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Public Health Implications of Retailer Resale of Returned Textile Clothing Merchandise

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Abstract

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by

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BSc. University of the West Indies, St. Augustine, 2003

Submitted in Partial Fulfillment

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Abstract

Historically, 18th century anecdotal accounts of the decimation of several tribes of U.S. of the Native American population by trading of infected textile blankets alludes to the role of retail in the transmission of infectious disease. This study explores implications of the modern day retail organization practice of reselling returned clothing textiles from a public health infectious disease perspective. A qualitative multi-case study, utilized responses from 20 open-ended, unstructured interviews of retail employees assigned to the returns process. Additionally, several informal observations of select U.S.based, top-ranked clothing retail organizations, identified by the National Retail Federation were completed. Select federal, state, and local public health regulations regarding returned clothing textiles were then examined in an attempt to identify potential public health risks. Under a general systems conceptual framework, the points of interaction between the complex adaptive systems seen in retailer and the public health organizations were examined for infectious disease and infestation implications. Using MAXQDA software to perform the analyses, it was found that current retail practices and policy present unacknowledged infectious disease or infestation transmission risks. The risk applies to all, but is particularly relevant to immuno-compromised individuals. Though the risk in accepting and returning clothing to the sales cycle is an industry wide practice, it can be mitigated. Suggested mitigation takes the form of health training, and introduction of disinfection sanitizing tools such as UVC light exposures, into the returns-resale process.The findings point to an opportunity for social change for consumers, retail workers, and the community through update of public health and retail practices.

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Dedication

This dissertation is dedicated to the memory of my grandparents Paul and Doreen Miller-Joseph who loved and supported me unconditionally, and without whom I would never have developed the curiosity and strength to dare question what is, or why we can't do things differently? Also, to my inner circle: my husband Andrew; my mother Claudette; my brother, five sisters and immediate family; my lifelong best friends from Trinidad & Tobago; and several dear colleagues from Residency at Walden. Each have reminded me that this doctoral dissertation journey is possible, by physically, psychologically and socially lending validity to the notion that as an individual I can contribute to making this world better. I also wish to acknowledge the invaluable support of my more recent treasured friends David Haverstock, Bryan and Sandra Fowler, along with my dissertation committee. They have all played a critical role in keeping my focus and enthusiasm constant throughout the dissertation journey.

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Chapter 1: Introduction to the Study

Introduction

In the current world economy retail activity has little to no border restrictions. This potentially makes respective national environments linked entities as reflected by trade and health agency pronouncements that the world has indeed become a global village with the attendant risks (Centers for Disease Control and Prevention, [CDC] 2015). The National Center for Emerging and Zoonotic Infectious Diseases (NCEZID) has suggested that U.S. citizens' interconnectedness to each other and other global citizens is a major source of consideration in prevention or mitigation of emerging infectious diseases, inclusive of infestations and bioterrorism agents(CDC, 2015).This is not the first time that trade or retail movement practices within the U.S. population have been implicated as a source of public health or safety concern. Historical anecdotes in U.S. trade and frontier resettlement of lands have recounted the alleged role of the trade or exchange of blankets in the small-pox infection and decimation of Native American tribes during the mid-18th century and several decades beyond (Ramenofsky, Wilbur, & Stone, 2003; Carlos & Lewis, 2012). Though the frontier uncertainties have long since ceased, current interchanges between state borders, hostilities from both known and unknown sources, and cultural practices of socio-economic activity between communities across the U.S. do bear some similarities to the recorded facilitative health environments of that era (Ramenofsky et al., 2003, p. 247).

Background

Several health agencies, such as World Health Organization, Pan American Health Organization, Food and Agricultural Organization, and the U.S. CDC, have previously alluded to the risks of likely environmental settings and community practices present within retail as known facilitators to infectious agents (Khabbaz, Moseley, Steiner, Levitt, & Bell, 2014). None have directly focused on imputing retail environments and returned fabric merchandise specifically in the transmission cycle for infectious disease, infestation, or transmission of biological agents. Exposure to bio-aerosols or body fluids on soft surfaces made from textiles were implicated in hospital or healthcare environments for outbreaks of clostridium difficile, vancomycin-resistant enterococci (VRE), methicillin-resistant staphylococcus aureus (MRSA; Donsky, 2013). In particular, unintentional human interaction with any or all of these pathogen facilitators allowed unwitting transmission from one location to another. Kilinc (2015) found that towels, clothing and linen that showed no visible signs of wear or disrepair were culpable for having transferred pathogen loads ranging from 4%-67%. Moreover research on laundering practice as a mitigation measure found it only partially effective because some pathogens require heat disinfection levels beyond those available in residential washers (Dean, 2015).

Despite the scientific data available about the role of fabrics in pathogen spread and disease outbreak, US Consumer Product Safety Commission (CPSC) charged with "protecting the public from unreasonable risks of injury associated with consumer products" (Toro, 2009, p. 4) has left mitigation as discretionary to retailers and

manufacturers. The exceptions when health or safety events occur to cause immediate harm due to physical nonperformance of items. The physical non-performance of the item often renders an item unsaleable, however infections and infestation seldom leave discernible manifestations, therefore discretionary mitigation practice would not be reliable.

Similar to the regulatory stance of the CPSC, current retail operations reflect policies of varying discretionary responsibility in the management decisions on options offered to customers for merchandise returns (Yoo, 2014, p. 147). In fact, most retail organizaton managers regard the return of fabric merchandise as a function of logistics, the supply chain, or as a tool to manipulate customer service brand loyalty (Wachter, Vitell, Shelton, & Park, 2012; Yoo, 2014). This differs from the policies of the CDC, through the Food and Drug Administration (FDA), which discourages the discretionary treatment of retail returns for food and pharmaceutical merchandise sold in the retail system via legislative remedies as an assurance for customer safety and product quality (Henney, 2001).

Without such legislative remedies for quality assurance or safety issues, the customer safety and security become a secondary by-product of training and instruction of whatever the respective management considers good practice. The reluctance to apply a health lens to decision making in non-health sectors remains a significant concern voiced by the National Academies of Sciences, Engineering, and Medicine (2016) roundtable on population health improvement. The roundtable pointed out that private sector and non-health sectors often operated their respective systems parallel to public

health and that system significantly shaped community health outcomes (National Academies of Science Engineering, and Medicine, 2016). Additionally, even where there may be an acknowledgement or a desire for input of public health perspectives, there appears to be an equal lack of public health system acknowledgement of the potential stakeholder value role for the modern retail system (Wooten et al., 2013) as a setting for community public health (Fry, McLaughlin, Etow, & Holaday, 2015). It is at the community level that the return-then-resale practice may facilitate conditions for emerging infestation outbreaks of bed-bugs, dermatititis, and other skin conditions, particularly in high transit, high interaction environments such as the retail environment, transport hubs, and entertainment hubs (Gerhardts, Hammer, Balluff, Mucha, & Hoefer, 2012). This includes ties to some bio-warfare type agents such as anthrax, which are naturally occuring in environments (Stephen, 2012). It is further a concern shared by One-Health initiatives that acknowledge a focus on the impact of zoonoses or infections from animal to human populations (Ehnert, Lamielle, Scott, Beeler, Tack, & Fielding, 2015). Research investigations showed upsurges in tick and flea vector borne disease may be a result of environmental exposures such as increased lifestyle presence of animals or pets in residential settings (Abejuela-Matt, 2014), where merchandise can be exposed before return to retail processes.

A systems framework inquiry appears ideal to explore the current scarcity of information on implications or interactions between retail system processes and the communities' public health system. Ideally use of the framework facilitates formulation of scenario planning or causal loop diagrams (CLDs; Rwashana, Nakubulwa, Nakakeeto-

Kijjambu, & Adam, 2014). Each respective feature presents the potential to aid policy makers in understanding how the daily execution of either system's processes may impact U.S. health and safety outcomes (Mays & Scutchfield, 2015; Paina & Peters, 2012).

Problem Statement

Current knowledge on the processes that are involved in U.S. retail industry and their impact on the communities they serve are developing and evolving as retailers strive to maintain profit ratios and positive consumerism practices (Bower & Maxham, 2012). In that growing knowledge, the subject of treatment of return merchandise has primarily been restricted to assessments on marketing or supply and logistics process perspectives that affect consumers (Xu, Li, Govindan, & Xu, 2015). Though the retail environment as a stakeholder in public health has only recently been partially acknowledged (Fry et al., 2015; National Academies of Sciences, Engineering, and Medicine, 2016), little data has been gathered on the public health perspective for the resale of returned textile merchandise items. Specifically, the infectious disease risks that may exist where the retail system and public health system intersect have had little mention in professional or academic literature beyond the FDAregulated legislations that currently govern food and pharmaceuticals. Rebmann, Wang, Swick, Reddick, and delRosario's (2013) statement from the CDC that business and private entities become better prepared and educated with potential biologic and biologic risks in today's operational environment suggests this shortfall.

Purpose of Study

The purpose of this qualitative multiple case study was to explore possible public health and safety implications that exist due to the US retailer practices of reselling returned textile merchandise such as clothing and linens. Through the comparison and exploration of return-then-resale practices of clothing and textile retail industry leaders, I focused specifically on the infectious disease, infestation, and possible biologic hazard events that may occur. It is an opportunity to provide information that may help improve and update public health and community safety practice. Additionally, findings may also contribute guidance for practice modification within areas of the retail environment for greater consumer and employee safety in daily operations.

Research Questions

I developed the following research questions this study:

RQ1: What are the public health implications of the return-then-resale of clothing textile merchandise practice by retailers?

RQ2: What are the potential public health impacts of retailers' return and resale policies in the return-then-resale of clothing textile merchandise?

RQ3: What do retailers perceive as the role of public health in the sale of return-then-resale of clothing textiles?

RQ4: What are the public health legislation or policies applicable to return-then-resale of clothing textiles in the retail environment?

Conceptual Framework

To identify the public health and safety implications involved in the practice of return-then-resale in U.S, retailer systemI used the systems framework with origins in cybernetics and general systems theory constructs. These constructs suggest that organizations and systems contain mechanisms for control and feedback that can be examined through systematic inquiry in chosen domains (Peters, 2014). The systems framework further acknowledges an interaction within the parameters of a bounded group of operational processes such as the broad multifaceted contexts of public health and retail. By use of the multicase study approach, I identified and compared processes of both retail and public health system stakeholder inputs (Anaf, Drummond, & Sheppard, 2007) from the perspective of return-then-resale of textile merchandise. With the data collected I explored and sought to share perceptions and expectations for each system with regard to public health infectious disease or infestation and community safety.

I identified the public health and safety system and retail system as a complex adaptive system (CAS) network under a systems framework. There are a hierarchy of stakeholders consisting of federal or state systems at a macrolevel, followed by nongovernmental level consisting of retail groups and other agencies with system specific technical complexity. The third and final level of the CAS network suggests plausible impacts on members of the community and the retail workers (Neal & Neal, 2013). Systems concept thinking has been recommended for exploring communities of practice, which in this instance categorizes public health and safety as well as retailers' environment (Peters, 2014). This framework can be used to further expand on specific

aspects of “interconnectedness and interaction” in system processes, united under the one functional context of reviewing the sale of returned items for the public health and community safety impacts (Mele, Pels, & Polese, 2010, p127). Trochim, Cabrera, Millstein, Gallagher, and Leischow, (2006), and Tester, Stevens, Yen, and Laraia (2010) advised that it was prudent to conceptualize public health and safety under a system model, in order to facilitate improved community health status functions for stakeholders in the retail system such as the consumers or retail employees.

Systems thinking for public health research analysis is beneficially unique because of the possibility to use qualitative, end-result visual mapping, or CLDs, to highlight common themes or areas of overlap based on participant responses or relevant expert disclosures for either system (Patton, 2015). A focus on themes for system processes or practices may also yield a cross-case analysis (Creswell, 2013). The scenario planning outcome of systems approach framework, acknowledges the multidisciplinary approach to public health and safety should be practical, and manageable (Trochim et al., 2006) in order to leverage new knowledge to improve either retail or public health systems.

Nature of Study

Since little research data are dedicated to the subject of return-then-resale of textile merchandise from the infectious disease, infestation, and biologic hazards perspective, it predisposed inquiry to the qualitative tradition of explorative study as outlined in Ritchie and Lewis (2003); and Patton (2015). My choice of the multicase qualitative approach to this study faciltated a holistic analysis. This was accomplished via

case specific explorations of respective system practices, review of system documents, interviews and several en-situ observations of estblished leading retailers involved in the return-then-resale of textile merchandise.

The 3 trillion dollar retail industry represents a major part of the U.S. economy and is intimately integrated into the lives of every individual (The Retail Equation, 2016). The issues concerning the treatment for returned textile clothing items are therefore a subject that affects everyone directly and indirectly, and for which little has been recorded either in terms of epideiology or public health practice. Direct impacts include customers' and retail organization employees' illness, such as suffering bites and varying degrees of dermatitis when directly exposed to bedbug infested textile items. (Abejuela-Matt, 2014). The potential indirect impacts allude to instances when textile items that are compromised by pathogens, or virus, such as MRSA or Antibiotic Resistance (AR) organisms. AR transits through different locations during delivery of goods and services sanctioned by a retail organization or by tourists and travelers both internationally and domestic (Barlam & Gupta, 2015; CDC, 2015). In this study, I explored the infectious disease risks perspectives, which include potential exposure to dangerous pathogens, viruses, bacteria, bio-hazards, i.e. anthrax, mites, and anthropods via intentional or unintentional exposures (Griffith et al., 2014). AR organisms, such as clostridium dificile or candida species fungus such as athletes foot may be transmitted as a result of the movement of patients and patient belongings between health care facilities and the community (Gerhardts et al., 2012; Khabbaz, 2014, pp. 5556; Barlam & Gupta, 2015, p.15). Upsurges in emerging infectious disease have been attributed to changing cultural

patterns of behavior though specific epidemiology has not always been identified (CDC, 2015). As an example, the more recent resurgence of bedbugs in almost every state has been established (Davies, Field, & Williamson, 2012) The implicated are practices with high public risk exposures in main-street shops, hotels, nursing homes, movie theatres, homeless shelters, apartment buildings, and single home dwellings. Each are known transfer points for infestations and the bedbug outbreaks (Davies, Field, & Williamson, 2012). There are potential exposures to 45 known pathogens carried by bedbugs (Saenz, Breitschwerdt, Kim, Vargo, & Schal, 2013) Public health departments are seeking answers to growing resistance despite the pesticides and thermal management processes currently used (Raab et al. 2013).

Exposure to bedbugs, mites, or anthropoids are not the sole risks that may exist. Clinical and occupational health management has been building evidence implicating infectious disease spread in textile items exposed to micro-organisms, pathogens, viruses, and bacteria which become attached to fibres, or become infected through bio-aerosol contact (Cata, Echeverri, & Szela, 2012; Fijan & Turk, 2012; Gerhardts et al. 2012; Mitchell, Spencer, & Edminston, 2015). In some instance, this has also included exposure to both synthethic and naturally occuring bio-agents such as anthrax (NCEZID, 2014). In this study I explored whether those potential hazard exposures are communicated or acknowledged, and mitigated by the public health system, or the retail industry systems for return-then-resale practice. My exploration took place based on data from leading retailers of clothing and textiles, sometimes termed as *soft-lines*. The retail leaders are selected from the yearly rankings provided by the National Retail Foundation (NRF) and

include *brick-and-mortar* as well as online retail systems (Schultz, 2016). To gauge the general implication of the relevant public health systems, policy documents were reviewed with specific attention paid to California, Texas, New York, Florida, and Pennsylvania because these wereidentified as the states with highest retail sales return values (The Retail Equation, 2016). For both systems, I gleaneddata from the reviewing return policy documents, semistructured interviews, observations, and other system documents that support the activity in either retail or public health system.

Definitions

Bioterror agents: Use of infectious biologic materials or agents to cause terror, panic and disability in populations. It can include such bio-agents as anthrax, smallpox, yellow fever and tularemia (Barras & Greub, 2015).

Brick-and-mortar: A physical location that is a channel of distribution of for a retailer of clothing textiles. It may include technological aids to offer consumers purchase options, but it is primarily recognized as a point of sensory engagement for seeing, touching, and trying-on of the chosen garment (Blázquez, 2014)

Clothing textiles: Garments made for human use from the following fibers acrylic, modacrylic, nylon, olefin, polyester, wool, or any combination of these fibers. Additionally garments that qualify under the 16 C.F.R. Part 1610,commonly known as the General Wearing Apparel Standard; i.e. sheer 100% rayon skirts, 100% silkscarves, 100% rayon chenille sweaters, or combinations of those fabrics; 100% cotton fleece garments, 100% cotton terry cloth robes, polyester/cotton blend garments (Toro, 2009).

Infectious disease: Preventable causes of death, disability, and disease emerging from zoonotic and vector-borne diseases, healthcare-associated infections (HAIs), antimicrobial-resistant pathogens, or any other sources of new infection due to environmental factors (Khabbaz et al., 2014).

One Health: The concept of a collective seamless interaction between veterinary and human medicine with clinicians, researchers, agencies and governments working together" (Day, 2011, p. 1) for intergrated prevention strategies of zoonotic infectious disease outbreaks in the field.

Online retailers: An individual or organization that sells merchandise for profit via electronic or Internet shopping, catalogue or mail-order subscription; vending machine locations; and direct selling establishments (Pricewaterhouse Coopers, 2014).

Public health: A society's or communities' collective actions to promote conditions that assure healthy living for all individuals irrespective of ethnicity, gender, social status, economic capabilities, or political affiliations (CDC, Office for State, Tribal, Local and Territorial Support, 2013).

Public health system: Processes to achieve health and wellbeing as executed by "public, private, and voluntary entities that contribute to the public health activities within a given area", based on differing roles, and interactions (National Association of County and City Health Officials 2014).

