve as the faculty advisor of this project.

[Signature]

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Department Assurance Statement
Do you know of any real or apparent institutional conflict of interest (e.g., Yale ownership of a sponsoring company, patents, licensure) associated with this research project?

☐ Yes (provide a description of that interest in a separate letter addressed to the HIC.)
☒ No

As Associate Dean of Scholarly Affairs, do you have any real or apparent protocol-specific conflict of interest between yourself and the sponsor of the research project, or its competitor or any interest in any intervention and/or method tested in the project that might compromise this research project?

☐ Yes (provide a description of that interest in a separate letter addressed to the HIC)
☒ No

I assure the HIC that the principal investigator and all members of the research team are qualified by education, training, licensure and/or experience to assume participation in the conduct of this research trial. I also assure that the principal investigator has departmental support and sufficient resources to conduct this trial appropriately.

Nancy Reckler, PhD, RN, FAAN, FAHA
Associate Dean for Scholarly Affairs
Yale School of Nursing

4/5/12

YNHH Human Subjects Protection Administrator Assurance Statement
Required when the study is conducted solely at YNHH by YNHH health care providers.

As Human Subject Protection Administrator (HSPA) for YNHH, I certify that:
• I have read a copy of the protocol and approve it being conducted at YNHH.
• I agree to notify the IRB if I am aware of any real or apparent institutional conflict of interest.
• The principal investigator of this study is qualified to serve as P.I. and has the support of the hospital for this research project.

YNHH HSPA Name (PRINT) and Signature

Date

For HIC Use Only

Date Approved
Human Investigation Committee Signature

Page 6 of 16
Department Assurance Statement
Do you know of any real or apparent institutional conflict of interest (e.g., Yale ownership of a sponsoring company, patents, licensure) associated with this research project?
☐ Yes (provide a description of that interest in a separate letter addressed to the HIC.)
☐ No

As Associate Dean of Scholarly Affairs, do you have any real or apparent protocol-specific conflict of interest between yourself and the sponsor of the research project, or its competitor or any interest in any intervention and/or method tested in the project that might compromise this research project?
☐ Yes (provide a description of that interest in a separate letter addressed to the HIC.)
☐ No

I assure the HIC that the principal investigator and all members of the research team are qualified by education, training, licensure and/or experience to assume participation in the conduct of this research trial. I also assure that the principal investigator has departmental support and sufficient resources to conduct this trial appropriately.

Nancy Redeker, PhD, RN, FAAN, FAHA
Associate Dean for Scholarly Affairs
Yale School of Nursing

Date

YNHH Human Subjects Protection Administrator Assurance Statement
Required when the study is conducted solely at YNHH by YNHH health care providers.

As Human Subject Protection Administrator (HSPA) for YNHH, I certify that:
• I have read a copy of the protocol and approve it being conducted at YNHH.
• I agree to notify the IRB if I am aware of any real or apparent institutional conflict of interest.
• The principal investigator of this study is qualified to serve as P.I. and has the support of the hospital for this research project.

YNHH HSPA Name (PRINT) and Signature

Date

For HIC Use Only

May 4, 2012  Human Investigation Committee Signature

Date Approved

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CONSENT FOR PARTICIPATION IN A RESEARCH PROJECT
YALE UNIVERSITY SCHOOL OF NURSING—YALE NEW HAVEN HOSPITAL
200 FR. 1 (2011-2)

Study Title: The Lived Experience of Patients on Contact Precautions
Principal Investigator: Amanda Ray, RN
Funding Source: Yale School of Nursing

Invitation to Participate and Description of Project

You are invited to participate in a research study designed to look at the lived experience of patients on contact precautions. The goal of analyzing your experience along with those of other patients is to determine the effects of contact precautions on patients and the unique needs of these patients. You have been asked to participate because you have been in the hospital for at least three days on contact precautions.

