Interactions between physicians and the pharmaceutical industry: A study into the perceptions of the early career psychiatrist

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Interactions between physicians and the pharmaceutical industry. A study into the perceptions of
the early career psychiatrist

by

Thomas Stark

A THESIS

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Abstract

**Background:** The pharmaceutical industry has very successfully engaged physicians through supporting medical education, patient care and medical research. New conflict of interest policy has highlighted some of the challenges to these relationships.

**Objectives:** To explore the perceptions that early career psychiatrists (e.g. those within 5 years of entering practice) have regarding their relationship with the pharmaceutical industry.

**Methods:** Data were collected through semi-structured interviews. Data were analysed using a grounded theory methodology. Theory was generated around how applicants experienced, developed perceptions around and managed their relationship with industry. Axial coding was used to generate theory around the core variable mediating the perceptions participants had about the relationship between physicians and industry.

**Results:** Participants described increasing frequency of experiences with industry as they progressed from training to independent practice throughout a variety of contexts. Perceptions around their relationship with industry developed through factors relating to their training environment, physician culture, how industry promotes its products and their own practice of medicine. In managing their relationship with industry, participants would either avoid interactions or engage in behaviours aimed to reduce the risk of becoming influenced by industry. Maintaining one’s professional integrity is the underlying driver managing the relationship between early career psychiatrists and industry.

**Conclusions:** Psychiatrists develop perceptions about industry through experience and observation leading them to develop their own strategies to manage these relationships around the critical need they have to maintain their professional integrity.
Acknowledgments

Thank you to Dr. Jocelyn Lockyer for providing me the support and guidance in this graduate programme. The dedication and commitment you have provided in my education as a researcher has gone above and beyond the role of supervisor. Your mentorship has allowed me to grow in ways I could not imagine at the outset of this project.

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Thank you to Dr. Jordan Cohen and Ms. Pauline Burgess for providing me the physical and temporal support to engage in this opportunity to develop myself as both clinician and teacher.

To the participants in this study, the early career psychiatrists of the Department of Psychiatry, University of Calgary – thank you for the time you have shared in telling me your stories and allowing me to realize what a wonderful and supportive family I am soon to join.

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Dedication

I thank my family, both original and adopted, who have unwaveringly supported my endeavours yet kept me grounded all the same. I also thank those teachers along the road who have shown me the insight to realize that perfection is no more than a daydream and that my goal is simply to be the best that I can.
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<td>AAMC</td>
<td>Association of American Medical Colleges</td>
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<td>ACCME</td>
<td>Accreditation Council for Continuing Medical Education</td>
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<tr>
<td>ACGME</td>
<td>Accreditation Council for Graduate Medical Education</td>
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<tr>
<td>AFMC</td>
<td>Association of Faculties of Medicine of Canada</td>
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<tr>
<td>AHS</td>
<td>Alberta Health Services</td>
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<tr>
<td>AMA</td>
<td>American Medical Association</td>
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<td>CFPC</td>
<td>College of Family Physicians of Canada</td>
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<td>CMA</td>
<td>Canadian Medical Association</td>
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<tr>
<td>CME</td>
<td>Continuing Medical Education</td>
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<td>COI</td>
<td>Conflict of Interest</td>
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<tr>
<td>CPG</td>
<td>Clinical Practice Guideline</td>
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<tr>
<td>fMRI</td>
<td>Functional Magnetic Imaging Resonance</td>
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<tr>
<td>IOM</td>
<td>Institute of Medicine</td>
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<tr>
<td>NIH</td>
<td>National Institutes of Health</td>
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<tr>
<td>MSc</td>
<td>Master’s of Science</td>
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<tr>
<td>PhRMA</td>
<td>Pharmaceutical Research and Manufacturers of America</td>
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<tr>
<td>RCPSC</td>
<td>Royal College of Physicians and Surgeons of Canada</td>
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<tr>
<td>Rx&amp;D</td>
<td>Canada’s Research-Based Pharmaceutical Companies</td>
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<td>UofC</td>
<td>University of Calgary</td>
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“While you are experimenting, do not remain content with the surface of things. Don’t become a mere recorder of facts, but try to penetrate the mystery of their origin.”