Retail system: The series of industry processes leading to sale for profit outcomes. For this study, these are organizations, which are involved in trade classified by North

American Industry Classification Systemamongst Groups 448, 452, and 454 i.e. clothing and clothing accessories, non-store retailers, general merchandise.

Return merchandise: Items returned to site of purchase for refund as a result of product defects, postpurchase change-of-mind, gift or item exchange (Berry & Seiders, 2008).

Return policy: Guidelines and conditions by which merchandise previously purchased at either online or store retail sites can be returned to the retailer for refund in cash, kind, or alternate service goods (Wood, 2001).

Store retailers: An individual or organization that typically sells merchandise for profit to the general public for personal or household consumption from a physical space, sometimes referred to as brick-and-mortar locations (Pricewaterhouse Coopers, 2014).

Assumptions

Assumptions for a study indicate underlying factors beyond the control of the researcher but are necessary for informants of the environment in which the study data are drawn (Simon, 2011). Directly related to the qualitative paradigm featuremy first assumption was that the methodology of contextual research has sufficient patterns that can be used to help give a true representation (Simon, 2011) of where the public health system and retail system interact. Another assumption was that there is a specific public health system for community health protection available for equal access by individual and corporate citizens as is indicated in the intent of the National Public Health Standards (National Association of County and City Health Officials, 2014). I expanded that assumption to include the supposition that all U.S. public health systems and the agencies

therein subscribe to strategies that align with the 10 essential services of public health (Office for State, Tribal, Local and Territorial Support, 2014). Similarly, I assumed that access to the retail system data in each case was equitable and operated on the principles of fair and legal commercial exchange that is implied according to the NRF and North American Industry Classification System standards. It further assumed that market forces and no other reasons were responsible for the level of sales and market ratings. There was also the assumption that all interviewees responded truthfully and without bias, after being advised of the confidentiality of all responses as detailed in Chapter 3.

Scope and Delimitations

The delimitation of this study initially alluded to my choice of organizations for the multiple case study. In order for there to be a reasonable aspect of transferability on a national basis, I drew the cases from the publicly available rankings of the annual NRF Retail Returns Report. The NRF is tasked with representation of retail industry issues at a national level and provides reliable information (The Retail Equation, 2016). My selection of participants from among the top 20 retailers of clothing accessories and general merchandise in either store retailers or online retailers were also made because leaders in the industry also tend to illustrate more popular trends in return-then-resale practices. I chose the public health systems from which system policies were reviewed based on the ranking by the Price Waterhouse Coopers (PWC) audit report of the top 15 states in which 65% of U.S. retail sales occur within (Pricewaterhouse Coopers, 2014), and the reported findings of the NRF Annual Returns which support the PWC findings (The Retail Equation, 2016).

Limitations

This study was limited by several factors. The most important limitation stemmed from the limited extant academic or professional evidence of the treatment of clothing textile returns from a public health perspective. The organizations in the case study as well as the state public health systems investigated were limited to those that are contained in annual rankings or captured data of annual NRF reports (The Retail Equation, 2016). Consequently, the retailers were all U.S. organizations that are members of NRF. Practices of retailers who are not registered or affiliated with NRF were not captured. Geographically, I looked at public health and retail systems that are active within the 48 contiguous states of the United States. Public health and retail systems outside of the contiguous states or in other global geographic regions may have operational systems that differ.

Another limitation was that I focused on the implications with return-then-resale of clothing textiles, and that other textile items, such as linens, rugs, and home goods were not included for the purposes of the study. Since these items are often made from similar textiles to clothing and parallel to some of the HAI related items identified in the limited literature that any findings can rationally be extrapolated to nonclothing textile items. I also encountered the limitation of exploring solely return-then-resale of new clothing textiles; the public health implications of clothing textiles retailed by second-hand shops and thrift shops remains unexplored, though similar environmental factors exist in that setting to those of retailers with new items. Other contextual factors dissimilar to the cases in the study suggest a need for separate knowledge exploration.

The participants that I interviewed during the course of the study were all employees of the five selected retail organization cases. Accordingly, there was a chance for bias of information disclosed during an interview that may have reflected a fear or reluctance for truthful disclosure based on employment security. In part this bias was mitigated with information that I gleaned from informal observations of the return process.

Another potential bias that may have existed because I explored the return-then-resale situations from the top leaders of retail sales and retail returns, was the possibility that practices in lower ranked stores may have modified practices. Public health systems in states with lower ranked sales may also respond differently than those in which some of higher ranked return sales practice occur. Time constraints, and the results from this first exploration may establish enough information to warrant further study at a later date.

Significance

I intend the outcomes of this study to facilitate new public health knowledge of health and safety considerations that are currently observed in the current retail system for returned clothing textiles. There was an equal potential to identify public health policy, licensing, or regulation that may need to be modified based on infectious and communicable disease trends in the modern environment. More importantly, the results of this study can be viewed as a small step towards integrating a health lens into business practices to more efficiently use and protect community resources (Wizemann & Thompson, 2016).

At the least, the findings of this study provide some degree of baseline knowledge to be considered as community health agencies try to plan or understand possible new transmission routes and trends for upsurges in bedbugs, vector borne diseases, and MRSA infections. Questionable cultural practice, and unintentional and unmonitored exposures at main-street shops, hotels, nursing homes, movie theatres, homeless shelters, apartment buildings, and single home dwellings have all become suspect transfer points (Davieset al., 2012). Specifically, where 95% of the pest management companies have experienced greatly increased residential vector treatments (Davies et al, 2012); or where healthcare-acquired-infection experts have already identified textiles' capacity to hold as much as 67% pathogen loads after initial exposures (Kilinc, 2015).

The social change impact of this study is potentially two-fold. In the first instance, the potential for the results of this study to explore and record the public health and retail system interactions on resale of returned clothing textiles begins building evidence to inform public health practice or policy facilitating community health protection according to five of the essential public health services (Office for State, Tribal, Local and Territorial Support, 2014). Secondly, there may exist an opportunity to address some health inequitieswith the findings of this study because individuals in lower socio-economic brackets are apt to abuse clothing return policies (Berry & Seiders, 2008), or equally apt to purchase some of the discounted returned items salvaged by the retailer and offered for profit as final sale clearance (Janakiraman, Syrdal, & Freling, 2016).

Summary

Return-then-resale practices of retailers are not a feature of the retail industry systems that is likely to cease any time soon. This comment is based on the fact that most retail organizations use return merchandise as a tool for manipulating customer demand (Janakiraman et al., 2016) and maintaining profit in both store and online retail settings (Wood, 2001). Exploring the public health implications of these practices pursues the protective responsibility of the commmunities' public health system to monitor health, develop policies, mobilize partnerships, and most importantly investigate and diagnose emerging disease trends facilitated by cultural practices (Office for State, Tribal, Local and Territorial Support, 2014). Looking at the potential infectious disease and bioterrorism implications in clothing retail is an activity in which all of the United States participates and involves a closer exploration of the associated cultural practices, and allied disciplines, and exposures in affiliated settings. In the following chapters I will examine, the various infectious disease scenarios, inclusive of infestations by vectors, and possible bio-agent dispersion and other factors surrounding both retail and public health interactions.

Chapter 2: Literature Review

Introduction

Through this multiple case study, I explored the public health implications for retailer resale of returned textile items relating to infectious diseases, infestations, and possible bioterrorism events. It was further conceptualized through my use of the systems theory approach because both the retail and public health environments share common community stakeholders and intersect at several points in execution of their daily business operations. In this section the strategy used for locating empirical contributors to the topics is discussed inclusive of the multi-disciplinary search terms that apply as this topic bridged, public health, science, and retail industries. The multi-disciplinary focus was also discussed as part of the rational in the chosen systems conceptual framework that validated a holistic assessment of the outcomes based on multiple system inputs identified. Other common themes that exist and interact with both retail or public health systems were also examined for relevance. The areas identified included analyzed interaction relationships between one health, customer service concerns, and other traditionally encountered public health concerns acknowledged within the retail industry..

Research Strategy

I accessed multiple electronic databases, such as the Walden Thesis, ProQuest, Biomed Central, Sage Premier, Science Direct, CINHAL and Medline simultaneous search, PubMed, Thoreau multi-database search to search the extant literature. Other database and search tools used included Google Scholar, Google Books, the NRF Advocacy and Media Resources, *Stores Trade Magazine*, and the *Pennsylvania Law*

Review. I also used additional federal or state stakeholder websites and publications, including the Department of Human and Health Services, ResearchGate, CDC Morbidity and Mortality Weekly Report, Massachusetts Department of Public Health, and the U.S. Consumer Safety Commission website through regulatory accreditation standard assurance affiliates American Standards for Testing and Materials (ASTM) and American National Standards Institute (ANSI). The following individual and combination keyword and search terms were used: *retail returns, textile returns, softlines returns, apparel return policy, public health apparel regulations, apparel infections, qualitative risk analysis techniques, consumer textile safety, retail and public health,* and *apparel safety*. By necessity and with scarce evidence of empirical focus on the specific subject of public health processes associated with the resale of returned textile merchandise, my research strategy included several nontraditional keyword searches or terms. These individual and combined terms included *textile and occupational health, textile and bioterrorism, public safety and textile, apparel and population health, textile disinfection,* and *the historical role of textiles/clothing in disease public health epidemics*. The widening of the research strategy also illustrated the possible contributions of other stakeholders in the public health and retail system environments.

Conceptual Framework

General Systems and Complex Adaptive Systems Frameworks

Viewing public health or retail from a system perspective was instructive to me for exploring the functional relationship attributed to public health and the various roles and functions it performs for the retail systems. General systems theory was born out of

an ambition by the the Society for the Advancement of General Systems Theory incorporated in 1956 as the Society for General Systems Research to leverage such systems to create a better world (Rousseau, 2015). That ambition is a shared goal of the modern public health system noted in its three core functions and 10 essential services that form a framework for every public health activity (Office for State, Tribal, Local and Territorial Support, 2014).

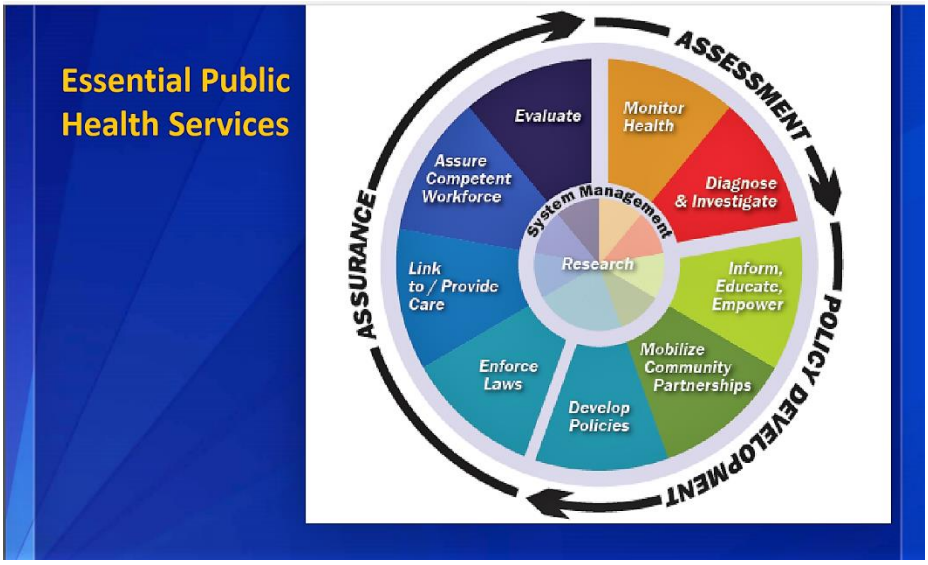

Figure 1. CDC recommended essential public health services model. This model outline is for current US public health system recommended by CDC for improved community health outcomes. Adapted from the "National Public Health Performance Standards (NPHPS)" by Office for State, Tribal, Local and Territorial Support, 2014, *NPHPS Overview Strengthening Systems, Improving the Public's Health*, p. 13. Reprinted with permission from the CDC, US Department of Health and Human Services.

Rousseau (2015) summarized early systems theory as "principles underlying systemic structures and behaviours that recur isomorphically across different specialized discipline" (p. 523). While that described the public health system in its ecological theory type hierarchy for public health delivery system (Leinhos, Qari, & Williams-Johnson,

2014) modern public health has evolved into a CAS classified by “all public, private, and voluntary entities that contribute to the delivery of essential public health services within a jurisdiction” (Paina & Peters, 2012, p. 367). When the term,‘public health services,’ were substituted with just the term services, the definition showed the retail system easily recognized as an equal CAS of interconnected agents and processes with a distinct capacity to self-regulate or adapt to actors within the business and community scenario (Paina & Peters, 2012).

Path Dependence

Though both public health and retail systems are classified as CASs, the traditional use in health and management science has yielded two perspectives of this framework that lent itself to the realistic exploration of system theory as it applied to the core inquiries of this study (Peters, 2014). The first was path dependence based on the understanding that because considerable differences existed between historical and regulatory practices from community to community and store to store, the public health implications may also differ (Paina & Peters, 2012). In particular it explained how the wide variations in retail return policy among U.S. retailers (The Retail Equation, 2016) as well as the variation in local or state public health legislation or policy enforcement has in the past yielded subjective results. Exploring intervention or change is therefore dependent on knowledge and the monitoring of system actors. The outcomes or performance results were at times made unpredictable by the introduction of technology

into the CAS (Paina & Peters, 2012). For today's retail industry, the growing market share viability of online retail and mobile applications in supply chain logisticsis that technological disruptor. Its presence should have heralded some type of change where it intersects with common stakeholders in the public health CAS.

Figure 2. Representation of typical stakeholders that makeup the CAS of US public health system processes. Adapted from the "National Public Health Performance Standards (NPHPS)" by Office for State, Tribal, Local and Territorial Support, 2014, *NPHPS Overview Strengthening Systems, Improving the Public's Health*, p. 16. Reprinted with permission from the CDC, US Department of Health and Human Services.

Scenario Planning Example of Public Health CAS

The uncertainties and dynamics of evolving technologies involving change in stakeholders' roles, responsibilities, and public health implications were present in the second scenario planning perspective typically used more in health science and public health safety circles (Peters, 2014). Its usefulness was lauded as a method that utilizes a series of tools to identify or analyze possible future events and alternative qualitative projections for the purpose of strategic planning (Peters, 2014). The tools I used for this research inquiry into the resale of retail returns filtered through the public health CAS perspective were the CLDs and change **m**anagement history (CMH).

System Tools

Essentially, CLDs contribute qualitative illustrations that produce feedback loops that explain mental models and focus on highlighting causality and the role of interconnected relationships between actors or stakeholders of a given system (Paina & Peters, 2012, p. 369). Health researchers found that the CLDs provided great support for leadership and decision making at district and community levels (Kwamie, Dijk, & Agyepong, 2014). For a relatively new topic with scarce empirical data such as the one I investigated in this study, CLDs provided the opportunity to illustrate visual confirmation of the contexts or system intersects as drawn from the reviewed interviews, observationsand case documents. Within my development of CLD concepts the other important indicator for utilization was the included opportunityto use CLD as a platform to launch quantitative research and extend knowledge. This was in part linked to the CLD expression of the "interrelated parts and the cause-effect linkages via variables and influences" (Rwashana, Nakubulwa, Nakakeeto-Kijjambu, & Adam, 2014, p. 5) where a change in the direction shown by an arrow and an indicator shows which actor or which process may be manipulated.

As a system tool, CMH is useful to the research inquiry because it generates compilation in-depth interviews, reviews of historical and technical data, and public health related events as holistic stakeholder representation in risk or hazards management (Peters, 2014). Significant pragmatic directions for collaboration on achieving public health goals in the community have been made with the exploration of retail cases where CMH was used as the tool to initiate policy genesis (Maglio, Sepulveda, & Mabry, 2014).

Again, this tool, similar to CLD, allows the researcher a qualitative foray that can be easily converted to a quantitative modeling once specific public health implications are identified for exploration at a later date. As Mays and Scutchfield (2015) remarked, the use of systems frameworks and system tools is an idea whose time has arrived if the population health outcomes are to be improved and the multidisciplinary nature of CAS benefits are to be successfully managed.

Textile and Apparel Perspectives Considered in Retail and Public Health Systems

In the United States, the CDC and other agencies within the Department of Health and Human Services had been tasked with improving returns on billion-dollar investments "designed to improve the overall capacities of public health agencies to respond to both every day and emerging health problems" (Jaff & Frieden, 2014, p. 3). No area of health security has been more deserving of such investment than that of infectious disease and disaster preparedness under the classification of public safety, because these areas have presented continued challenges for control and prevention (Khabbazet al., 2014). It is within such a context in this study that I explored the issue of the resale of return clothing and textile merchandise and the public health implications that communities encounter as part of the every day retail system practices in which they participate.

Retail and Public Health

For the average US citizen retail is as integral a part of life and daily existence as health. The NRF Annual Returns Survey, in 2015 estimated that in that year alone US consumers spent $3256 billion combined in both online and brick-and-mortar channels

(The Retail Equation, 2016). Within online shopping in the fashion industry in particular, no hassle return policies are used as a marketing tool to drive demand sales (Hyben, Mladenow, Novak, & Strauss, 2015). The value of retail in the community was many times evident in the symbiotic relationships reported between retail industry placement and population health where retail sales because of the healthcare system items, were sometimes approximated at more than US$549,555,000 contributions for community and state coffers (Willis, Bishop, & Leatherman, 2017). The obvious opportunity to capitalize on retail as a major stakeholder in the public health of the community has not been lost on public health advocates of chronic noncommunicable disease advocates, food and nutrition advocates and the pharmaceutical industry. Fry et al. (2015) observed the modern practice of public health's focus on the financial and social burden of "chronic diseases linked to tobacco use, poor diet, and alcohol consumption" and makes collaboration an unequivocally prudent practice. A convincing 50.9% of US adults have been estimated to suffer directly from these ailments (Bauer, Briss, Goodman, & Bowman, 2014). Retail's corner stores, gas stations, and department stores all were noted as community gathering or gateway centers particularly in lower income neighborhoods where multiple channel marketing of those offerings has directly contributed to escalation of the chronic diseases (Fry, McLaughlin, Etow, & Holaday, 2015, pp. 332 -333).