In order to decide whether or not you wish to be a part of this research study you should know enough about its risks and benefits to make an informed decision. This consent form gives you detailed information about the research study, which a member of the research team will discuss with you. This discussion should go over all aspects of this research: its purpose, how the research will be conducted and your role, and any risks or benefits. Once you understand the study, you will be asked if you wish to participate; if so, you will be asked to sign this form.

Description of Procedures

Participation in this study will involve an in-hospital interview of about 1 hour. Only yourself and the investigator will be present for this interview. The interview will center around one prompt: tell me about your experience on contact precautions (the gown and gloves all entrants are asked to wear). Additional questions during the interview will consist of prompts for clarification or additional information. Your interview will be audio recorded using a digital recorder and transcribed by the interviewer for the purpose of data analysis. Your transcript will be destroyed at the end of the study and will not be published, though quotes from your interview may be used in the published study to illustrate findings.

You will also be asked to provide basic information about yourself (name, age, ethnicity) and your mailing address. You will not be asked to provide your phone number or e-mail. Your contact information will only be used for this study and not shared with any individual other than the principal investigator.

This study aims to interview 10 to 15 individuals in total and compare the experiences to identify the themes and needs of patients on contact precautions.

In 3-6 months, after all participants have been interviewed and the data has been analyzed, you will receive by postal mail the study’s findings as a statement generalizing the experience of patients on contact precautions. Included will be a short form asking for your comments on the
statement that you will return in a prepaid envelope. This follow up should require less than 15 minutes of your time.

The interview will be conducted with only yourself and the investigator present. At no time will medical records be accessed, nor will the contents of your interview be shared with the health care team assigned to your care. Quotes from your interview may be printed in the study to emphasize findings, but the transcript of your interview and any of your identifying information will be shredded according to HIPAA standards upon the completion of the study.

Risks, Inconveniences, and Benefits

Although this study will not benefit you personally, it is hoped that the results will add to the knowledge about contact precautions and how they affect a patient’s hospital stay.

Potential risks to you include emotional distress in the event that your experience has been negative, fatigue from the interview, and the potential for breach of confidentiality (though every effort will be made to prevent this possibility). In the event that you do become fatigued, you may request a break or decide to end the interview.

Hospital staff will not have access to the contents of the interview. The interview will pause when other hospital staff or visitors are present which may present a minor inconvenience to you.

Economic Considerations

Enrollment in this study is strictly voluntary and you may withdraw yourself at any time. No compensation is provided.

Confidentiality

Any identifiable information that is obtained in connection with this study will remain confidential and will be disclosed only with your permission or as required by U.S. or State law. Examples of information that the investigators are legally required to disclose include abuse of a child or elderly person, or certain reportable diseases. Your transcribed interview will be assigned a number which will be kept separate from any identifying information. All written materials containing identifying information will be stored in a locker during the study. No identifiable information or data will be shared with those responsible for your care at Yale-New Haven Hospital. Any digital copies of your information or transcripts will be secured on an encrypted and password protected computer in compliance with Yale University’s standard of protection for electronic Protected Health Information (ePHI). When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity.

Upon completion of this study (projected as April 2013), all data collected will be destroyed according to Yale University standards. Digital and electronic sources will be permanently erased by a Yale University computer program designed for the purpose.
materials, including all transcripts, contact information, and feedback forms, will be shredded by Yale University’s HIPAA compliant shredding service.

Representatives from the Yale Human Investigation Committee (the committee that reviews, approves, and monitors research on human subjects) may inspect study records during internal auditing procedures. However, these individuals are required to keep all information confidential.

**Voluntary Participation and Withdrawal**

You are free to choose not to participate and if you do become a subject you are free to withdraw from this study at any time during its course. If you choose not to participate or if you withdraw it will not harm or in any way affect your relationship with your own doctors or with Yale-New Haven Hospital. Upon withdrawing from the study, your interview and any forms or information provided will promptly be destroyed.

**Questions**

Please feel free to ask about anything you don't understand and to consider this research and the consent form carefully – as long as you feel is necessary – before you make a decision.
Authorization

I have read (or someone has read to me) this form and have decided to participate in the project described above. Its general purposes, the particulars of my involvement and possible hazards and inconveniences have been explained to my satisfaction. My signature also indicates that I have received a copy of this consent form.