Ivan Pavlov
CHAPTER 1: Introduction

1.1 Historical background
Promotion of pharmaceutical goods to the physician community is a longstanding phenomenon. Recent estimates put pharmaceutical industry marketing at more than $US 50 billion per year in the USA alone, a figure which exceeds industry expenditure on research and development.1 The promotion of consumer goods by corporate structures is common and considered an acceptable business strategy. However, promotion of pharmaceutical goods to the physician community has become increasingly viewed upon as a special case warranting regulation.

In the 1980s, large gifts and payments from the pharmaceutical industry to physicians became the focus of public attention resulting in US Congressional hearings on pharmaceutical promotion.2 This led the American Medical Association (AMA) and the Pharmaceutical Research and Manufacturers of America (PhRMA) to adopt voluntary guidelines prohibiting exchange of cash payments and gifts over $US 100.3 It was felt that physician integrity was becoming increasingly disturbed through commercial influences leading to potential and real conflicts of interest (COI).

In 2006, a seminal article was published proposing significant policy changes within academic medical centres in order to mitigate and prevent negative influence by the pharmaceutical industry on physician behaviour.4 The paper’s authors, prominent figures in academic medicine, focused on concerns arising from industry support of medical education.

In 2007 after several years of deliberations, the Canadian Medical Association (CMA) revised its guidelines highlighting what it considered to be appropriate relations between physicians and medical organizations with industry.5 The following year, the Association of American Medical Colleges (AAMC) developed a report addressing industry funding of medical education and
created recommendations proposing guidelines for academic medical centres. In 2008, the Association of Faculties of Medicine of Canada (AFMC) adopted these recommendations. Despite the changes in how physicians are regulated in their interactions with the pharmaceutical industry, the public continues to be concerned. The 2010 Physician Payments Sunshine Act, under the recently legislated Patient Protection and Affordable Care Act mandates that health providers report their sources of funding which is available to the public under US federal law. A recent article in the Canadian Medical Association Journal questions Canada’s own reticence in following suit with similar legislation in Canada.

Guidelines restricting behaviours relating to COI have not been limited to the physician community. The Canadian Tri-Council group has developed an ethical framework for research involving humans that includes explicit guidelines regulating COI in institutional and research practice. The National Institutes of Health (NIH) has implemented guidelines related to disclosure of COI when applying for research funding. Corporate industry itself has responded to concerns regarding COI by restricting its representatives’ interactions and behaviours with healthcare professionals as declared through the Canada’s Research-Based Pharmaceutical Companies’ (Rx&D) and Canada’s Medical Technology Companies’ published codes of ethics. The focus of these guidelines has been on restricting interactions between industry and physicians in the context of accredited teaching and research.

1.2 Researcher’s background: a personal account
Throughout my own training in medical school and as a postgraduate resident physician specializing in psychiatry I have become personally familiar with the tensions involving interactions between physicians and the pharmaceutical industry. In medical school and postgraduate training in psychiatry I have become acutely aware of the general presence of the
pharmaceutical industry within my particular field of medicine. Moreover, I have been struck by the general lack of formal training to effectively navigate physician-pharmaceutical industry interactions while preparing to enter into autonomous practice. I have also noted wide variations in both attitudes and practice by mentors and preceptors in how they themselves interact with industry. My intention with this line of research is to explore the perceptions psychiatrists have regarding their own relationships with the pharmaceutical industry in order to improve current medical education curriculum designed to prepare trainees for practice.

1.3 Research goal
This qualitative study focused on early career psychiatrists. The overarching goal of this research project was to:

   Explore the perceptions that psychiatrists have about their relationships with the pharmaceutical industry.