Pharmaceutical companies and preventive nutrition service retailers were quick at engaging the retail industry in offering products and services that would allegedly turn the tide of the escalations. These models have been shown to be more of business models driven by profits rather than public health prudency although they had become

incorporated into the community healthscenario (Arthur, Fisher, & Shoemaker, 2015; Strand, Tellers, Patterson, Ross, & Palombi, 2016). Therefore, there was was little effort by way of regulation or licensing that was initially involved in the marketing and distribution to align the retail system with public health agendas in any overt way. Within that environment and customer convenience culture, health and product security features were mainly left to the discretionary obligations of manufacturers and retailers (Strand, Tellers, Patterson, Ross, & Palombi, 2016). That all changed in the 1982 tamperings of Tylenol medication from retail shelves in Chicago which became directly responsible for the deaths of seven persons (Markel, 2014). In an attempt to mitigate the deaddly occurrence a combination of market forces, and legislative care precedented improved standards for tamper proof packaging and the now industry wide FDA approved quality procedures for food and pharmaceutical item sales, return, and recall. The assurance of consumer health and safety has also in part become the co-responsibility of the U.S. CPSC, who in addition to enforcing standards from ANSI, and ASTM have championed safety standards for manufacture of children's clothing. More recently the public health systems became secondary beneficiaries of the consumer safety systems when the commission was given new enforcencement capacities as reported by Toro (2009):

> New Authority under CPSAS15(j) CPSA Sec.15(j)
>
> SUBSTANTIAL PRODUCT HAZARD LIST: •(1)The Commission may specify by rule for any consumer product or class of consumer products, characteristics whose existence or absence shall be deemed a substantial product hazard if the Commission determine that (A) such characteristics are readily observable and

> addressed by voluntary standards; and (B) such standards have been effective in reducing the risk of injury from consumer products and that there is substantial compliance with such standards (p. 36).

The increased regulatory powers allowed the CPSC product quality surveillance for not only children's apparel, but all apparel and many textile-based merchandise items. Still, retail industry engagement, even with the retail of several vaccinations, operates on voluntary standards of safety. Unfortunately, these are often discretionary, and dependent on the retailing organization and relative importance placed from legislative authorities from their area of (Toro, 2009).

Customer Service vs Consumer Health

Discretionary customer service aimed at channel branding appears to be a common theme in deciding the treatment of purchases within the retail environment equally. Though the FDA and Consumer Safety Commission have sought to address quality standards in manufacturing. The 31.51% of retail sales returns represented by apparel and textiles were subject to variations in return policy (The Retail Equation, 2016, p. 14). Primarily, the case for returns of merchandise is fueled by the business service rationale (Wachter et al, 2012; Xu et al,, 2015). Return reasons ranges from defective quality issues with merchandise items to late delivery of items where online purchases are the method of acquisition (The Retail Equation, 2016). The trend in thought places responsibility for quality of clothing and textile merchandise, primarily as the responsibility of the manufacturer or distributor and not that of the retailer. Yoo (2014) described "most quality decisions are made at a supplier's end" (p. 49) with a bare

minimum being absorbed by retailers,though cost or consequence is eventually passed on to the consumer. Still it has been agreed that there was no “clear understanding on the relationship between the level of product quality and return policy setting” (Yoo, 2014, p. 147). By extrapolation the relationship between consumer safety and return policy is equally unclear and the issue of salvage value and moral hazard of customer behavior continued to be an area that suppliers, retail agencies and health agencies struggle to attribute clear accountabilities (Wachter et al., 2012). The moral hazard of customer behavior introduced the customer behavior as an unreliable element that is managed by the customer service function in accordance with ratios for brand loyalty not product quality or safety standards. All other stakeholders in the retail system chain of custody ascribed to regulatory quality standards but the customer was not required to the same. Viewing merchandise as suitable to return to the sales system because there were no visible quality defects (Li, Guo, Wang, & Fu, 2013), while profitable (Yoo, 2014) should be considered ill-advised if all stakeholders do not necessarily ascribe to the same product safety or quality rules. Particulaly with regards to clothing and textiles the quality does not necessarily address the safety issue where customer chain of custody involved exposures to environments with infectious agents, or infestation agents present.

> New Authority under CPSAS15(j) CPSA Sec.15(j)
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One Health

A look at the potential for infestation agents and understanding vector borne disease forms part of the human-animal shared risks based on environment which is expressed by One Health protagonists. One Health is very concerned with zoonotic diseases transmitted by animal species to humans, through inter or intra species infection (Day, 2011). Of particular interest are the tick-borne infections (TBI). Since ticks cannot

travel very far on their own, experts have hypothesized that the increase in prevalence reporting and outbreak is in part attributable to companion animals introduced into human settings such as cats, dogs, guinea pigs, and squirrels kept as pets (Baneth, 2014). These animals as part of their care are often placed in wildlife settings like parks, or hiking trails where ticks and other anthropods natural reservoirs exist, the animals are then innocuously returned to residential setting where ticks and anthropods may transfer to clothing, carpets, vehicle upholstery (Day, 2011). The role of travel and transit movements are implicated in research as a significant concern for both the transmission of TBI (Dantas-Torres, 2016; Irwin, 2014) and return-merchandise assigned for resale. Most retailers with outlets at different locations have been known to offer return of the merchandise at any outlet, if the customer presents proof of purchase (Janakiraman et al., 2016), thereby opening potential pathways for "*stowaway"* vectors or mites.

Apparel or Textiles and Infectious Disease

Textiles as a vehicle for infectious disease have been established in the clinical and occupational health research literature (Cata et al., 2012; Fijan & Turk, 2012; Gerhardts et al., 2012; Mitchell et al, 2015). A review of that literature indicates that micro-organisms, pathogens, viruses, and bacteria become attached to fibres of clothing and underwear, or other textiles such as curtains, and linens. The infection pathways occurs through bio-aerosol contact, transfer directly from body fluids via hand to soft surface contact, and from transfer of textile to textiles (Donsky, 2013; Gerhardts et al., 2012). Though the setting for much of the literature reviewed is situated at healthcare facilities, Mitchell et al. (2015) concluded that soft surfaces made from textiles were

responsible for endemic and epidemic outbreaks of clostridium difficile, VRE, or MRSA. This was mainly due to the fact that clothing and linens can have sufficient moisture, oils, or dirt to hold the microorganisms and pathogen loads. These loads are then transferred to other locations when clothing is stored, laundered or merely touches another soft surface for a period of time (Mitchell et al., 2015). Some of those microorganisms have been known to survive for up to 11 weeks on textiles or plastic (Fijan & Turk, 2012). The clinical setting may be the origin but because retail clothing items may travel the breadth of a community on the consumer's person or in the consumer's bag, before it is returned, the posibility of chance exposure to one or more of the bacteria, or viral infections exists. Those who would suggest that laundering the textile merchandise before would eliminate the hazard of infection are cautioned by Donsky (2013) that disinfection routines were very specific to the pathogen for any degree of success. Alternately, Fijan and Turk (2012) and Mitchell et al. (2015) found that pathogens and viruses could spread to clean clothing and household appliance watercourses if exposure of pathogen loads were initially not treated at temperatures consistently in excess of 70 degrees. Of course the possibility for infectious disease can allude to possibilities of bio-terrorism, using retail objects as the vehicle of mass infection.

Table 1

Common Infectious Pathogen Agents for Textiles

Name of Infection / Infestation Agent	Infection or Infestation Pathway	Infection or Infestation, Transmission Time Range	Potential Retail Infection/Infestation Pathway
Clostridium Dificile	Clostridium difficile spores are transferred via the hands or touch exposures to contaminated surface or item.	Variable. Clostridium difficile spores can be active for long periods on surfaces. (Centers for Disease Control-Division of Healthcare Quality Promotion , 2015)	Clothing or textile that are handled by individuals contaminated by spores or exposed contaminated environment.
MRSA	Staph bacteria causes skin infections that contaminate through skin-to-skin contact, and shared equipment or contact through personal items.	Variable. MRSA can survive for hours, days or even months. Dependent on factors like temperature, humidity, germ load, and the types of surface. (CDC - Division of Healthcare Quality Promotion (DHQP), 2016)	Clothing or textile that has come into contact infected skin or exposed to high risk environments e.g. daycare facilities, in-patient and outpatient healthcare facilities (Mitchell et al., 2015), "MRSA can live for up to **203 days** on a blanket. MRSA can live on the skin of otherwise healthy individuals, with no symptoms indefinitely." (Millersville University, 2017)
VRE	VRE bacteria spread through direct person to person contact or indirectly through contact with items that have been contaminated with the bacteria	Variable, dependent on length of exposure and type of materials. (Neely & Maley, 2000)	Neely & Maley, (2000) found that after exposure VRE bacteria remained active on terry, polyester blends, and cotton fabrics for between 1 – 90 days

Terrorism and Retail

Jaff and Frieden (2014) shared that U.S. citizens since September 2011 have had several occasions when exposures and events have forced the spectre of terrorism into their daily life. In using two pressure cookers purchased at a retail store, Tamerlan and Dzhokhar Tsarnaev created explosive devices that injured over 250 persons, and killed three persons (Gunaratna, 2013). Though there are several theories on the motivation for that action, it illustrated a trend in 'homegrown terror' attacks. The trend utilizes unconventional tactics and lower level organization or resources such as a community's accepted norms, cultural practices and daily life tools to inflict terror, (Jenkins, Liepman, & Willis, 2014). This can include clandestine internet usage for terrorist recruiting activities, making use of consumer retail items such as cell phone triggers, back-packs or pressure-cooker as precursor items in terrorist events. According to Jenkins et al. (2014), "smaller-scale events involving unconventional weapons similar to Boston-type events is where the danger now comes from—the low-level threats that don't get watched" (p. 8). For the issue of returned textile merchandise, while incendiary devices are not likely to be involved, the potential for bio-terrorism activity through infection by Anthrax spores or bioactive powders, posits potential for serious concern from disaster preparedness or public safety professionals (Griffith et al., 2014). Particularly as the CDC explicitly defines bioterrorism as any act of using microorganisms or infected biological test samples to cause terror and panic in a target population (Barras & Greub, 2015).

Historically, anthrax was considered an occupational health hazard for those working with textiles in wool and goat hair mills and tanneries (Griffith et al., 2014). Even before the overt public threats of bioterrorism, anthrax exposure had endangered the lives of a couple in 2011, when their holiday trip had been cut short when anthrax complications were diagnosed based on environmental exposure to animal products. Organic and synthetic fibers, threading and sewn components of textile merchandise can act as a medium to hold and transfer anthrax to other clothing items. Items returned for resale may be one of the items at risk of infection by bacillus anthracis spores' exposure, which were found to be "highly resistant to weather extremes" (Griffith et al., 2014, p. 281). The CDC and other public safety agencies have continued to monitor the anthrax incidence and advised that whether naturally-occurring or bioterrorism-related, anthrax transmission remained a major public health concern (Griffith et al., 2014).

Textiles and Dermatologic Issues

The action on of clothing textiles as faciltators for transmission of infection, or skin irritations, is discussed by several researchers particularly in the context of its viability in resource poor settings where space and deficits in hygiene were coexisting factors (Kouotou, Nansseu, Sieleunou, & Defo, 2015). Skin conditions such as scabies, ringworm, eczema, pruritus, fungal skin conditions require that apparel and linens be laundered in isolation according to very specific conditions in homes or settings where it has been diagnosed (Keller, 2015). A minor concern expressed here relevant to this study was that of interspecies infection, where pets or animals in the environment were the co-existing sources of the transmission of infection agents to apparel or textile items. In this

respect the transmission through textiles depends on several factors. Kilinc (2015) found that in fabrics a few factors impacted the hazard of transmission "(i) the shape and surface characteristics of the microbe, (ii) the characteristics of carriers or those at risk for infection, (iii) the physical and chemical characteristics of the fabric" (p. 183).

Urban conditions with facets of resource poor settings such as places with limited ventillation, spatial distribution and deficits in environmental or personal hygiene were also implicated in the growing resurgence in bedbug concern (Abejuela-Matt, 2014; Gounder, Ralph, Maroko, & Thorpe, 2014). Despite the issue of under reporting, outbreaks in high multi-transit urban locations such as New York City reported that approximately 52% of its public housing tenants scheduled a bedbug extermination, at least once over a 24 month period (Gounder et al., 2014, p.1080). Abejuela-Matt (2014) found evidence that "bedbug infestation, is not a reportable disease, or held at high priority by many of the local public health departments" (p. 95). This is of particular concern since bed bug infestation remains highly communicable in nature and were discovered to be conveyed from one location to another in the stiching and folds of clothing, luggage, linens, mattresses, and draperies (Gounder et al., 2014). Additionally an element of social inequity exists, as it is easily forseeable tha bedbug infestation though not isolated to lower income environmentss, might be of higher prevalence amongst lower income environment (Aultman, 2013). This is even more alarming given the typical ease of transmission implicated for high traffic human, and apparel or fabric-centric environment as ideal for infestation.

Table 2

Common Insects and Infestation Agents for Textile

Name of Infection / Infestation Agent	Infection or Infestation Pathway	Infection or Infestation, Transmission Range	Potential Retail Infection/Infestation Pathway	Examples of Known Disease Outcomes
Bedbugs	Attracted to human hosts warmth or carbon-dioxide, where they feed for up to ten minutes. These parasites also	Adults live 6-12 months and may survive for long periods of time without feeding. thrive in temperatures that range from 44.6 to 117 degrees Fahrenheit (Global Health - Division of Parasitic Diseases, 2015)	Bed bugs may be found in the seams of folded clothes, bedding, furniture. Transport from one location to another is achieved when store merchandise is exposed to infected environment and bugs nest until feeding. Not easily visually detected.	Intense itching, and facilitator of secondary dermatitis infections
Fleas	Dogs, cats, small rodents and birds are vector reservoirs. Pathogen transmission by fleas are by oral route through regurgitation of blood meals, or by fecal route, by contaminated fecal pellet. (Bitam, Dittmar, Parola, Whiting, & Raoult, 2010)	Variable. If fleas do not find host, they can survive for varying lengths of time, dependent on species, humidity, and temperature. (Bitam, Dittmar, Parola, Whiting, & Raoult, 2010)	Infestations at higher levels may occur where individuals share dwellings with domesticated animals. Clothing merchandise exposed to that environment can house fleas as a 'nest' environment until host is found. Not easily visually detected	Bartonella henselae; rickettsia felis. irritation, blood loss, and severe discomfort

Table continues

Name of Infection / Infestation Agent	Infection or Infestation Pathway	Infection or Infestation, Transmission Range	Potential Retail Infection/Infestation Pathway	Examples of Known Disease Outcomes
Lice	Parasite feeds by biting host. Transport of lice due to proximity of infested textile items in poor hygiene environment. then returns to clothing / linen.	5–7 weeks Adult louse can live up to 30 days if feeding regularly. Louse can die within 5 - 7 days at room temperature if starved. (Centers for Disease Control, Global Health – Division of Parasitic Diseases, 2013)	Body lice found on clothing and bedding used by infested people or exposed to infested poor hygiene areas. Body lice eggs may be seen in the seams of clothing or on bedding. Not easily visible to naked eye detection	Intense itching ("pruritus") and rash caused by an allergic reaction lice bite. Epidemic typhus, trench fever, and louse-borne relapsing fever.
Mites	Mites resident in dust, birds, small rodents burrow into skin causing irritation and potential for secondary infections in an extreme	2 – 3 weeks in favorable temperatures between indoor air humidity of 7 g/kg; Outdoor air humidity above 6–7 g/kg. In poor hygiene situation mites can multiply unchecked (Kouotou, et al., 2015)	Clothing exposed to environmental facilitators of mites may carry mites from to human and multiply to infest mattresses, and other clothing. Not visible to naked eye detection	Scabies, dermatitis, in extreme cases and dependent on species of mite, lung inflammation
Ticks	Bites by infected ticks in an opportunistic environment, e.g. bushes, woods, lawns, or fur of animal or rodent hosts.	10 mins – 3 years. Dependent on species and feeding patterns (Marcondes & Dantas-Torres, 2017)	Ticks can hide and ride on clothing and pets, then attach to a person later Not always visible to naked eye detection	Lyme borreliosis, anaplasmosis, babesiosis, tick borne encephalitis, tickborne rickettsioses

Staff Training and Accountability

The limited public awareness of infestation or infection hazards in both corporate and community settings represents an acknowledged but seldom mitigated status-quo that redirects focus back to the lack accountability issues previously mentioned (Yoo, 2014). It was a shortfall that the public health system already strategized to consider as priority based on the third item of essential public health services i.e. providing a competent workforce (Office for State, Tribal, Local & Territorial Support, 2014). The current trend resolution of discussing "areas of potential, as well as models for how businesses can impact the determinants of health; and provide a platform for discussing how to promote and support health in all business practices, policies, and investments" (Wizemann & Thompson, 2016, p. 2). Coupled with the reported discretionary power that is endemic to the retail system's customer service (Wachter et al., 2012; Xu et al., 2015). In retail systems there are frontline managers, supervisors, or designated customer service delivery personnel assigned to handle multiple accountabilities and resolve operational problems (Sutherland Global Services, 2016) within the returns process. The exact training or knowledge level of employees in either retail or public health system for assessing infestation or infection hazards appears insufficiently explored. Wood et al., (2012) advised that knowledge remains a key precursor for motivating persons to self regulating disaster preparedness and actively engaging risk avoidance behaviors or complying with risk avoidance communication strategies.