Name of Subject: _______________________________________

Signature: _____________________________________________

Date: ________________________________________________

_________________________   _________________
Signature of Principal Investigator                     Date

If you have further questions about this project or if you have a research-related problem, you may contact the Principal Investigator Amanda Ray at Amanda.ray@yale.edu. If you would like to talk with someone other than the researcher to discuss problems, concerns, and questions you may have concerning this research, or to discuss your rights as a research subject, you may contact the Yale Human Investigation Committee at (203) 785-4688.

THIS FORM IS NOT VALID UNLESS THE FOLLOWING BOX HAS BEEN COMPLETED BY THE HIC OFFICE

THIS FORM IS VALID ONLY THROUGH:

May 3, 2013

HIC PROTOCOL #:

1204010031

INITIALED:

________________________

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05-01-2012
Subject Name: 
Principal Investigator: AMANDA RAY, RN
Principal Investigator’s Contact Information: 100 Church St South
New Haven, CT 06519
Amanda.ray@yale.edu
IRB #: 1204010031

To the Subject:

The health-related information that I gather about you in this study is personal. The Yale School of Nursing and Yale-New Haven Hospital researchers are required by law to protect the privacy of the information known as protected health information or PHI. All reasonable efforts will be made to protect the confidentiality of your PHI, which may be shared with others to support this research, to conduct public health reporting, and to comply with the law as required. Despite these protections, there is a possibility that information about you could be used or disclosed in a way that it will no longer be protected by federal law. For example, some of the individuals listed on page 2 of this form may not be required by law to meet HIPAA standards for privacy of health information. These individuals or companies are nonetheless required through other agreements with Yale to keep your information confidential.

In this form, I describe who will be working with this information and ask for your permission to use the information in the research study. Please read this form carefully. If you have any questions, please ask the Principal Investigator listed above before signing this form.

By signing this form, you give permission for the researcher to use and/or disclosure the information as described below, for this research study. The reason for these uses and disclosures is to describe the experience of patient’s on contact precautions.

You have a right to refuse to sign this form. Your health care outside the study, the payment for your health care, and your health care benefits will not be affected if you do not sign this form.

If you do not sign this form, you will not be able to enter this research study.

If you sign this form, you may change your mind at any time, but the researcher may still use the information collected before you changed your mind in order to complete the research.

This form will never expire unless and until you change your mind and retract it. To retract the permission to use your information, please write to Amanda Ray, the principal investigator, at 100 Church St South, New Haven, CT 06519 or at Amanda.ray@yale.edu.

You have a right to receive a copy of this form after you have signed it. If after you have signed this form you have any questions about your rights, please contact the Yale Privacy Officer at 203/436-3650.
Use and Disclosure Covered by this Authorization

(1) Who will disclose, receive, and/or use the information?

The following person(s), class(es) of persons, and/or organization(s) may share, use, and receive the information listed below in connection with this Study. These persons are authorized to use and disclose the information to the other parties on this list, to you or your personal representative, or as permitted by law.

☐ The members and staff of the Human Investigation Committee that approved this study
☐ Principal Investigator: Amanda Ray
☐ Data and Safety Monitoring Boards and others authorized to monitor the conduct of the Study: Yale-New Haven Hospital Nursing Research Committee

(2) What personal health information will be used or disclosed?

The following information about you may be used and/or disclosed:

Your age, gender, ethnicity, length of hospital stay, length of stay on contact precautions, and address/mailing contact information.

Signature

I have read this form and all of my questions about this form have been answered. By signing below, I authorize the described uses and disclosures of information.

__________________________
Signature of Subject

__________________________
Print Name of Subject

__________________________
Date

THE SUBJECT OR HIS OR HER PERSONAL REPRESENTATIVE MUST BE PROVIDED WITH A COPY OF THIS FORM AFTER IT HAS BEEN SIGNED

Reviewed and Acknowledged

__________________________
Human Investigation Committee
Yale University
The Lived Experience of Patients on Contact Precautions

Researcher: Amanda Ray, RN

Contact Information

**Purpose:** The purpose of this study is to identify the typical experience of patients on contact precautions during a hospital stay. The results will be used to identify and anticipate the needs of future patients on contact precautions.