1.4 Research questions
This study originated out of the following questions:

   What are the experiences of psychiatrists regarding interactions between physicians and the pharmaceutical industry?
   How have perceptions regarding interactions between physicians and the pharmaceutical industry developed throughout psychiatric training and practice?
   How do psychiatrists manage their relationship with the pharmaceutical industry?

1.5 Thesis outline
This thesis is organized into five chapters. Chapter one provides a historical look into interactions between physicians and the pharmaceutical industry. Moreover, it provides my own personal background relevant to the study. Chapter two provides a review of literature pertinent
to this topic including previous studies around interactions between physicians and the pharmaceutical industry; ethnographic, psychological and other scientific considerations on the topics of COI and influence; a review of curricula that has been used to address this issue; and a rationale for the current study. Chapter three details the methods used in this study including information about setting, study participants, data collection and data analysis. Chapter four is an analytic presentation of results of this study. Finally, chapter five integrates the findings of this study with theoretical constructs that serve to better substantiate and explain the results. Moreover, it includes implications of the findings of this study as it relates to medical curricula and discusses some of the limitations inherent in the study as well as avenues for further research.
CHAPTER 2: Review of the Literature

2.1 Conflict of interest

The main issue of concern highlighted in the literature regarding how pharmaceutical industry marketing approaches may result in negative effects on physician prescribing practices relates to COI phenomena. A COI occurs if a person 1) has duties by virtue of holding an office or position and 2) is impeded in performing those duties by 3) interests that are incompatible with the duty.\(^\text{14}\)

The Institute of Medicine’s (IOM) Committee on COI in Medical Research highlights 3 key elements of COI in medicine: 1) a primary interest around patient care; 2) a secondary interest benefiting the physician; and 3) the resultant conflict itself.\(^\text{15}\) Specifically, within this scenario, the COI is thought to occur when a physician is tempted to deviate or does deviate from their professional obligations for either economic or personal gain when interacting with industry.\(^\text{16}\)

The actual conflict motivating the physician’s interest can vary and includes factors such as fame seeking, or job promotion;\(^\text{17}\) but financial gain is recognized as the most cited and most aggressive factor in eroding the professional responsibility of the physician.\(^\text{18}\)

Issues around COI phenomena affecting the professional responsibilities of the physician to the patient are rooted in the notion that the practice of medicine is that of an altruistic profession. Society has afforded a special status to physicians with the caveat that they have an obligation to act on behalf of their patient’s interest above any other goal. Should a COI issue arise in which the patient’s interests are sacrificed for the sake of the physician’s benefit three outcomes may occur.\(^\text{17}\) First, harm might be done to the patient. Second, the trust placed by society around the integrity of the medical decision making process may be hampered. Finally, the trust patients have that doctors are acting for their benefit will be eroded. For this reason, financial
compensation for physicians comes as a consequence of treating the patient, not as a goal pursued for its own sake. \(^{19}\)

### 2.2 Interactions between physicians and industry

Research in the 1990s suggests that the pharmaceutical industry exercises considerable influence on physician prescribing practices and formulary composition. \(^{20}\) It has also been noted that the rate of drug prescriptions by physicians increases after they see a pharmaceutical representative, \(^{21}\) attend an industry supported symposia \(^{22}\) or accept pharmaceutical samples. \(^{23,24}\) Moreover, a study of 2938 physicians in 7 specialties demonstrated that 83.8\% of them had a relationship of some form with the pharmaceutical industry. \(^{25}\) The most common (70.6\%) involved food in the workplace or the receipt of pharmaceutical samples (63.8\%).