Summary

Whether the issue of returned textiles is considered as a business and logistics issue, or a customer service tool, there exists viable connections to potential public health issues of infectious disease designations. Based on a review of literature, the spread of bed bugs, mites, athletes foot fungus, MRSA, or clostidium dificile may be very likely occurences. The risk potential increases based on the exposures that may occur with items outside of the store, which are then returned to stock for sale. The source of the exposures in homes, hospitals, or other residential andwork settings has in other fields e.g occupational health and safety, primary care medical surveillance, travel medicine shown a basis for concern, action, and legislation (Abejuela-Matt, 2014; Khabbaz et al. 2014). As both retail and public health can be classified as operative CAS, the CDC, FDA, and public health agencies at state and local level, may benefit from a more holistic approach that engages retail systems as community partners and plausible points of surveillance and community interaction (Fry et al., 2015). However, legislative advocacy, and advocacy for change in practice, in either retail or public health system requires a better knowledge of what exists in the community. Accordingly, I decided to initiate a mode of enquiry that would capture the perspectives of the stakeholders. The qualitative multi-case methodology allowed a depth of proximity to the stakeholder knowledge that would examine each of the themes encountered in empirical literature yet illuminate new emerging themes.

Chapter 3: Research Method

Introduction

The issue I addressed with this study was the lack of knowledge on the public health implications that result from retailer practices of return-then-resale of textile merchandise in U.S. jurisdictions. Research and data related to the overlap or legislative and practical intersection of public health and retail systems was scarce and insufficiently monitored or subject to a voluntary, low priority legislative enforcement where the subject is clothing or textiles. Flammability, poor fit, and customer service have been found to be the overarching retail industry decision factors for choice to accept returned and replaced textile items into the sales cycle of the retail system (Xuet al., 2015). This is unlike the acknowledged treatment of the pharmaceutical and food item returns in the retail environment where actual legislative enforcement from public health or consumer health organizations guides policies for acceptance of returns and possible resale (Office of Consumer Protection, 2012). However, with a growing concern at reemergence of communicable diseases, rise of public health infestations (Abejuela-Matt, 2014; Michigan Department of Community Health Michigan Bed Bug Working Group, 2010), and the occurrence of anthrax and other public safety incursions that included retail system items (Stephen, 2012) an exploration seemed prudent.

In this chapter I will provide the rationale for my choice of the qualitative multicase design to explore the public health implications of the retailer practice of reselling returned textile merchandise. It will then explain and detail the research

methodology for recruitment and selection of top retail case organizations as the focus of exploration for return practices. Additionally it provides examples of network stakeholders for the U.S. public health system and policies or position papers that apply to the retail of clothing and textile. It will also address the procedures for my choice of instrumentationand the steps involved in acquiring data for comparison of retail andpublic health system in accordance with the four research questions of interest. The chapter will also include a discussion of the data collection and data analysis plans. As the subject matter of this study was relatively new in focus, in the final sections of the chapter Iwill address the ethical issues of the role of the researcher as well as the anticipated credibility, confirmability, dependability, and transferability of the research design. Lastly, I will disclose attention to the Walden Institution Review Board (IRB) regulation and suggested public engagement document protocols.

Research Design and Rationale

Qualitative research involves the collection and exploration of data related to human behaviors and social concepts within specific contexts (Ritchie & Lewis, 2003, pp. 2-3). In particular, the systems thinking perspective of qualitative research is holistic and works to provide a greater understanding of how variant processes or perspectives function, adapt and interact towards an overall outcome within selected environments (Paina & Peters, 2012; Patton, 2015, p. 140). This framework seemed applicable to exploring the ways in which retail and public health systems interact for the resale of return clothing textile merchandise. Since not all enquiry can be adequately answered

with one case exploration through qualitative approaches, I chose the multiple case study approachfor this study to address the following research questions:

RQ1: What are the public health implications of the return-then-resale of clothing textile merchandise practice by retailers?

RQ2: What are the potential public health impacts of retailers' return and resale policies for the return-then-resale of clothing textile merchandise?

RQ3: What do retailers perceive as the role of public health in the sale of return-then-resale of clothing textiles?

RQ4: What are the public health legislation or policies applicable to return-then-resale of clothing textiles in the retail environment?

I developed these questions to address the core knowledge being sought on the phenomena of public health and safety implications that may be present surrounding retailers' decision to practice the replacement of returns into a sales cycle. Though the issues of textile and apparel returns in the retail environment have been reasonably well documented from a business and logistics management perspective (Xu et al., 2015), the exploration of this topic from the public health perspective remained underexplored. My use of case study as the qualitative method of inquiry afforded me the opportunity to explore units of analysis (i.e., retail system organizations) in depth and within the bounded parameters (Patton, 2015, p. 259) of either the retail or public health systems.

Consequently, the conceptual framework of systems approach to examine the interaction of the public health and retail system stakeholders, was equally complementary. I deemed the holistic, in-depth review of the practices or policies that

surrounded the return-then-resale practices in the community setting more appropriate than any of the other 11 frequently used methods of enquiry under the qualitative tradition (Yin, 2016, p. 8). I arrived at this assessment because the arbitrary boundary setting of specific organizations in the retail and public health system was critical to the established focus of the study and what qualified for examination data to saturation point (Patton, 2015). Clarity of the unit boundaries accommodated my purposeful sampling to enable not only in-depth exploration of each case,but comparative analysis that I used to identify patterns and outcomes in either policy or practice.

Role of the Researcher

In qualitative research, more than any other type of inquiry, the impact of the researcher on the data and quality of datum used to reveal the emerging themes and patterns is a concern since the researcher is essentially the primary filter through which information is acquired (Berger, 2015, p. 220). Observations can vary the result dependent on several factors inclusive of the medium of observation, the setting of the observation, and the personality interactions between the researcher and consenting participants (Patton, 2015). Ritchie, Nicholls, and Ormston (2013) advised on the flexibility of the researcher as a mandate to qualitative research studies because it facilitated discovery of emerging themes and facts within the chosen setting.

My role as the researcher for the duration of this study was as the chief collector of data and documents as well as an observer and interviewer for the multicase semistructured interviews. I also assumed the role of transcriber and coder for documents to be reviewed and collected such as:

- Publicly available public health system policy and legislative documents.
- Publicly available retail system policy documents for each retail organization case.
- Semi-structured interview responses from retail case organization.
- Audio recordings transcripts from in-depth or semi structured interviews.
- My summarized case study notes and observation comments.
- Images from press clippings, and retail system or public health system reports.

There were no power relations present between me and the participants of the case study retail establishments. Power relationships can be affected by both overt and covert factors within institutional and contextual settings (Karnieli-Miller, Strier, & Pessach, 2009). I randomly chose the selected retail establishments from the purposeful sample of retail organizations obtained through the summary of yearly business performance reports of the NRF, as the expert association that represents retail business interests throughout the United States. Though conflicts of interest did not exist, I sought to control for the bias of previous knowledge of retail return processes because of my previous part-time employment at a retail establishment 7 years prior through non-selection of the specific retail organizations as possible case participants.

Methodology

Participant Selection Logic

Qualitative research has an explicit agenda to capture the contextual social, institutional, legislative, cultural, and environmental conditions that govern the phenomena under investigation (Yin, 2016). In multiple case studies the definition of

cases are paramount and additionally reflect defining features of detailed intensive and holistic exploration via multiple data sources (Ritchie et al., 2013). My recruitment of participants was driven by the various sampling strategies because sampling is structured around contexts and not solely around access to individual participants (Patton, 2015). The context of this multicase study was the retail industry systems' sale of apparel textiles to the general public and the consequent practice of accepted returns of mercahndise being placed back into the sales cycle.

Patton (2015) advised that purposeful sampling assured qualitative researchers the necessary "information rich cases" that yielded insights and in-depth understanding as opposed to mere empirical generalizations (p. 264). The relative lack of empirical data specific to the research questions and study focus made the purposeful strategy of utilizing focused sampling, the necessary option because it directed my case selection based on the potential to inform future decision making. Patton (2015) credits the framework of systems theory as more suited to multicase exploration of highly emergent social processes and complex phenomenon that can be used to inform changes in practices or policies (Patton, 2015, p. 270). Multiple case designs are considered more compelling and attribute greater levels of credibility by the thoroughness of exploration due to the in-built replication feature for multicase design elements (Yin, 2013, pp. 56-57).

Selection Criteria

I chose the cases for this study based on several criteria. First, the number of five was selected in following research expert recommendations that indicated exploration of

more than five cases opened such research efforts to the hazard of insufficiency or lack of sufficient data detail to address core research questions for either retail or public systems (Creswell, 2013). Multiple case study traditions are associated with comprehensive single subject knowledge excavations within novel contexts (Rudestam & Newton, 2007, p. 55). Secondly, the case organizations were all companies that retail apparel textile merchandise in the contiguous US states as identified by the NRF, the representative association for most registered retail organizations. NRF membership includes an inbred secondary criterion that all retail establishments represented by the association were legally incorporated for business operations within the United States and therefore subject to legislative guidance by the laws or policies of appropriate system agencies in the United States. Each organization also retailed items that can be classified under pharmaceutical or food and grocery items and allowed returns of merchandise.

I drew the cases from the 'Power Players 2016' retail industry report, which ranked top retail organizations according to retail segment (The Retail Equation, 2016). The segments of department stores, general apparel, and women's apparel were chosen for the purposes of this study because retailers in these segments maximized the likelihood of encountering the phenomenon under exploration. A segment Power Player is defined as any retailer with 2015 U.S. sales equal to or greater than 10% of the sales of the category leader (Schultz, 2016). Those retailers often shape trends in practice and policy that would filter through to others in similar segments even where scale of operation differs.

The ranking stemmed from a 53-week comparison of retail sales and financial performance compiled by Kantar Retail in conjuncton with Prosper Insights and Analytics (Schultz, 2016). Research cases were drawn from retailers in both the 'Top 20', and 'Favorite 50' 2016 listing which was compiled from a 6,431customer survey conducted by Prosper Insights and Analytics to rank online retailers. Smith (2016) explained, "The Favorite 50 is a list of e-commerce websites ranked by the consumers who use them" (p. 21). The listing is a result of open-ended, write-in questions about online shopping from 6,431 adult consumers and reads as follows "(i) What website do you shop most often for apparel items? (ii) What website do you shop most often for non-apparel items?" (p. 21-22). No merchants' names were listed or suggested, and the list was compiled by ranking online retailers in order of total mentions (Smith, 2016, p. 21). Some of the listed companies are not retailers in the traditional sense, but because consumers do not make such distinctions, they are included in the Favorite 50 (Smith, 2016). Amazon has been identified as the online retail segment leader and a shaper of many trends and policy in the online retail segments (Smith, 2016).

Instrumentation and Data Collection

Tools that offer the holistic understanding of data as recommended for case studies includes review and thematic summarizing of interviews, behavioral observations, review of case relevant legal and historic documents based on the setting of the cases (Rudestam & Newton, 2007, p. 56). This is supported by Leech and Onwuegbuzie (2007) identifying qualitative research tools as"extremely useful for obtaining insights into regular or problematic experiences and the meaning attached to these experiences of

selected individuals" (p. 558). Moreover, the multicase study tools I chose facilitated a contextual look of more than one view of the complexities involved return-then-resale phenomena. follows:

Public health system documents. A review of current legislation, licensing and health regulatory guidance documents available through the publicly accessed offices of the federal and state level public health stakeholders was performed. These included agencies under the oversight of the federal Department of Health and Human Service such as the CDC inclusive of National Institute for Occupational Safety and Health, FDA, Agency for Toxic Substances and Disease Registry (ATSDR). These documents werein the form of public documents used by official federal, state, or local agencies to formulate public health planning inclusive of disease prevention and treatment data, hazard risk management data. Specific attention was paid to health agency, and consumer protection agency, policy documents of state jurisdictions. California, Texas, New York, Florida, and Pennsylvania are to be reviewed as the states identified with highest retail sales return values (Pricewaterhouse Coopers, 2014; The Retail Equation, 2016).

Retail system documents. Yearly retailer rankings, periodic sales data for the years 2013 - 2016, and apparel consumer trends reports as published by the NRF data resource repository was suggested to generate the sample population and the chosen case study organizations. Consumer trends in customer service and return merchandise reports made available through the NRF data library were used as background data source to identify stakeholders that form part of the retail system. Additionally, where available,

perspectives were derived from formal organization staffing or staff training documents at selected case sites.

Unstructured interviews. The questions used for the unstructured interviews were developed using the principles of advanced qualitative research which cautions that despite its name, all interviews have some type of structure (Doody & Noonan, 2014). Unstructured interviews refers to the use of flexible open or nondirective questions that guides the verbal disclosures from the selected participant or interviewee,on the chosen phenomenon (Patton, 2015). In creating the questions guide used during the interview, the four core research questions were considered so that responses were tailored to provide information that advances the enquiry. The format also required questions be ordered and placed in language that can prompt information on any emergent issues that are relevant to the chosen research phenomenon (Creswell, 2013). A list of 22 questions developed and pretested among a group of 10 adults currently employed in retail to verify suitability and alignment with gleaning information in RQ1 – RQ3. Modifications were made and the question guide reduced to 18 questions and reworded to improve potential responses and duration of interviews during work times.

Transcribed notes from audio recorded unstructured interviews on returns from case site store managers, supervisors, or customer service personnel at case site location were generated by the researcher. Transcribed notes from unstructured phone and email interviews with state and local public health agencies personnel clarifying publicly available public health legislation, licensing, or policy. Interviews illustrated key details for comparison of practice i.e what is done, to process recommended in the organization

policy because they provide context to the complex issues (Ritchie & Lewis, 2003, p. 58) that arise out of observations or review of documents from either retail or public health systems. It further provided context for any new emergent themes. Interview questions were generated by the researcher, following the guidance of (Creswell, 2013), and (Patton, 2015) that open-ended questions that allied to the four research questions, would best serve the needs of of the new researcher explorations for truthful perspectives.

Case sites informal observations. Patton (2015) advised that in many qualitative research endeavors, observations recorded can contribute accuracy, authenticity and reliability to findings from interviews and other data collection strategies (p. 331). For the purpose of this research that exploration was return merchandise process from customer request to retail acceptance for refund, replacement, or credit. Consequently, I was allowed consented observances of return desk processes at the proposed case-site locations, whichprovided complementary authenticity required to add credibility to discoveries made in research.

Return policies. The first tool used for data collection at case sites are the textile and apparel sales and return policies, as published on each organization's website pages. Typically the chosen policy for clothing retail is supported by written reminders offered to the public at the point of sales receipts at case site locations. This information is published by the corporate case site administrators.

Recruitment Participation and Data Collection

Choice of the correct case selection criterion from available current NRF data informed the choice of the case studies for retail. Through the top and power ranking

listing status established by the research and analytics of the NRF several retail organizations from the top 20 of the listing were chosen to investigate the phenomena of return-then-resale of textile and apparel merchandise. In keeping with the confidentiality agreement, the actual names and identities of the retail sites are withheld. Two visits at each case site provided interview and observation functions for data collection. Informed consent forms for retail representatives provide details of scope of the study and intended end results. Protocols for the face-to-face recorded semi-structured interviews at the case sites followed a process of identification of the relevant personnel by the site store manager. Thereafter, a short introductory conversation with personnel to build trust, and official letter of invitation advising of the parameters of the study, and the cooperation agreement as well as providing a consent letter for their participation was provided. Participants were advised of the right to refusal to contribute even after receiving consent and permission documents. All participants in the interview were subject to the post-interview protocol of receipt and verification of interview transcripts. Where relevant, clarification of any outstanding themes or ideas were examined. Thank you letters for participation to each interviewee, under my signature, will conclude semi-structured interview protocols.

All collected, transcribed, and coded data were stored on a dedicated hard drive that is stored under physical secure lock and key. Upon analysis with the MAXQDA software, thematic similarities and several forms of content analysis. Additionally, back-up data copies will be stored in a password protected digital cloud storage. Data stored through to the end of project is held securely at both aforementioned locations.

Principle of Saturation

A major methodological concern in conceptualizing case selection and participant recruitment strategies, to which qualitative researchers often adhere is the principle of saturation. It introduces the unique balance that exists between sample size and the extent to which new knowledge is yielded. Initially introduced in Glasser and Strauss's 1967 approach to the development of qualitative sociological theory, the topic of saturation addressed the likely scenario "at the point at which gathering data…reveals no new theoretical constructs or insights" (Hennink, Kaiser, & Marconi, 2017, p. 592). There is credible evidence showing saturation as "inextricably linked" to the process of data collection, coding and thematic organization as the researcher discovers or is guided by what takes place at the phase of interviewing and data collection (Mason, 2010). Several other factors have also been identified as useful to consider as key impacts on consideration of strategies for small sample population versus a conceived need for larger samples also known as sample adequacy (O'Reilly & Parker, 2012). The foremost factor is the aim or purpose of the study (Mason, 2010). Congruent with the aim of typical qualitative approach, dictates exploration or gathering of both phenomenon and contextual data (Constantinou, Georgiou, & Perdikogianni, 2017). For this research the proposed participant and recruitment criteria approaches were conceptualized based on the desire to improve upon the paucity of empirical data with specific regard to potential public health infectious disease risks that exist at the intersection between public health and clothing retail systems.

More importantly, Constantinou, Georgiou, and Perdikogianni (2017), and Mason (2010) point out that in many instances, the lower limits of the suggested sample size, may be adequate where several methods of data collections are utilized. The methodology of this study proposed use of the informal interviews, plus document or policy reviews suggested pathways to sample adequacy at smaller ranges were sufficient to elicit saturation. This quality is lastly interwoven into another important situational factor to impact the proposed sample adequacy and saturation concerns, associated with this research i.e., availability of site resources. Since data analysis often takes place alongside data collection, the availability of sites or access to site participants or documents, can be codriver in achieving data adequacy, in generating quality thematic analysis terms (Pope, 2000). Keeping in mind the target sample size and methods for data collection for this qualitative study, the point of saturation was reviewed during the data collection process based upon the principle of saturation.