**Methods:** I will be conducting taped interviews with approximately ten different patients. By comparing and analyzing the transcripts I intend to identify themes that I will then use to write a description of the typical experience of a patient on contact precautions. In a few months time, I will mail you a copy of this summary and ask you to fill out a short form with your comments regarding how accurately it describes your experience.

Your contact information will be used solely for the purpose of seeking your feedback and will not be shared with anyone else. I will destroy the contact information you have given me at the end of the research.

If you have any questions or need to reach me you may contact me at amanda.ray@yale.edu at any time.

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NAME: ____________________________

MAILING ADDRESS: ____________________________

______________________________

______________________________

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SIGNATURE: ____________________________  DATE: __________
The Lived Experience of Patients on Contact Precautions

Researcher: Amanda Ray, RN
Candidate for Master of Science in Nursing, 2013
PO Box 9740
New Haven, CT 06536-0740

Results Summary and Follow-Up

Dear [Name],

This past summer of 2012 you agreed to participate in a research study examining the experience of patients on contact precautions at Yale-New Haven Hospital. After interviewing several participants and analyzing the transcripts, I have formulated the following description of the patient’s experience. Using the form that follows, please check whether or not you believe the statement accurately describes your experience. If you disagree with this generalization, please tell me why in the space provided.

Comments are encouraged but not required. Please return this form as soon as possible using the enclosed self-addressed stamped envelope.

If you have any questions or need to reach me you may contact me at amanda.ray@yale.edu at any time.

Sincerely, 
Amanda L. Ray, RN

Descriptive Summary:

The experience of hospitalized patients on contact precautions includes the following themes: understanding of infection, cleanliness and dirtiness, family and visitor perception, patient priorities, delays in care and staff attitudes, and protection instead of isolation.

Patient knowledge and understanding of contact precautions varies. Patients being treated for an active infection tend to be more knowledgeable about the use of contact precautions than those with asymptomatic colonization. Regardless, patients tend to focus their attention on their state of health and prognosis rather than their isolation from others. Few patients correlate contact precautions with their individual health status, prognosis, or sense of identity. Contact precautions are rarely seen as isolating, and only occasionally viewed as emblematic of disease state. Most patients are not upset or inconvenienced by contact precautions.

Infections requiring the use of contact precautions are usually acquired while in the process of managing another medical condition (i.e. when a patient is exposed to the healthcare environment). Most patients view the inconvenience of precautions as necessary for the protection of everyone. Many patients also view the gown and gloves
as protecting them from exposure to germs present on the equipment, hands, and clothing of hospital personnel who enter their room.

Patients routinely observe compliance with precautions by hospital staff and believe their observations reflect the cleanliness or dirtiness of the hospital environment as a whole. Delays in care or negative attitudes by staff as a direct result of being on contact precautions are not routinely experienced or acknowledged by patients. Though some strain on healthcare-workers is observed by patients, patients do not appear to interpret this behavior as the patient him- or herself being a burden to the healthcare-worker.

Most visitors and family members feel comfortable sharing an environment with patients while they are hospitalized and when they are discharged home. Among those that are uncomfortable or have doubts about physical contact with the patient, information and knowledge about disease process and transmission risks is lacking.

Patients who leave their rooms to walk around the floor or hospital are required to wear contact precautions gowns. Independent patients who leave their rooms frequently feel more inconvenienced than those that only occasionally leave their rooms. The bright yellow color of the gowns makes some patients feel vulnerable or exposed when wearing them in the hallways, though these patients do not feel isolated or vulnerable while in their rooms.

The above paragraph accurately describes my personal experience as a patient on contact precautions.

Agree ☐  Disagree ☐  Other: ____________________________

Comments:

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

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