Interactions between the pharmaceutical industry and physicians fall into five categories: 1) gifts from industry to physicians; 2) detailing between representatives and physicians; 3) the relationship between medical academia and the industry; 4) differentiating industry promotion from medical education; and 5) patient perceptions of physician-industry relations. \(^{26}\)

Gifts from industry have been noted to occupy a significant proportion of industry expenses. \(^{27}\) Those defending gift giving propose that it can maintain a general sense of goodwill between physicians and industry, \(^{28}\) promote attendance at medical education events \(^{29}\) and provides for a means of compensating physicians for education that may not have been otherwise paid for. \(^{30}\) Those opposing gift giving by industry challenge that prescribing practices may be negatively biased through COI phenomena. \(^{29,51}\) Moreover, some contend that the expenses around gift giving from industry to physicians will be forwarded to the consumer thus resulting in higher medication costs. \(^{26}\)
Detailing is the practice whereby pharmaceutical company representatives meet with physicians to discuss their product. This phenomenon is a widespread practice in medicine. Proponents argue that this phenomenon may be beneficial in promoting patient care through provision of medical education on medicinal products. However, opponents provide caution in physicians using this approach due to the marketing tactics used by industry with a goal to sell their product rather than to promote appropriate patient care. For this reason it has been argued that detailing of medications may result in irrational or inappropriately expensive physician prescribing patterns.

One recent prospective cohort study highlighted the potential dangers associated with the detailing of pharmaceutical product by pharmaceutical representatives to physicians. Two hundred fifty five physicians were randomly recruited from Canadian, US and French sites to report on consecutive sales visits by pharmaceutical representatives with the primary outcome being whether minimally adequate safety information was ever discussed during the detailing session. It was noted that minimally adequate safety information, including serious adverse effects was rarely mentioned (1.7% of visits) despite 45% of medications detailed having FDA ‘black box’ warnings. Moreover, the physicians studied judged the information presented as being good to excellent in 54% of the promotions and indicated readiness to prescribe 64% of time. This research highlights some dangers associated with detailing of pharmaceutical medications and raises the concern that this process may not be adequately regulated to protect patient care.

Academic institutions and the pharmaceutical industry have shared a longstanding partnership in the development and research of new medications. Proponents argue that this relationship brings together industry and clinicians by allowing for industry resources to fund research into products
that are efficiently tested in clinical settings with the support of the clinician. A shift has occurred in the past several decades in how the research is generally conducted. Prior to the 1980s, industry made grants to academic institutions who had full control over the research carried out, thus mitigating some issues inherent in COI phenomena. More recently the norm has been to employ a multicenter trial design whereby industry uses contract research organizations to manage patient recruitment and in organizing physician groups. This has resulted in industry maintaining more control over study design, data analysis, publication and the decision on whether to publish results. This shift can be interpreted as a deliberate practice by industry in moving away from working with institutions that have mandated guidelines that promote reduced COI around medical research and the production of pharmaceuticals.

Interactions between medical academia and the pharmaceutical industry also extends to peer reviewed medical journals which are largely dependent on pharmaceutical advertisement for revenue purposes. Medical journals provide the basis for how most physicians make clinical decisions around new therapies. This is often done under the assumption that peer review allows for proper scrutiny of data and potential COI around authorship to ensure credibility in the presented data.

A recent paper highlighted the types of bias that can negatively influence prescriber behaviour in research and publication by the pharmaceutical industry. These include 1) intentionally poor methodological quality; 2) intentionally inappropriate choice of doses, dosing intervals and comparators; 3) selective publication to research only containing positive results on the product being studied; 4) discordance between results and conclusions; 5) ghostwriting or use of an expert to lend credibility to a study, despite not being involved in the research; and 6) seeding
trials or post-marketing studies done to familiarize participating physicians to the product rather than with the intention to promote research.

Most journals do require submission of a COI disclosure but the degree of disclosure varies between journals. A recent observational study highlighted a potential problem related to physician non-compliance with disclosure regulations in peer reviewed material. By comparing a database of payments to 373 physicians from publically available information from seven US pharmaceutical companies with the COI disclosures made on the physicians’ published materials it was noted that 69% of the 103 publications did not contain the disclosure listed on the database.