Data Analysis Planning

The content of the data collection was intrinsic to the quality of analysis. In this study the inductive reasoning examined and generated new concepts of using systems theory as an interaction point between public health systems and retail systems (Patton, 2015). Relationship between the research questions and data were explored according to the following data plan.

RQ1

What are the public health implications of the return-then-resale of clothing textile merchandise practice by retailers? Data that answered this question were derived

jointly from responses to questions in the unstructured interview included in Appendix A, and review of infectious disease prevention and treatment literature and documents published by the federal, state and local agencies. Responses were recorded via observation field notes and transcribed recorded interviews.

RQ2

What are the potential public health impacts of retailers' return and resale policies for the return-then-resale of clothing textile merchandise? Data that responded to this question were derived from a review of the published return policies of the retail organization case sites chosen. Moreover, reviews were done of interview responses for any informal policies practiced at case site locations, followed by review of infectious disease prevention and treatment literature and documents published by the federal, state, local agencies, and non-profit civil society affiliates with specific health expertise focus. Ritchie and Lewis (2003) stressed that use of the content analysis tactics for review of policy and within the naturalistic setting or context of qualitative enquiry, often yields credible explicit thematic expression.

RQ3

What do retailers perceive as the role of public health in the sale of return-then-resale of clothing textiles? Responses for this question were gleaned from the unstructured interview and review of site return policy documents. Kaiser Permanente a leading civil-society agency that worked and monitored public health agency performance, declared "employment practices, supply chains, procurement practices, chemicals in the workplace, energy and water use, and investments of state" were all

evidence of public health considerations to be assessed for operational effectiveness (Wizemann & Thompson, 2016, p. 2) in community business settings.

RQ4

What are the public health legislation or policies applicable to return-then-resale of clothing textiles in the retail environment? Review of retail system documents on retail sales and returns by state yielded the top five states for returns as California, Texas, New York, Florida, and Pennsylvania (The Retail Equation, 2016). Publicly available public health system documents, on public health, consumer safety, and public safety legislation, or licensing were reviewed for applicable guidance.

Coding and Analysis Software

The richness and sheer volume of qualitative data expected was handled through transcription and coding with use of MAXQDA software program. MAXQDA 12 is a result of more than 25 years of continuous development, used in a variety of disciplines: the social sciences, education, health sciences, the humanities, economics, marketing. It has been touted as ideal software for the effective management and systematic evaluation of texts, documents and all kinds of media data with the same data entry functionalities for Windows (Verbi Software Inc., 2014, p. 10).

The progam allows creation of new code, random review and overview of code frequencies reflective of the themes and emergent issues that arose from each case, the multiple contextual documents, and field notes from observations. That systematic evaluation of data facilitated organization of identified theme patterns into broader

categories of processes, issues, questions, sensitizing-concepts as part of an analytical framework approach akin to systems frameworks (Patton, 2015, p. 535).

Issues of Trustworthiness

Credibility

Credibility in qualitative research hinges on several factors to maintain the 'truth-value' of data conclusions, all function inter-related to research design and the training, skills, experience, and presentation savvy of the researcher (Patton, 2015). Additionally the approach to data collection or analysis in this and every qualitative study is subject to judgement and bias of the researcher which affects the presentation of truthful integrity. In order to avoid the threats to credibility, I first admitted to prior knowledge of some of the return processes based on previous part-time employment. Though it provided experience with the return-then-resale phenomena, I counteracted any conflict of interest data by ensuring that Sears retail outlets was not amongst the case study sites chosen.

Another researcher threat lay in the passion for my subject matter in my role as a public health advocate influencing the approach and language used to interact with consenting interviewees. To address those issues I followed a semistructured open-ended questionnaire approach that allowed for minimal direction of the participant interviewees responses, so that data sources reflected their perspectives more realistically. The use of MAXQDA in data coding and analysis further improved the credibility value of the study because it allowed for qualitative triangulation of data sources that verified consistency of findings.

Transferability

Consistent occurrence in themes alluded to the study's potential for generalizability of findings beyond the context of the apparel and textile merchandise in return-then-resale settings. Ideally generizability would be conceptualized from the thick descriptions that originate in the data. The multi-case design of the study with different case site representation in the data accomodated varied perspectives on the phenomenon as each case would be treated individual for cross case comparisons (Creswell, 2013; Patton, 2015). However, limitations on generizability existed because of the relative novelty of the examination of interactions between public health systems and retail systems. Additionally, as mentioned previously inChapter 1 of this document, the relatively large size of the five case organizations selected, may affect the generizability of results. Contextual processes may differ in smaller sized retail organizations or with retail organizations with existence in limited localities.

Dependability

Consistency of the selection criteria for each case site and treatment of each case according to the research design is termed replicability of processes engaged in this multi-case study denotes the dependability facet of a qualitative research study (Leung, 2015). One strategy suggested for achieving this dependability for the duration of this research was that of triangulation (Patton, 2015). Triangulation through comparison of the data sources such as interviews, historic contextual documents, and policy reviews from individual cases or case sites, demonstrated support for the themes and methods of analysis (Patton, 2015) unique to the chosen topic of research . Equally important was the

attention paid concise, descriptive observation notes or then short immediacy in transcribing or uploading to MAXQDA for coding and preliminary categorization for analysis. These form part of an audit trail that established the process through which all collected data moves from raw data stage through to coding, data reduction, then analysis closely aligned with the four core research.

Confirmability

Confirmability of qualitative research work is represented by the degree to which a study can be verified and validated by other researchers (Anney, 2014). Audit trail practices lent the first startegic approach to establishing this value because it indicated steps by which I was able to direct inquiry and the rationale behind decisions on process or selected conclusions for the duration of the study. Another strategy utilized was reflexive writing, in which observer notes were taken with regard to any emerging themes or ideas that occurred while collecting data at each case site during field visits. Similar to audit trails the practice of reflexivity was a written recorded process of the subjective interpretations that may occur as in my role as researcher (Rudestam & Newton, 2007, p. 49) I attempted to represent the truth of perspective for each retail organization site or public health agency and maintain integrity in presentation of data uncovered in research.

Ethical Procedures

Access was sought from the Walden IRB office detailing myself as primary researcher for retail organization interaction in keeping with recommended pillars of beneficence, justice, and respect for persons. Initial Letters of Cooperation (LoC) for several leading retailer case organizations were used to establish permission for site visits

and interview of personnel involved in the returns-then-resale process. The letters of agreement were adapted from templates provided by the Walden IRB. Upon the acceptance of letters of agreement, consent forms, also adapted from templates designed by Walden IRB were provided for each member of staff to be interviewed. Case site employee identities were treated as anonymous in the reporting of the data for the research, by using identification based on job function classification and then numerical assignment e.g. Customer Service Personnel Case A, or Site Management 1. Data gleaned for review of contextual documents of the selected public health systems was drawn from publicly available documents accessed via official organizational Internet sites, consent or cooperation permissions for use of these were not required. Because parts of this study focused on business organization systems, letters of confidentiality adapted from IRB templates between the case organizations and myself as researcher, outlined my intention not to obtain information or disclosures beyond the scope of the areas identified for the research in the LC agreement that accompanied all study documents.

Disclosures from interviews and observations at each case site were initially stored and transcribed independent of each other in a password protected external drive with use of MAXQDA program. Transcripts of interviews were transcribed then returned to interviewees for verification. Once verified, the transcribed information was stored on an external drive solely dedicated to storage of the study data. It will be stored in a locked fire-proof cabinet for the duration of the study and for 3 years after completion of the study. At that time, all the data will be erased.

Summary

In this chapter I discussed the methodology used to excavate data for the purpose of a qualitative multicase study of the public health implications from an infectious disease and health safety perspective, of the U.S. retailer practice of return-then-resale of textile and apparel, also known as soft lines, to the community. The methodology reflects an alignment with processes that directly responds to the four core research questions at the intersection of retail and public health systems and provides a holistic stakeholder system evaluation. In Chapter 4, I visited each representative case site using afore identified methodologies that provided the rich description on common themes, common benefits, or common hazards that influence professional practice by identifying the opportunities to leverage corporate inclusion (Wizemann & Thompson, 2016) for health and social change.

Chapter 4: Results

Introduction

Data are that necessary ingredient that allows the observer to see into the processes and perspectives of the participants involved in a phenomenon. Research data seeks to reveal truth within the ambit of the methodological approach and the purpose explored by the research questions (St.Pierre & Jackson, 2014). The purpose of this qualitative, multiple case study was to explore the public health and safety implications of retailers' resale of returned clothing merchandise to the general public within the United States. I interviewed retail store employees from select retail sites using open ended questions to provide insight into the protocols and systems that typically occur in the process of replacing returned clothing items back on to the sales floor. The focus of participant responses formed part of my systemic inquiry specifically looking at the infectious disease, infestation, and possible biologic hazard risks that may occur in this daily practice and the potential for public health practice to mitigate the occurrence of those risks.

In this chapter, I will initially discuss several of the organizational and personal settings that impacted my eventual access to the retail employees at the selected case sites, because they provided the necessary insight into the little examined retail sector from a public health public health perspective. Additionally, I will discuss the exact demographics of the assenting participants because they related to the predetermined case sites. Then, I will explain the data collection process, inclusive of the frequency and the duration of the collection of data as well as the variations made in comparison to the

methodology conceptualized in Chapter 3. I will then share the data analysis coding and themes that emerged, evidence of trustworthiness, results of each research question, supporting document review quotes or verbal quotes from the articulated state or retail store policy. Finally, the results will be summarized in graphic presentations as they relate to the findings of the data.

Research Questions

I developed the following research questions to guide this study:

RQ1: What are the public health implications of the return-then-resale of clothing textile merchandise practice by retailers?

RQ2: What are the potential public health impacts of retailers' return and resale policies for the return-then-resale of clothing textile merchandise?

RQ3: What do retailers perceive as the role of public health in the sale of return-then-resale of clothing textiles?

RQ4: What are the public health legislation or policies applicable to return-then-resale of clothing textiles in the retail environment?

Setting

As the world's largest retail trade association, the NRF represents discount and department stores, and boutique entities from brick and mortar existences to the ever-growing e-retail opportunities (Kleinhenz, 2018). In keeping with its role as advocate, educator, and the general voice of retail, the NRF releases a list of the top performers of its members in retail throughout the U.S. membership of the association (Smith, 2016). For the purpose of this research, I initially approached five retail sites within the top 10

performers for participation. However, a combination of fear for loss of proprietary information, fear for loss of goodwill with customers and the potential for legal action as a result of the identified return practices motivated a withholding of access to interviews and observations at the sites. In two cases, even though site managers had verbally indicated willingness to participate, corporate superiors instructed a rescinding of those verbal agreements based on the aforementioned barriers. Consequently, I approached other retail sites from the top performers for cooperation as a case site for data collection. On the agreement of full anonymity, two of the retail sites from the expanded group of potential retail case sited agreed to cooperation. Despite the agreement for participation by the retail site management, some of the employees at the sites declined to participate for fear of retaliation, but those that chose to participate were quite forthcoming. I specifically recruited all retail employees involved with the process of return. Within those interviewed, there were more members of the management/leadership teams responding to the invitation to participate in the semi-structured interview than the entry-level customer service employees.

Table 3

Research Participant Employee Classification

Employment Designation	Documents	Percentage	Percentage (valid)
Management	12	60.00	60.00
Nonmanagement	8	40.00	40.00
Analyzed documents	20	100.00	100.00

Demographics

The retail case sites in this study are two major U.S. retailers with national chains that are within the top 20 sales performers within the NRF Top 100 Retail Chart 2016 rankings (Kantar Retail, 2016). Retail organizations on that list of rankings are adjudged based on sales values with the exclusion of "wholesale and non-retail services (not sold at store) but inclusive of online retail sales" (Kantar Retail, 2016, p. S13). The sites are also included into NRF's Favorite 50 retailer rankings list that covers both apparel and nonapparel retailers (Prosper Insights & Analytics, 2016).

The participants at each retail site were primarily employed for 5 years and less (80%), while 15% responded that they worked at the site for 610 years. A mere 5% employed at the site for over 10 years, 90% of participants were trained by employment practice, which consists of '*shadowing'* another employee in a similar position. Training using employer-provided modules either by manual or computer modules was given to 55% of employees, while only 25% of all respondents mentioned academic training at postsecondary institutions as a complementary element to their position at the store.

Data Collection

Recruitment

The first step I took in recruiting participants for the semi-structured interview segments of this study was the obtaining of the LoC from the retail organization sites selected as cases for research based on the inclusion in the NRF top 100 sellers performance data. After LoCs were signed by the manager of the retail site and returned to Walden IRB, all employees involved with the return of clothing merchandise also

referred to as '*softlines'* process, were identified by the manager. These employees were then approached to ask if they would be willing to participate in confidential interviews. I stressed that there would be confidentiality and the anonymity of the responses from store management or outside parties because this was identified as a major concern from initial inquiries.

I held semi-structured interviews with 20 participants from two retail case sites for the purpose of collecting data regarding the actual retail employee perspectives on the return process. The clothing refund or return policy for each retail case site was partly obtained from my onsite observation notes. In addition, publicly available return policies posted on each retail organization provided further evidence of return policy for consideration. website.

Location and Frequency

I needed approximately 25 minutes to complete the semi-structured interview questions (Appendix C) with the volunteer participants at the two retail case sites. A further 8–12 minutes were needed to verify the transcribed interviews with each participant. At Case Site 1, the data collection and verification period lasted across 5 weeks. The collection and verification process at Case Site 2 occurred over the duration of 9 weeks. Case Site 1 is located in northern New Jersey, while Case Site 2 was located in southwest New York.

Retail employees involved with the return process were first identified by store function by the management of the store and then were approached by me with a participation request. Upon agreement to participate, I advised the employees that their

responses would be recorded for better clarity and verbatim reporting. The participants were also advised of confidentiality of all their responses, and that I would use their responses solely for the purpose of completing the research as a requirement for the university. All interviews took place at the retail case site, at the mutual convenience of both management and the employee. The responses to the questions were initially recorded with some written notes in accordance with the permission of the participants. However, during the third interview at Case Site 1, a member of the management team indicated that they would prefer that there were no audio recordings made, though written capture of answers could continue. At Case Site 2 from the inception the participants objected to audio or video recording of any responses to the interview. They also indicated consent to handwritten capture that was later verified for authenticity and truth.

I completed two unstructured observations at the case sites on completion of the final interview for each site. During the observations, I did not interact with any of the interview participants. The unstructured observations were conducted during regular retail site operation hours. I was positioned in the public areas typically used by customers, several feet from the areas designated for return and refund processing at the retail site.

Variations in Data Collection and Unusual Occurrences

There were two variations to the data plan as outlined in Chapter 3 based on challenges encountered during attempts to collect data. The first was based on the case sites identified for collection of data. Upon approval of the protocol from Walden IRB (#Approval No. 10-27-17-0357552,), the management of five sites which were ranked

amongst the top 20 of retail sales or apparel sales according to the NRF (Kantar Retail, 2016; Schultz, 2016) were approached. Several of the managers who had given verbal approval to conduct short interviews at the site location, when presented with the written LOC document withdrew permission to interview at their location. The reason they gave for withdrawal of permission or nonconsideration of the request were as follows:

- Some legal or corporate executives simply said no and refused to share reasoning.
- In at least four cases, the legal department executives thought the risk of leak of proprietary information, whether accidental or intentional,was too high.
- Lastly, some corporate executives thought the risk of mistakenly harming the organization's goodwill or public reputation based on some detailsofthe revealed return process was also too high.

Consequently, I chose to approach an additional five retail organizations from the NRF top retailer rankings. Permission to add those organizations as potential sites was obtained from the Walden IRB approval via a 'Change-in-Procedure' request. With the exception of two sites, the trend in noncooperation continued. After 3 months of exhaustive, unsuccessful efforts to continue to persuade cooperation amongst the IRB approved sites, in consultation with the committee chairperson, I made a decision to end data collection. Fortunately, primary perusal of the data obtained showed consistently recurring themes which aligned with the concept of saturation that is important to all qualitative research. O'Reilly and Parker (2012) advised that:

> the sampling in qualitative research is concerned with the richness of information and depends on the nature of the topic and the resources available, requiring that

> the researcher should be pragmatic and flexible in having a sample that sufficiently answers the research questions (p. 192).

Data for analysis was drawn from the 20 interviews at two case sites.

The second unusual and unanticipated change that took place was that of the recording of interviews for transcription by handwritten notes instead of by audio-recording. This occurred because supervisory personnel at each site declined interviews where audio-recording was used. I used handwritten notes to capture the information, then had each participant's subsequent verification of the text of their interview to form part of the data collection procedure. Interviews captured in written form were transcribed using Microsoft Word, and after verification by the research participant, those texts were uploaded into MAXQDA for analysis.

Data Analysis

Data Coding

Transcribed response data from the restructured interviews were uploaded to the MAXQDA software program for coding of each answer to the question by the 20 participants. All participants answered all 20 questions. Initial coding was assigned by the general summarized idea represented within the questions. Answers to each of the questions were recorded first as codes then after the first round of coding reduced to smaller groups of subcodes based on commonalities of themes, concepts and word search. Each of the questions, codes and subcodes were assigned a color so that a visual map of the code contributions could be ascertained to assess the questions that offered the richest details for application to the research questions.

Additionally, themes were drawn from the uploads of legislation that directly governs refunds from the five states of California, Texas, New York, Florida, and Pennsylvania, reported highest return according to rankings submitted to the NRF (Pricewaterhouse Coopers, 2014; The Retail Equation, 2016). The general themes from return policies of each case site was also evaluated for similarity of themes occuring with the state legislation briefs and the responses to the unstructured interview questions.

Coding Categories

Consumer focus. This is one of the recurring themes that seems to drive the return process, and the return experience. In the Retail Equation (2016), a report on annual trends in returns published by the NRF it is stated that "improving the shopping experience is an equally important trend. Therefore, differentiating the consumer experience during the return process—such as offering "hassle free" returns is often under consideration…" (The Retail Equation, 2016, p. 2). This is also the focus and concern shared in answer to how challenges to the established return process are mediated. A participant from Case Site 2 remarks in response to Question 15 of the interview "to ensure good customer service, if the customer protests the return policy with the cashier, the manager is called". That sentiment fuels the most popular resolution of return challenge actions at 27.8%, though 13.9% of the retail employees report that is actually the customer service focus that leads to discarding of returned items that appear damaged when returned within expressed time limits.

Table 4.

Methods of Resolving Customer Challenge of Return Merchandise Policy

Q15. Return Issues Resolution	# Document Codes	Percentage
Return Issue Resolution - Manager Mediation	10	27.80
Return Issue Resolution - Accept and exchange for value	10	27.80
Return Issue Resolution - Enforce established return policy	6	16.70
Return Issue Resolution - Customer service damaged & discarded	4	13.90
Return Issue Resolution - Credit value given	2	5.60
Return Issue Resolution - Employee retraining	2	5.60
Return Issue Resolution - Digital Fraud look-up	1	2.80
Total Code Segments(s)	36	100.00

Time limits. The next common theme encountered was that of time limits for returns. Time is important for two reasons in the returns process examined by this research. Initially, time is an important factor for exposure, survival and propagation of viruses, bacteria, or infestations in fabric merchandise. Bitam, Dittmar, Parola, Whiting, and Raoult (2010), mention "if fleas do not find host, they can survive for varying lengths of time, dependent on species" (p, e668). In the case of VRE bacteria, was found "after exposure to remain active on terry, polyester blends, and cotton fabrics for between 1 – 90 days" (Neely & Maley, 2000).

The 90-day time limit appears as a guidance in making decisions on whether clothing merchandise is returned and returned to the sales floor for resale. Conversely it also acts as a deciding factor for declining a request by a customer for returning clothing to retail. Eighty-one percent of the retail return policy deals with time limits that range between thirty days and ninety days with site specific instructions. Participant 042018_1 in Case Site 2 shared that returns of clothing are accepted based on: "It is ninety days with a receipt, unless it is a clearance item." While participant 032018_10 from case site 1 mentions that returns occur "Mostly 30 days without a loyalty reward card. Forty-five

days with the card, tag attached, or other proof of purchase." Florida, the state that experienced $20,672,647,826 in annual return sales (The Retail Equation, 2016) has legal statutes that "provide for a refund on the merchandise, within 7 days of the date of purchase, provided the merchandise is unused and in the original carton" (Florida Legislature, 1995 -2018).While in California, and New York which notch $33,699,247,826 and 16,792,986,522 in returns (The Retail Equation, 2016), legislators have quoted in statutes, "you can return the purchased item with proof of purchase for a full refund within 30 days." Though the legislation from each of the afore mentioned states also establishes that legislation does not usurp the retailers' publicly published notice of other refund terms at the point and site of sale (California State Legislature, 2018; Florida Legislature, 1995-2018; New York Department of State-Division of Consumer Protections, 2018).

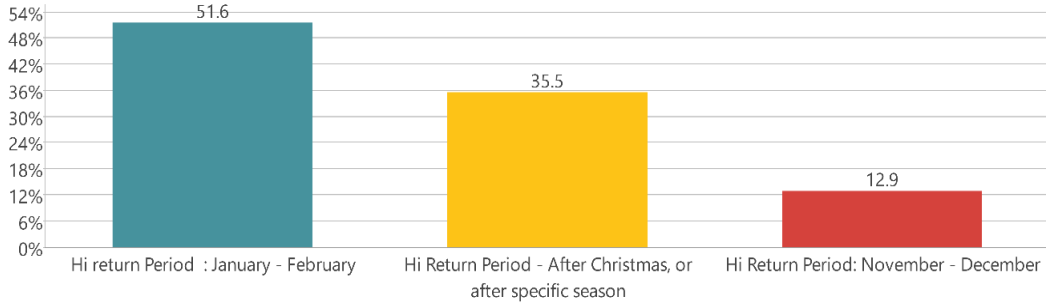

Figure 3. Highest Return Period. The figure illustrates the period of highest return volume according to answers of Question 7 of the unstructured interview.

Christmas and post-Christmas holiday period. This is yet another common theme when return was highest remained consistent with the findings shared by the NRF in which they state "the holiday return rate was 2.0% higher than the annual rate" (The Retail Equation, 2016). Case Site 1, Participant 032018_9 in response to Question 7 of the unstructured interview relates "Since I've been here I think the post-Christmas period

up until the 2nd or third week in January." The sentiment is shared by Case Site 2, Participant 042018_7 who in response to Question 7 of the interview mentions "After the Christmas rush which is usually January period." Based solely on the data evidence gathered the Christmas and post-Christmas period also referred to as the holiday sales period (The Retail Equation, 2016), 75% of responses concur that the time that the returns process for clothing are highest is during the weeks right after Christmas. There were also at least 55%of them who similar to Participant 032018_3 agreed "usually after a seasonal holiday or seasonal items that were never used" or Participant 042018 who states "after a big holiday, like 4th of July, Easter, Thanksgiving, Christmas" suggests that there is an increase in returns after other holiday events in the calendar.

Discretionary Processes

Where the legislation does not legally establish a specific time limit as a condition for return, the role of the discretion of the retailer to establish the rules for refund is another common theme that recurs. From a system perspective there is a basic limited federal, or state guidance that ultimately governs returns evidenced in the selected five state legislations examined during this research. Compliance to refund policy is seen as an effect of a business model transactions rather than as a shared public health responsibility. Retailers of fabric clothing merchandise are only legally required to explicitly advise customers if a return policy exists at the point sale. California, one of the states with highest return sales (The Retail Equation, 2016) illustrates popular state legislative guidance:

> Retailers that won't give a full refund or credit, allow an equal exchange, or any combination of these options, within seven days of purchase when goods are returned with a receipt, must clearly display their policy at each cash register and sales counter, or at each public entrance, or on tags attached to each item sold under the policy (California State Legislature, 2018, para. 1723 [a]).

Similarly, New York state legislators establish acceptable refund practice as:

> A store is legally required to post their refund policy. If the store does not post any return policy, the law requires he store to accept your return within 30 days of purchase. There is no requirement under New York State law for a store to offer a refund in the form of cash, credit, replacement merchandise or other means. Retailers must provide a written copy of the store's refund policies available and disclose any fees associated with the return (New York Department of State-Division of Consumer Protections, 2018).

The only exceptions to such policies occur where there is a manufacturer's defect or various assimilations of the federally established "cooling off rule." As an example, Pennsylvania legislation advises:

> under the law Known as your 'Right to Rescind' or the 'Cooling Off Rule', these provisions give buyers the right to cancel the contract with a full refund of money under certain circumstances. How much time you have depends on what type of goods or services you purchase (Pennsylvania Office of Attorney General, 2018).

California state law seems to be one of the rare jurisdictions that also lends some potential that there may be a health issue to be factored into the return policies as California Civil Code Section 1723 states that the general return policy:

> does not apply to food, plants, flowers, perishable goods, goods marked "as is," "no returns accepted," "all sales final," or with similar language, goods used or damaged after purchase, customized goods received as ordered, goods not returned with their original package, and goods which cannot be resold due to health considerations (California State Legislature, 2018).

That almost minimal familiarity of the role of health and by extension public health in the role of clothing retail, or the department store environment served as major theme emerging out of the research interviews. There were at eight ideas proffered as the role of public health based on the participant responses to Question 18 that asked about their understanding of the role of public health in the store environment. A mere 10.3% of responses attributed public health to possible infectious disease based on their responses that for them it meant proof of vaccines staff are required to provide on hire, keeping customers and staff safe from germs. However, for the vast majority, 51.7% consider public health as linked to "Keeping a clean store, back and front of the store." or "the overall cleanliness of the store such as the floors being cleaned and also the register area being cleared up." There was no mention of possible protection against bacterial, virus, mites, despite an incident in Case Site 2, Participant 042018_10 which mentioned "there was a shirt that clearly had pet hair on it. We damaged out the shirt and retrained the associate to ensure worn items were not accepted in the future."

Evidence of Trustworthiness

The ability to minimize distortion and communicate a true representative understanding of a phenomenon from research is a balance that should be maintained in qualitative enquiry. Developing trustworthiness in the data typically corresponds with the inclusion of four main pillars as part of the research, those are, credibility, transferability, dependability, and confirmability (Cope, 2014). In planning the execution of the research each of the pillars were integrated into the protocols increase value of reported outcomes.

Credibility

Due to the fluidity and emergent nature of qualitative research that engages field work and more specifically field work at more than one site, credibility efforts tend to assist in focusing the work to the identified phenomenon. Sinkovics (2012) suggested the use of computer aided qualitative data analysis software such as MAXQDA provides an opportunity to organize, manage, and document the research process with integrity. In this respect MAXQDA use in this project allowed for a realistic comparison and reflection of the data between unstructured interviews, return legislation for the key states, informal observation notes, and the NRF return or refund documentation. Moreover, the opportunity for reflection on data in an organized manner does attest to a reflexive value that contributes toward realistic coherent expression of the relationships to be observed in a systematic exploration of retailer resale of returned merchandise. That realism of that reflection is further assisted by the use of unstructured interview for data collection. The interview questions were condensed from the original 20 after an informal test amongst a few retail employees. The adjustment as indicated in Chapter 3 facilitated

language more comfortable for participants so that it minimized any possibility of leading participant responses during the interviews.

Transferability

At the core of a multicase study is the potential to observe and explore a phenomenon from different perspectives. Although there were only two case site locations and not the original five case site locations projected in Chapter 3, some elements of transferability remained. There was a consistency of themes between the responses to the unstructured interview that lends to discovery of some of the unique processes that occur in replacing returned merchandise on the sales floor for purchase. A similar consistency of themes presented across the review of the legislation in tandem with trends identified in the annual report on returns by the NRF. The transferability ratio remains limited based on similar challenges presented in chapter three. The sample size is smaller than anticipated in Chapter 3 Then given the relative novelty of public health implications within return retail research, the ability for transferability to retail organizations that are not nationally based or those with single channel shopping options may will be reduced.

Dependability

The replicability of the recruitment for retail case sites and the participants responding to the unstructured interviews for followed the same details outlined in Chapter 3. Upon the retail site manager's signed agreement for collecting data at the store, and IRB acceptance of same, staff assigned to the clothing return and sales process was identified and approached for participation. This is important as dependability of a

study implies the stability of the data collection procedures and choice of suitable units of analysis (Elo & Kyngäs, 2014). All participants were voluntarily subject to the same eighteen interview questions, with the same transcription and verification protocols being observed by integrating the use of the MAXQDA software. The use of the MAXQDA also meant that triangulation of data by observing the themes present in the transcribed interviews, the state law documents, NRF returns data, the notes form the informal observations and the store refund policies. As mentioned in Chapter 3 it also establishes a type of audit trail from raw data to results that positively impacts the trustworthiness of important themes. Those themes include, the lack of familiarity and guidance for the role of public health in retail, the importance of time limits in processing refunds and equally in managing potential for infestation or infection based on resale of returned clothing

Confirmability

Confirmability in this research effort is linked to its objectivity and freedom from bias. In this respect Anney (2014) suggests the most desireable aspect of confirmability is the confirmation that results from participants, documents, and protocols used in the research methodology should align explicitly with any results or conclusions. Each participant's unstructured interview and verification of response were conducted at their convenience using the same questions. Neither site was given knowledge of each other, and within the case site, individual participant responses were not shared with other participants. Trancscribed responses, state legislation, notes from the informal observation were up loaded to MAXQDA for a holistic comparison, including the opportunity for reflexive note-taking as each element of data was uploaded. Responses

from members of the management or leadership team were given the same weight as the responses from nonmanagement and any outlier ideas or themes was noted, kept, and investigated via triangulation with other data protocols. Researcher bias on response was avoided by the researcher witholding any opinions or thoughts on the process during interviews and verification, and reflexive note taking on any minor observations made in the store while interviewing.

Results

This qualitative multicase study explores the public health implications of retailer resale of returned textile merchandise. Eighteen questions were asked of twenty persons at two retail sites to systematically to collect data that seeks to provide answers for four research questions. Further supporting data for answers to the research question was drawn from review of state legislation data that governs the clothing refund process, informal observation notes from each case site, and NRF data on industry returns in the US. All data was uploaded into the MAXQDA software for coding then analysis. Themes were identified in alignment with the goal of the research questions.

RQ1

What are the public health implications of the return-then-resale of clothing textile merchandise practice by retailers? This question employed the semi-structured interview to explore practices in return then resale of textile clothing items in a retail environment provides a true and authentic picture of the process as it currently occurs. Accordingly, the account for 11 questions of the total 18 or 61% of all the data collected from interviews (Table 5).

Retailers at both case sites reported that clothing sales for the respective retail locations were made via both online and brick-and-mortar retail channels of distribution. However, one respondent from Case Site 1 did differentiate that the organization also engages in side-walk sales-stations. Those are temporary sales platforms set up just outside of the store environment, aimed at marketing and engaging passers-by close to the store location into purchasing the clothes or clothing combinations on display. That ability to fascinate and engage in a tactile way may offer some explanation as to the responses for Question 6 in which 62% of the participants favored brick-and-mortar, in store sales over the online sales. Though Participant 032018_9 did indicates a trend for change in preferences in the statement "it's about the same for each at this store, but the online options are increasing so that may soon change." However, this still indicates that the processes that most influence the resale of returned clothing textiles is decided by practice behaviors in store.

Table 5

Relationship of Interview Questions to Research Questions & Results

Interview Question #	Code Label	RQ 1	RQ 2	RQ 3	RQ4	Other	General Connection to Results
1	Position of employ	-	-	-	-	Demographics/ General	Practice
2	Length of employ						Practice
3	Employment Training						Practice
4	Health & Safety Training			√√			Practice
5	Sales Modes	√√					Practice
6	Shopping Preference	√√					Practice
7	Highest Return Period	√√					Practice
8	Process other returns	√√					Practice

(Table Continues)

Interview Question #	Code Label	RQ 1	RQ 2	RQ 3	RQ4	Other	General Connection to Results	
9	Return Policy Clothing items		√√					Policy
10	Return reasons	√√					Practice	
11	Return Non-Clothing Policy		√√					Policy
12	Clothing Returns - The Process	√√					Practice	
13	Status of Return Policy Practice	√√					Practice	
14	Return Issues	√√					Practice	
15	Return Issue Resolution	√√					Practice	
16	Refuse Clothing Returns	√√					Practice	
17	Return Process for Hosiery and Other Fabric	√√					Practice	
18	Public Health Meaning to Retail Employees			√√				Policy
Total#:	18	11	2	2	0		15	3
Totals%:	100%	61%	11.11%	11.11%	0	-	83.33%	16.66%

According to participant responses of Question 7, Christmas and the post-Christmas holiday period, as well as other events are the peak times when the return for resales would be most frequently observed whether for clothing textiles, or other items. Question 12 then provides the most robust explanation on what takes place during those times that resale of return clothing textiles merchandise by retailers is done.

Table 6

Highest Return Period

Summary: Q7	# Code Responses	Percentage
Hi return Period : January - February	16	51.61
Hi Return Period - After Christmas, or after specific season	11	35.48
Hi Return Period: November - December	4	12.90
TOTAL	31	100.00

As revealed by 70% of participant employee responses, clothing textiles when returned by the consumer are (a) received by the sales employee, (b) clothing is checked and verified against proof of purchase, (c) accepted and sorted for collection by floor staff, and then (d) returned to the sales floor for purchase by another customer in either regular or clearance or discounted shelves. To quote Participant 042018_1 response “after the cashier’s check the receipts to make sure it is our clothing and it is within the time limit, we check it to make sure it doesn’t have tears or smell funny or show any signs of soiling before we return it to stock displays on the shelves” which is partial support of the 38% of responses that also establish that some returns are accepted then discarded.

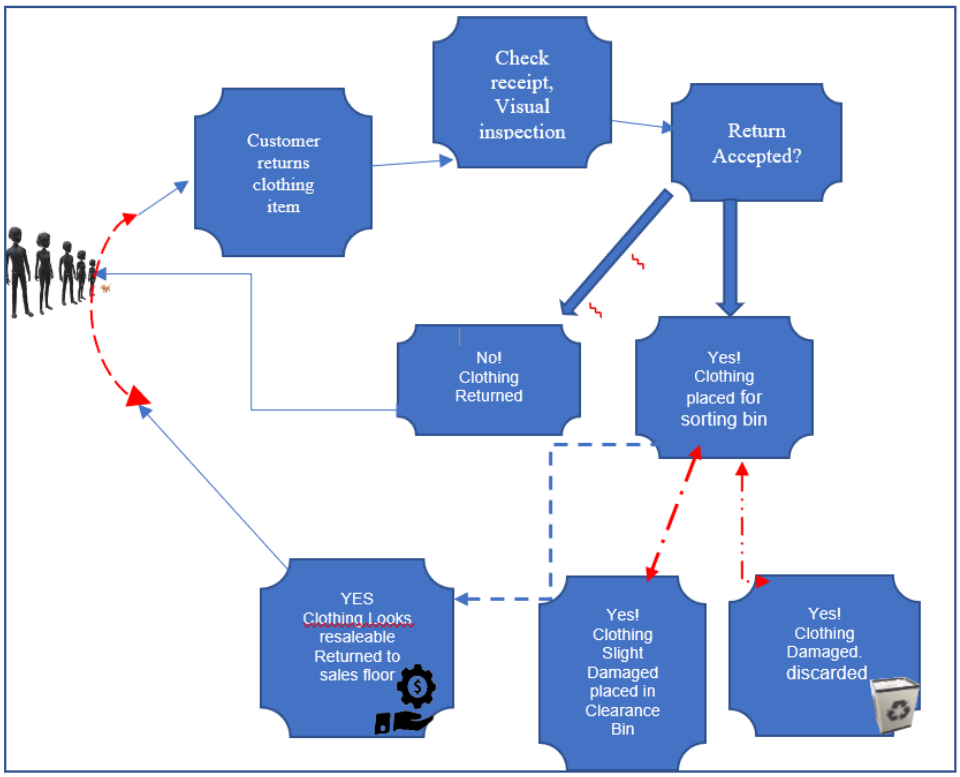

Figure 4. Current return process. Illustrates the current steps that take place in the return process according to responses in unstructured interviews Q 12.