The pharmaceutical industry and academic centres have also had longstanding relationships around the creation of clinical practice guidelines (CPGs). CPGs serve as a tool for practitioners that incorporates various levels of scientific evidence structured by expert or stakeholder groups into a document useful for making clinical decisions around patient care. Should stakeholders involve the pharmaceutical industry, this creates a COI given industry’s aim to market its product to the patient consumer for profit. Moreover, many experts may have connections to the pharmaceutical industry either in the form of research support or financial support in disseminating the research data. COI issues related to CPGs can include both financial as well as intellectual COI. Intellectual COI is defined as academic activities that result in potential attachment to a particular point of view that could therefore affect judgment and specific recommendation. This COI category includes individual advancement in medical science and secondary benefits from publication and development of research.

One report suggests that 87% of CPG authors have had some kind of relationship with industry and that 59% had relationships with the companies whose medications were considered for
review in the CPG. Similar results have been noted in the field of psychiatric CPG development. Moreover, a recent cross sectional study which demonstrated that among 288 members of clinical guideline panels, 48% reported a COI however further study demonstrated that among panel members who declared no COI; 11% were in fact found to have one or more. This study once again highlights problems in physician disclosure around COI issues despite the existence of regulatory guidelines mandating the behaviour. In response to these concerns, the IOM and others have suggested several interventions to ensure transparency with regard to COI in the CPG development process.

Continuing medical education (CME) is the lifelong learning physicians engage in to maintain a current and effective base of knowledge. Proponents of industry support for CME have noted its utility in providing the necessary funds or venues for lifelong learning. Moreover, industry maintains that because it is responsible for the research and production of new medical products, involvement in CME will help physicians keep up to date in regards to the latest innovations and treatments. However, critics of industry sponsored CME funding argue that industry could use these venues as product promotion disguised as educational material. Carefully crafted promotion material to the unsuspecting prescriber could thus act to negatively influence prescribing practices. This has led to the argument that private industry support for CME and medical educational programming must be kept separate and distinct. These concerns have resulted in accreditation bodies such as the Accreditation Council for Continuing Medical Education (ACCME) placing strict guidelines with the hope of minimizing COI phenomena around how industry funded CME is presented.

In addition to the more formal or accredited CME, non-peer reviewed publications produced by the pharmaceutical industry are often offered to physicians at no charge. Critics of these
interactions advocate that they provide an enticing venue for the pharmaceutical industry to negatively influence prescribing patterns through the provision of faulty or incomplete information into the research on their drugs, however proponents may argue that they provide invaluable information regarding the products sold by industry that can be used to help patients.

Media attention regarding the relationship between physicians and the pharmaceutical industry has been generally negative. This distrust of interactions between the pharmaceutical industry and physicians has extended to governmental structures and regulators seeking to impose controls on these interactions. One can argue that these negative perceptions risk eroding the trust the public or the government has in the physician community to provide appropriate medical care, thus having a negative impact on interactions between the physician and the patient.

2.3 Psychological perspectives regarding COI issues inherent in interactions between physicians and the pharmaceutical industry

A recent article makes use of substantiated socio-psychological theory to explain how industry marketing strategies influence and bias physicians. It utilizes the framework introduced by social psychologist Robert Cialdini to demonstrate how common marketing practices can subconsciously influence the prescribing physician. Cialdini integrated participant observation research with pre-existing psychological theory and experimentation to develop a framework of six key principles shown in table 1 that underlie the phenomenon of persuasion and influence in human culture.
Table 1. Cialdini’s framework of persuasion and influence

<table>
<thead>
<tr>
<th>Principle</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reciprocity</td>
<td>We should try to repay, in kind, what another person has provided us</td>
</tr>
<tr>
<td>2. Commitment and consistency</td>
<td>A desire to be (and appear) consistent with what we have already done</td>
</tr>
<tr>
<td>3. Social Proof</td>
<td>Using what other people think is correct as a basis for what one determines to be correct</td>
</tr>
<tr>
<td>4. Liking</td>
<td>People will most trust those they know and like</td>
</tr>
<tr>
<td></td>
<td>a. Attractiveness</td>
</tr>
<tr>
<td></td>
<td>b. Similarity</td>
</tr>
<tr>
<td></td>
<td>c. Compliments</td>
</tr>
<tr>
<td></td>
<td>d. Contact and cooperation</td>
</tr>
<tr>
<td>5. Authority</td>
<td>An extreme willingness of people to go to almost any lengths on the command of an authority figure</td>
</tr>
<tr>
<td>6. Scarcity</td>
<td>People being more motivated by the thought of losing something than by gaining something of equal value</td>
</tr>
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</table>