The homogeneity of these practices across organizations is expressed in response to question 13 which establishes the respondents agreeing that the restocking with return merchandise practices are a 95% assured organization wide practice rather than a sole store discretionary practice. The actual practice is only part of the answer for the public health implications, because the reasons given for accepted returns of clothing textiles is another contributing factor in exploring any avenues of risk. Some of the potential implications for infestation or infections also become immediately apparent because of the uncertainty of the environment in which the clothing is stored or exposed before return to the store. It is observed that all 20 respondents of Question 10 in the interview

attribute 80% of summarized responses to personal choice reasons for wrong fit, wrong size, buying clothes for a singular event for which the clothing is no longer required. All of which imply clothing that has been worn if only temporarily, or for brief instances there has been exposure unknown environments. Kouotou, Nansseu, Sieleunou, and Defo (2015), suggested that the potential for harm from mites that transmit scabies or dermatitis, where clothing exposed to environmental facilitators of mites may carry mites from to human and multiply to infest other clothing. Of greater risk is the fact that these mites are not visible to the. One of the notes from the informal observation carried on at the sites recalls that one or two customers were observed returning clothing items in bags or wrappings not belonging to the store which again implies that the item returned had been placed in an alternative environment. The risks are even more apparent when one considers the transcribed response of Participant 032018_07 coded in the category 'purchases for others' the participant says, "I have had people say they bought the item for a relative at home, or in a nursing home, or a hospital, and the person passed, so they return it because they have no use for it." Information on MRSA suggests that in MRSA outbreaks often found in nursing homes, college dorms and crowd centric areas "MRSA or staph bacteria can live for up to 203 days on a blankets and textiles. MRSA can live on the skin of otherwise healthy individuals, with no symptoms indefinitely" (Millersville University, 2017, para. 2-3).

Table 7

Summary of Reasons for Return Clothing Textile Items

Q 10: Reasons for Return of Clothing Textiles	# Coded Responses	Percentage
Return Reason - Personal Choices	45	80.36
poor fit		
wrong size		
unwanted gift		
clothing bought for 1 event only		
too expensive		
changed mind on purchase		
Return Reason - Product Condition	8	14.29
clothing has funny odour		
didn't wash well		
items appeared damaged when home		
color did not match		
Return reason - Purchases for others	3	5.36
on behalf of elderly relative who can't shop		
part of dead relative's unused stuff		
TOTAL	**56**	**100.00**

RQ2

What are the potential public health impacts of retailers' return and resale policies for the return-then-resale of clothing textile merchandise?

The retailer organizations that acted as case site locations for this research have established refund policies as part of the business operations and in most instances attempt to sway public engagement and impulse purchasing with such phrases as "We want you to be satisfied with your purchase" and how easy a return can be facilitated at the store or online. Case Site 2 in fact encourages the customer to "make every effort to inspect items for fit, color, missing pieces or damage" in order to ensure satisfaction with goods as advertised. Those reasons can account for at least 38% of the issues requiring resolution during the return process as identified by participants of the interview (Table

8). However, the expiry limits of receipts or "lack proof of purchase because they lost the receipt" mentioned are direct reflections of the policies shared in response to question 9 of the interviews. Eighty-five percent of the responses revealed that there were active time limits along with receipts that facilitated returns, while the other responses concentrated on the actual physical visible condition of the returned item of clothing.

Table 8

Summary of Issues Experienced Within Return of Clothing Process

Q 14: Clothing Return Issues	# Code responses	Percentage
Return Issue - Expired Receipt	11	29.73
Return Issues - visual evidence of wear	9	24.32
Return Issue - No proof of purchase	7	18.92
Return Issue - strong unpleasant smell on returns	4	10.81
Return Issue - visible damage to item	3	8.11
Return Isuue - lots of pet hair	2	5.41
Return issue - wrong store stock	1	2.70
TOTAL	37	100.00

)

If the case site locations are compared to the respective official policies for return of clothing as established on the organization's website. Case Site location 1 participants all correctly identified that the regular return policy applicable to clothing textile items as 30 days with original packaging and the receipt, or 45 days if returned using the loyalty card as a proof of purchase. Though one participant of that site location 1 did admit "most customers don't read their receipt or the return policies, so they often leave return of the item beyond the expiry date of the receipt" It should be noted that by law in all of the five U.S. states being reviewed for this research, require that the return policy to be posted in a highly visible area for the customer, or clearly identified online. During informal observations at both site locations the organization's return policy was indicated

on a printed notice board above the customer service desk at case site location 1 and behind the bay of cashiers at Case Site location 2.

However, the information shared by 100% participants of Case Site 2 in answer to Question 9 differed from the policy published on the organizations website. The participants identified that clothing purchases enjoyed a "ninety days with a receipt, unless it is a clearance item." The website location identified a 30 Day return for store returns and a 40 day return for online purchases. No mention was made of clearance items at both locations refund policies on-site show that clearance items are non-refundable and sold as is. Also, from the informal observations carried out in the store clearance items were typically useable items that were slightly damaged or final items in a particular style model.

The policies regarding the time limit, proof of purchase, product condition eligibilities for refunds or exchanges, appear to have similar potential public health impact as with the practices outlined in RQ1. Despite the exception of the differences between in store and online refund policy time limits that occurred site Location 2, the stores in practice have consistently followed the other elements of the policy. Where it was identified that exceptions were made for customer service or customer satisfaction experience, those instances were manager mediated. In 69.8 % of the resolution for challenges or issues with the return policy manager mediated allowances were responsible for the outcomes. Participant 032018_3 indicates what takes place when customers refuse to accept the policy "The customers at those times can get very upset and throw a fit, and then the manager more often makes a decision." The potential for

public health risk for infection or infestation based on the clothing exposure to unknown environments while in the customer's possession remains.

RQ3

What do retailers perceive as the role of public health in the sale of return-then-resale of clothing textiles?

In order to gauge the retailer perceptions of the role of public health in the return-then- resale of clothing the responses of Question 4 and Question 18 in the unstructured interview provide much of data for consideration. It was relevant firstly, to explore in general whether public health and safety concerns within the retail environment were part of the participant awareness. For many non-healthcare work environments, the closest encounter with any public health precepts or legislation are generally couched in the health and safety regulations that occur in the works space. The majority of responses, 72% at both Site Location 1, and Site Location 2 admit that the extent of the health and safety knowledge received with regards to their employment at the store comes from the company provided virtual training modules or manuals. This is followed by 24% of responses that take training cues from colleagues or other employees. Some responses include "every so often the Loss-Prevention person will call a meeting on preventing slips and falls" or "Loss Prevention will pass out brochures or reading material on such things," or "the manager usually updates us about any priority stuff, we do have some material to read on what to do for active shooter etc., but most of it is common sense". None mention the health department or other public health authorities that monitor the jurisdiction of the site locations. It was no surprise then when analysis of the responses to

Question 18 reveal that the largest percentage of responses 46%, think that public health with regard to clothing and textiles has to do with keeping the store clean. Though 9.4% equally perceives “keeping customers and staff safe from germs and hazard” Participant 032018_4 and “vaccinations staff get upon hire” as the only public health considerations with which a store that retails returned clothing needs to be concerned.

RQ4

What are the public health legislation or policies applicable to return-then-resale of clothing textiles in the retail environment? Strictly for public health from a federal standpoint, though not indicated for retail environments is Section 264, Title 42 - The public health and welfare, Chapter 6a - Public Health Service, Subchapter ii, allows the Surgeon General powers to regulate and control communicable diseases. It reads as follows:

> The Surgeon General, with the approval of the Secretary, is authorized to make and enforce such regulations as in his judgment are necessary to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the States or possessions, or from one State or possession into any other State or possession. For purposes of carrying out and enforcing such regulations, the Surgeon General may provide for such inspection, fumigation, disinfection, sanitation, pest extermination, destruction of animals or articles found to be so infected or contaminated as to be sources of dangerous infection to human beings, and other measures, as in his judgment may be necessary(U.S. Government, 2011).

Table 9

Summary of legislation that is applicable to Refund of Clothing textiles

State	State Refund Policy	Public Health Input
California	Every retail seller which sells goods to the public in this state that has a policy as to any of those goods of not giving full cash or credit refunds, or of not allowing equal exchanges, or any combination thereof, for at least seven days following purchase of the goods if they are returned and proof of their purchase is presented, shall conspicuously display that policy either on signs posted at each cash register and sales counter, at each public entrance, on tags attached to each item sold under that policy, or on the retail seller's order forms, if any. This display shall state the store's policy, including, but not limited to, whether cash refund, store credit, or exchanges will be given for the full amount of the purchase price; the applicable time period; the types of merchandise which are covered by the policy; and any other conditions which govern the refund, credit, or exchange of merchandise. (California State Legislature, 2018)	State refund policy does not apply: to food, plants, flowers, perishable goods, goods marked "as is," "no returns accepted," "all sales final," or with similar language, goods used or damaged after purchase, customized goods received as ordered, goods not returned with their original package, and goods which cannot be resold due to health considerations (California State Legislature, 2018)
Florida	The regulation of refunds is preempted to the Department of Agriculture and Consumer Services, notwithstanding any other law or local ordinance to the contrary. Every retail sales establishment offering goods or sale to the general public that offers no cash refund, credit refund, or exchange of merchandise must post a sign so stating at the point of sale. (Florida Legislature, 1995 -2018)	Nil noted
New York	A store is legally required to post their refund policy. If the store does not post any return policy, the law requires the store to accept your return within 30 days of purchase. There is no requirement under NYS law for a store to offer a refund (New York Department of State-Division of Consumer Protections, 2018)	Nil noted
Pennsylvania	transactions, such as purchasing an item from a department store, the consumer's ability to rescind or cancel a purchase, or obtain a refund, will depend upon the business policy or the particular agreement between the consumer and the business. (Pennsylvania Office of Attorney General, 2018)	Nil noted

The section is typically used solely as a crisis enforcement for national quarantine. However, it is partly the impetus for state, local, and territorial public health departments via "the Public Health Emergency Preparedness (PHEP) cooperative to build and

strengthen their abilities to effectively respond to a range of public health threats (Office of Public Health Preparedness and Response, 2018, para. 1" More dedicated laws or legislation specific to the public health implications from resale of returned items were not identified.

Summary

I sought to explore the reasonably new subject area of retailer resale of return clothing textiles from a public health, infectious disease and safety perspective. Four research question were identified to drive the enquiry using a systems framework. RQ1 and RQ2 identified that there were several processes and policies that facilitated the potential for infectious disease transmission based on the unknown nature of exposure while clothing items were in customer possession. That unknown exposure coupled with the mere visual inspection of returned clothing, and the discretionary exceptions made in the name of customer service may pose negative influence on public health and safety. Based on the research data for RQ3, store employees have a very limited training base for health and safety, and also a limited understanding of the role of public health in the clothing retail environment. Finally, RQ4 explored the legislative and legal avenues that impact the phenomenon of retailers' reselling returned merchandise from a public health and safety, infectious disease lens. It was found that though there are general federal frameworks that can accommodate legislative action, state laws did not require stores to issue refunds therefore public health protective legislation and consumer protection remained discretionary. The range of return time limits and the recovery measures for which a consumer was able is mediated by both the state's laws, the organization's

business practice, and the training and customer focus of the managers and leadership team.

In the next chapter the interpretation of these results will be discussed further with an aim to finding the points of overlap between the retail system and the public health system, then suggesting potential improvements to practice based on the implications. After reviewing and comparing current literature, recommendations and limitations of the data and the site locations will be examined to suggest future steps for furthering study of the phenomenon within other locations. Finally, in keeping with Walden University strategic goals of scholarship, opportunities for social change contributions to the field of public health and safety will be identified and assessed.

Chapter 5: Discussion and Interpretation of Results

Introduction

The purpose of this qualitative, multicase study was to explore the public health implications of retailer resale of returned clothing merchandise, specifically from an infectious disease and public safety perspective using a systems framework. The interconnectedness of the world as a global village in trade affairs and emerging infectious disease is a concern receiving attention from the CDC's NCEZID (CDC, 2015). It is an understandable concern because in the United States, reported retail services are estimated at approximately $3256 billion with an excess of $260 billion in returns (The Retail Equation, 2016). Further related to the key explorations of this research was the additional declaration of several public health agencies such as Food and Agricultural Organization, World Health Organization, and Pan American Health Organization that the retail environment maybe considered amongst the environmentally facilitative environments for pathogens and infestation agents (CDC, 2015). In purchasing new clothing from a retailer, the public enters into a good faith and good will arrangement where there is a reasonable expectation of quality and nonharm. If there are opportunities when that expectation can be breached in any manner, by infection or infestation, then that situation needs to be addressed using a public health lens, so mistakes of the past are not repeated. These mistakes include the documented anecdotal observations of the spread of smallpox in the interstate trade routes of western frontier settlements (Ramenofskyet al., 2003) to the Tylenol poisoning tragedy. The Tylenol poisoning tragedy though not textile clothing related, specifically represents the potential

of return process significance on public health and safety. Dr. Markel (2014), Director of the Center for the History of Medicine at the University of Michigan related that authorities hypothesized that someone "must have taken bottles off the shelves of local grocers and drug stores in the Chicago area, laced the capsules with poison, and then returned the restored packages to the shelves to be purchased by the unknowing victims" (para. 6). As a consequence, the FDA issued tamper proof packaging regulations, and in 1983, Congress passed the Federal Anti-Tampering Act (Jain & Jain, 2017). A more proactive approach to the return process for clothing may be warranted because it is more widely used than over-the-countermedications.

When investigating RQ4 as to whether there were current legislative protections that guide the retail practice of retailing return merchandise, I found that limited federal level protection was offered. The public health and welfare legislative or regulatory acts Title 42 Chapter § 264, Public Health Service, Subchapter ii (2011), authorizes the surgeon general to institute a quarantine on items in order to prevent transmission of communicable diseases. Under that legislative umbrella, the surgeon general may bestow specific agencies with the powers of "inspection, fumigation, disinfection, sanitation, pest extermination, destruction of animals or articles found to be so infected or contaminated" (US Government, 2011, p. 392)to handle a local or interstate outbreak when detected. Unfortunately, that detection "is complex and involves many organizations interacting in a loosely coupled manner" (Dato, Wagner, & Fapohunda, 2004, p. 469) characterized by poor communication and inconsistent data collection (Bagherian, Farahbakhsh, Rabiei, Moghaddas, & Asadi, 2017). These elements are not even considered by consumer laws,

because in the five states studied in this research, I found that return laws, process, and legislation were discretionary and left at the behest of corporate strategies.

Based on the responses to RQ3, that corporate strategy is not clear as to what public health's role in the retail system is beyond FDA enforced food and pharmaceutical regulations or CPSC enforcement of flammable fabrics for children. The role of public health in retail is demonstrably complex and poorly understood from the perspective of pathogens or infestation agent risks on saleable clothing textiles. With this initial research question, I sought to expand the knowledge on the actual operationalization of the return process beginning with the customer return and culminating with the item being replaced for sale on the sales floor. It was an important step to research because as I mentioned in previous chapters, there are limited data on the resale of returned clothing items from a public health perspective. Therefore, developing an understanding of what takes place provides the platform for identifying any potential infectious disease or general public health and safety implications currently faced.

In reviewing the summary findings of the data, the first issue I considered as important to public health and safety was the minimalist guidelines employed by stores that retail textile clothing and accept returns as part of the business process. A lack of distinct legislative guidelines or regulatory guidance means there is little or no industry standardization for sale processes that accommodate returned merchandise being replaced into the sales cycle for the average consumer. Consequently, nonstandardized actions for redress to ensure the public infection or infestation is not unwittingly passed along from

consumer to consumer. Such a discretionary stance leaves the consumers at the behest of customer service policy.

Customer service and customer satisfaction remain key variables in the infectious disease or infestation risk. On several occasions participants in the case interviews alluded to the ‘customer service’ angle as a reason to disregard or modify the established policy of the retail organization. Their revelations are no surprise since Bower and Maxham (2012) also documented the trend of retailer preference for lenient return practices. These practices are credited with increasing customer loyalty and the potential for recurrent purchases,despite potential misuse of thereturn policy spawning unprofitable, unethical behaviors by customers. Most retail organizations endeavour to cope with those behaviors through a mixture of staff training and policy.

A lack of training has displayed as another constant in the return then resale of textile clothing dynamics. Participant responses to retailer staff training showed that though companies may provide training for staff through virtual modules and process manuals periodically updated by other staff. However, more than half (52.3%) of the participants stated that training for their positions was based on observation and the hands-on practice of day-to-day protocols and processes. More directly related to public health would be health safety-training. Noticeably absent from participant responses was mention of any regular interactions with local or state health officials, despite the fact that some employees were required to be briefed on dangerous or hazardous chemicals and potential shooter/terrorist events. Public health employees were noted as complaining that the average monthly 10 hours of training on infectious diseases were not sufficient for

them to create proper tools to confidently monitor and communicate infectious disease risks (Carroll et al., 2014).

Interpretation of Findings

That lack of public health directive from either local or state stakeholders is further exacerbated by the reported lack of time, sufficient staff, and public health infectious disease training (Carroll et al., 2014). On the corporate side, a lack of awareness and corporate strategies for inclusion of relevant training and planning within organization policy or protocols again leaves consumers and the public at large with limited real protection from infestation or infectious disease outbreak. “The concept of learning is central” to CAS such as the public health system and the retail systems (Mele, Pels, & Polese, 2010). Learning systems enable creation of feedback channels that allow the systems to be flexible and adapt to changes and identify contextual patterns or pressures exerted by external events upon return-then-resale processes. From the perspective of systems dynamics in public health that learning should also facilitate scenario planning which in turn facilitates the explicit forecasting for future health system events (Peters, 2014). The current limited learning strategies that I observed in this study implied that neither retail nor public health systems are able to operate at their fullest quality health or customer safety potential. In particular public health systems appear ill-equipped to execute five of the 10 mandates for essential public health service necessary for its preventive and protective functions (Office for State, Tribal, Local and Territorial Support, 2014). The five mandates affected by poor training and learning strategies related to infectious disease, infestation, or terrorism risks in returned clothing were (a)

monitor health; (b) diagnose and investigate; (c) inform, educate, and empower; (d) mobilize community partnerships; (e) develop policies (Office for State, Tribal, Local & Territorial Support, 2014)

Coordinated training and learning strategies between the public health and retail, systems should also counter the current lack of awareness of the role of public health in the retail system with specific attention paid to the effects of the resale of returned textile clothing.

Additionally, the lack of awareness or training amplifies the gaps created by the lack of legislative guidance shown as a finding of RQ4. Not one of the five states I focused on due to their recorded highest return volumes in retail sales (The Retail Equation, 2016) treat returns as more than a mere discretionary transaction between the retailer and the customer. Consequently, staff or management's discretionary actions to accept textile clothing beyond store policy dates or with other noticeable infractions in sale quality points to the larger issue of the discretionary nature of each retail organization's return policies. Both retail locations in this study allowed the return of items and replacement where clothing appeared to pass an initial cursory inspection, and therein, lies the first risk implication. In research completed on other service industries, Almanza, Kirsch, Kline, Sirsat, and Sroia (2015) established that visual assessment of cleanliness or the ability to carry infective or infestation agents was not acceptable or reliable. For textile clothing that has been exposed to fleas as a result of its presence in customer pet environments or textile clothing exposed bed-bugs, visual assessment is often close to impossible (Bitam et al., 2010; Global Health - Division of Parasitic Diseases, 2015). These sorts of vector transmissions continue to be of concern to the

OneHealth protagonists and public health officials alike, particularly because the retail organization policies allow for return to any of the organization's locations within a specific time frame.

The acceptable time frame within return policies at retail organizations operates as a major variable in assessing the risks and implications of infectious disease, infestation or even the risk of some bioterrorism event. In the case of the transmission of bacteria, spores, or viruses, in addition to the pathogen loads, the time they have proven to remain active is troubling. The CDC has indicated that the deadly MRSA bacteria has been known to survive as long as 203 days on textiles (CDC - Division of Healthcare Quality Promotion, 2016). Similarly, Neely and Maley (2000), when trackingterry cloth and polyester blends exposed to VRE bacteria, found that bacteria remained active for up to 90 days. In both instances, the periods were longer than the 1 week, 30 days, or the 45 day upper limits allowed for the clothing return policies in the locations I explored for this study. It would not be unreasonable to hypothesize a more widespread application and risks because the organizations under study indicated on their public websites that the time limits return policies are the same as those carried out throughout most of the U.S. retail locations. Since all locations accept retail returns and replace them on the shelf for resale, members of the public with varying levels immunocompetence remain at risk when those items touch their skin or transfer to other clothing items during storage.

The viral load potential on clothing returned to the sale cycle is a public health concern for not only those consumers managing varying levels of immune dysfunction, but is a threat even for those who are unaware of their immuno-compromised status. For

the purpose of this study, persons within both these classifications would include elderly individuals, pregnant women, and individuals with “human immunodeficiency virus, asplenia, solid organ and hematopoietic transplantation, and other immunosuppressed states” (Patel, Liang, Koolwal, & Kuhlmann, 2015, p. 217).The infection or infestation potential does depend on the vector or pathogen species, the length of exposure, and individual susceptibility. Typical prophylaxis such as avoidance, or vaccination may not be effective since new store bought clothing is not often considered in preventive counselling for transmission vehicles of zoonotic infections, vector borne diseases, or even intentional bio-infection exposures. An illustration of this type of concern appeared in the Stull et al. (2014) study where they found that adults surveyed about their knowledge of zoonotic transmission risks posed by pets was low. Respondents in that study had a highly immunocompromised individual in their household but reported neither physicians or vets advised them of considerable risks that could be transmitted inter-species direct and indirect exposures (Stull, et al., 2014, p. 354)

Arguably, textile clothing storage practice at retail locations, and storage at the consumer’s location may differ, and perhaps that uncertainty of quality assurance once textile clothing items have left a store is what ends up having the greatest potential for risk and harm. During those high return periods, such as post-Christmas or during holiday events that manufacturer/store quality assurance is broken by the comingling of clothing returned from consumer environments on shelves. That practice ‘grey’ area of quality assurance may qualify as the type of unconventional, unmonitored, low-level terrorism threat area credited by Jenkins et al., (2014) as a concern. In the case of textile clothing,

the potential risk for anthrax and small pox in dust or powder form due to intentional or unintentional exposures has the ability to taint other store items in the rack or bin where the return is received or among the items on the shelf. Laundering presents no relief to the shopper because textiles that are not laundered at the over 70 degrees continue to be a breeding ground for many bacteria or viral deposits left on clothing.

Epidemiologists and disease response managers identified that risks of infectious disease spread through trade, remain underestimated (Perrings, Levin, & Daszak, 2018). It is a statement that bears merit based on the current disposition of public health authorities to retailers of textile clothing. Any deficits in hygiene and residential space among customers returning textiles add to "risks faced by society as an externality of private decisions" (Perrings,etal., 2018, p. 242) such as the spread of bedbugs where adult bugs enfolded in seams or folds of clothing can survive long periods without feeding (Global Health - Division of Parasitic Diseases, 2015). Considering that some of the reasons for returning textile clothing listed in the study interview, included unpleasant smells, presence of pet hair, return of clothing from storage of a relative that had passed or gotten worse in long-term care, public health and retail stakeholders have much to do.

Limitations of Study

Despite the increased knowledge on policy and practice that was provided by participants at case locations and the notes from observations, as well as the perusal of the retail organization policy, and public health policy there were limitations on discoveries. This was qualitative, multicase study that explored the public health infectious disease perspectives of retailer resale of returned merchandise. One key

limitation of this study remains that there is very limited empirical data available on the intersection of retail and public health systems and is consequent infectious disease implications for public health and safety. As a result, the implications data for this study is primarily gleaned from the unstructured interviews with employee participants at retail organizations. Added to the interview responses is that of the secondary data from NRF and the selected public health agencies in five of the U.S. states in which return figures are reported as highest according to the NRF (The Retail Equation, 2016). The informal observations support context and practice trends emerging from the data. The number of participant employees at the two Case Site locations, forms part of the next limitation of the study, the size of the study. While initial plans were to use five cases as the basis for this exploration of return the resale practices, a combination of corporate reluctance and saturation data resulted in a smaller sample being used to answer the research questions. The reduced case numbers will affect the generalizability of data and the contextual transferability of the findings in the study. Beyond the number of case samples, another limitation of this study lies with the fact that all the case samples are larger retail organizations, with a retail presence in most states. Consequently, findings may not apply to smaller ‘stand-alone’ or sole trader textile clothing retailers.

There was also a geographic limitation to this study. Despite the case sites being part of an established national retailer chain if stores, the employee participants are drawn from retailers in the north-eastern U.S. geographic area. Though interview assurances were that the practices discussed, and that I informally observed were store-wide and not location based. The occurrence of discretionary enforcement by retail staff, does suggest

that an investigation of practices in other geographic areas is warranted to better extrapolate findings to all U.S. locations.

Additionally, this study focused on the resale of textile clothing. It excludes baby and children's clothing, as well as other personal textile items that may share similar properties to apparel. Those items include linens, rugs, and textile home goods for which further exploration and examination would be required

Recommendations

This study provides a first look at the point at which retail industry systems and public health systems intersect in an exploration of infectious disease, infestation, and bio-terrorism implications. The findings of the study's practices and policies at the retail organization when put into a holistic system perspective, identifies potential inputs and stakeholder strategies from both retail and public health that may bolster public health protections. Those system intersections appear to be currently un monitored, and unacknowledgeable, leading me to assess that there are some dire public health implications that can occur at any time under the present system processes.

The first recommendation would be to explore and collect data from a larger and more diverse sample of retail organizations, to increase the credibility and generalizability of findings. As mentioned previously, this study was conducted at Case Sites that were part of nationwide retailer locations. Therefore, conducting explorations of single site retail operations, or smaller retail operations would provide a practical comparison that may be used to guide retailers and public health agency to improve safety practices. That would line up with the CDC's current community public health

preparedness plans which suggest cultivation of an all hazards jurisdictional assessment involving private and public stakeholders (U.S. Department of Health & Human Services, 2017). Public health agencies were encouraged to "engage with community organizations to foster public health, medical, and mental/behavioral health social networks" (National Association of County and City Health Officials, 2014, p. 34). With that holistic engagement in mind, a linked recommendation would be a survey of customers to identify return patterns or practices specifically linked to infectious disease transmissions. The NRF's return-merchandise million dollar fraud concerns (The Retail Equation, 2016), and Wachter et al., (2012) observation that "growing number of consumers may misuse the retail return policy involving ethical issues in the postconsumption final decision (Wachter et al., 2012, p. 117)"are two areas not covered by this study, but which can assist in understanding the the full system risk for all retail participants.

The next recommendation addresses public health implications that may come about based on the exposure to viruses or bacteria before being returned to the store as a return item. Though there is limited evidence that public health has not wholly embraced the retail, there are some lessons or steps that can be taken from the already known health acquired infections prevention steps. The introduction of ultraviolet C (UVC) devices at the return counter or other points in the return process may be considered for control of bacteria and viruses would be a useful recommendation (Bentley, Santoro, Gram, Dujowich, & Marsella, 2016). It has been established "UVC quickly reduced the bacterial burden on textiles to greater than 90% , and UVC may be a better disinfecting agent than FAS for Gram-negative species. (Bentley, etal., 2016, p 457)"It has been further

suggested that the efficacy of UVC eradication to the consumer can be optimized with laundering at 60C/140F and tumble drying or ironing for full eradication benefits to the customers (Smolle, Huss, Lindblad, Reischeis, & Tano, 2018). However, the actual operationalization of this recommendation would be beyond the scope of this study.

During the course of this research several retail organizations declined to participate. The reasons cited range from potential unintentional loss of proprietary data or information, to potential legal culpability if some illegal or otherwise known dangerous practice was being completed. However, that reticence to engage also indicates fear due to lack of knowledge. The fact is that replacing returned clothing back into the sales cycle does carry a risk of passing along infection to a wide range of individuals based on the individual's immunologic competency. A wider cross-section of consumer presents an equally wide cross-section of potential immunity compromised individuals that unwittingly place their health at risk with each purchase. It is a risk that can be mitigated, if the industry leaders either through the NRF, or as a priority follow-up action-item of the Department of Health and Human Services' National Academy of Sciences workshops to bring a health lens to business activity (National Academies of Sciences, Engineering, and Medicine, 2016). Further research on this activity that daily intentionally and unintentionally impacts large sectors of the public should therefore be a vehemently advocated next step. All stakeholders of both retail and public health systems need to enter into that dialogue as a matter of public health, safety, and better business practice to maintain public good will.

Finally, both the retail systems and public health systems would benefit from targeted training. For the retail organizations, there was evidence of organizational training virtually and via employee-to-employee observations, based on the responses to questions on job training, and health and safety training. Consequently, training on the ways in which infectious disease perspective applies to returned clothing might underscore the need for employees to be more vigilant in enforcing the return limits. The training can be created in short modules by public health agencies either at local or state levels, to be integrated into initial employee training, then later as periodic refreshers. This again can be derived from or supplement the priority 2 jurisdictional assessment of the Public Health Preparedness Capabilities: National Standards for State and Local Planning (U.S. Department of Health & Human Services, 2017). The process of creating such modules for retail organizations can simultaneously engage both public health and retail system stakeholders from management and policy makers to service and enforcement staff.

Implications for Positive Social Change

Shopping and buying clothing is a necessary and integral practice in today's culture and forms a large part of today's global fashion economy, of which the U.S. is a significant provider and stakeholder. Social change implications of the findings of this study occurs at several levels. Dissemination of this study via the ProQuest libraries, and presentation of summary reports to the participants at the case locations primarily creates an initial informational platform and awareness. This is important, since there is extremely limited empirical data of infectious disease, infestation, or bioterrorism risks

that may exist in resale of returned merchandise by retail organizations. This would imply that public health agency policy planners, retail organization policy makers may be all unaware of the implications and therefore not take steps to identify, evaluate and minimize the risks. Since ProQuest publications are also accessed by members of the public at local libraries, there is also the potential for education and awareness amongst members of the public, for empowering contributions to individual discussions on public safety.

Beyond ProQuest dissemination, I will attempt to engage professional and academic dialogue on this woefully unexamined area of infection and infestation transmission through dissemination amongst several publications and journals. Towards this goal I will approach several peer reviewed journals such as the Journal of Clinical Infectious Disease and Practice, Health Science, and the Journal of Infectious Disease and Pathology. Professional magazines such as the NRF STORES Magazines, and American Public Health Association publications will be approached to disseminate the findings of this study.

With dissemination of the information and awareness, this study also provides an initial look at some of the operational processes involved in the retail system and the instances at which it potentially interfaces with the public health system. This further implies a potential to influence and possibly update practice in the public health system. Considerations discovered in the course of this explorative study can be further investigated and included in the list of assessments and evaluations used as part of *'National Standards for Local and State Planning'* being promoted by the CDC.

Consequently, public health community preparedness and response to potential outbreaks may be improved.

For human resource and other corporate players at the retail organizations, the findings of this study can, may initiate considerations for evaluation and change in return-then-resale practices throughout the community. It should be remembered that several of retail organizations initially approached were reluctant and almost hostile to share information regarding retail practices with those outside the retail circle. This indicates a need for relationship building between the public health and retail systems in the community. During the 2013 Institute of Medicine Roundtable on Population Health Improvement workshop, one of the recommended business practice resolutions to increase improved health outcomes was that "exerting pressure from inside and outside institutions were important to have healthier practices. Engagement should include both the policy and the market realms. Policy is important; however, in many cases the market can move much faster" (National Academies of Sciences, Engineering, and Medicine, 2016, p. 16). The eventual diffusion of information in this study may encourage and facilitate safer business practices and health outcomes in the retail system and the communities they serve inclusive of consumers and employees at the retail organizations

Conclusions

The findings from the exploration of the retail organization practice of reselling returned textile clothing, show that there is an infectious disease implication that needs to be more thoroughly examined amongst the length and breadth of retail industry practices. The multiple divergent levels exposures in consumer homes or other setting in which the

clothing is placed after purchase and removal from the store is uncertain, and with that uncertainty lies the potential for infection, infestation, or exposure to bioterrorist agents. This study has started that reluctant conversation, that has only been explored in a very limited way within academic and clinical circles. Further exploration with various textile clothing retail models and retail channels would allow public health practitioners and retail organizations greater knowledge to evaluate implications and begin quantifying risks specific to location and item.

The NRF boasts that the retail industry, and by association the retail system, is the U.S. economy's largest private contributor with 42 million paid employees, and contributing an overall $2.5 trillion in sales on average per annum to the gross domestic product (Price-Waterhouse, Coopers LLC., 2014). Within that impressive evaluation, the return industry accounts for almost $3 billion of that sales value. Since almost all retail is a public transaction, economic valuation gives daunting contextual proof that the retail system is a large stakeholder parallel to, and coexisting with the public health system in our U.S. communities. The integral function of both to daily modern life makes it imperative that we are aware of where potential infectious disease implications lurk due either to ignorance or by reluctance to update our protections to match current knowledge and new or reemerging risk.

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Appendix A: Case Interview Protocol & Questionnaire Template

Antonette Francis-Shearer

Case Interview Protocol & Questionnaire

Date: _____ **Time:_____**

Site#_____ **Respondent Code: _____**

Thank you for agreeing to take the time to share your experience and knowledge with me during this 30-minute interview. My name is Antonette Francis-Shearer, a PhD Public Health candidate with the Walden University. The following interview questions and your responses are for the sole purpose of completion of a research study on the research topic included below. All responses will be kept confidential to myself and Walden University in accordance with the Walden Ethics committee.

Research Topic:

***Public health and safety implications of retailer resale of returned general merchandise items*?**

The purpose of this study is to explore any relationships between retail and public health and safety, by exploring public health implications of the practices involved retailer resale and return of general clothing merchandise

Questions for Unstructured Interview

1) What is your current position in your organization?
2) How long have you been employed at this position?
3) What kind of training is required for work in your position?
4) What kinds of health and safety training is available for employees?
5) What are the ways in which your organization retail clothing to the general public?
6) Out of these methods of retail, which do you believe is most popular?
7) What in your opinion are the times of the year that your store gets its most returns for clothing?
8) Do you process return of other items sold by the store?
9) What is the store policy for handling of returns of clothing items?
10) What are some of the reasons customers give for returning clothing items?
11) How does the policy for handling of returns differ for nonclothing merchandise?
12) Can you share with me what happens to clothing returns you accept?
13) Is that practice unique to your store or is it organization wide?
14) Can you share any problems with customers or clothing that have happened while returning?
15) How do you solve those problems?
16) Are there times when return of clothing is refused?
17) What happens to items like clothing, hosiery, after they are accepted for return by the store?
18) When you hear the term “public health” what do you think that means for this store’s clothing sales