The principle of reciprocity states that we should try to repay, in kind, what another person has provided us. This principle is rooted in the cultural phenomenon of the ‘web of indebtedness’, a unique adaptive mechanism allowing for the efficient division of labor, exchange of diverse goods and services, and the clustering of interdependencies that bind individuals into a society. Social research has demonstrated that the ‘social rule of reciprocity’ imposes on the recipient of a gift a sense of indebtedness and an obligation to reciprocate. Moreover, a recent functional magnetic resonance imaging (fMRI) study demonstrated that during social exchange games an ‘intention to trust’ brain signal predicted repayment according to the rules of social reciprocity. A similar study using fMRI technology demonstrated that a sponsor’s logo (previously identified by association to the participants according to financial reimbursement received for participating...
in the study) when flashed near a picture of a painting would positively improve the subject’s preference for the painting. The ‘social rule of reciprocity’ exists irrespective of the size or value of the gift. This is thought to be an unconscious process which is supported by substantial data negating the belief that many physicians have stated that receiving small promotional items does not undermine their professional integrity.

‘Commitment and consistency’ refers to a desire to be (and appear) consistent with what we have already done. This principle is rooted in the perception that inconsistency is thought to be an undesirable human trait and a consistent world is theorized to provide a sense of ease in preventing humans from having to expend mental energy in constantly sifting through relevant facts. Social scientists have demonstrated that consistency is introduced via the mechanism of commitment. The research demonstrates that commitment to a decision introduces bias to similar decisions in the future.

Medical epidemiological research has demonstrated that physicians, particularly general practitioners, exhibit narrow (or restricted) prescription patterns of preferred medications even in cases when there is a broad choice. Although a more recent study does suggest physician prescribing habits to be less entrenched that previously conceived, it also demonstrated that the physicians who were narrow prescribers tended towards the most advertised drugs. This phenomena could be representative of the commitment and consistency strategy wherein industry influences the prescriber by first having them commit to a heavily advertised product then allowing the subconscious effect of consistency to maintain the narrow prescription choice of available products.

‘Social proof’ refers to using what other people think is correct as a basis for what one determines to be correct. This principle is powered by the assumption that when the majority of
others exhibit a given behaviour, it has been previously tested to be correct\textsuperscript{75-77} and therefore is theorized to save one from expending the mental energies from sifting through the component facts.\textsuperscript{55} Two studies have highlighted the principle of social proof in the marketing of pharmaceutical medications. One study demonstrated that exposure to promotional items of a medication increased medical students’ favourable attitude to that medication.\textsuperscript{78} This is likely due to the principle of social proof of the medication’s use being enhanced through its promotion. Another more recent study demonstrates that the removal of industry’s ability to provide social proof by creating restrictions in interactions between industry and medical school programs resulted in decreased likelihood to prescribe heavily marketed medications after graduation.\textsuperscript{79}

‘Liking’ refers to the principle that people will most trust those they know and like. Consumer research has demonstrated that the strength of the social bond between the marketer and the consumer is more likely to result in the preference to purchase a product, rather than the features of the product itself.\textsuperscript{80} Cialdini compiles the social research data to highlight four components that enhance the affinity between a consumer and the salesperson. These include 1) the physical attraction of the salesperson,\textsuperscript{81} 2) the similarity between the consumer and salesperson,\textsuperscript{82-84} 3) compliments offered by the salesperson to consumer\textsuperscript{85-88} and 4) the degree of contact between the salesperson (or product) and consumer.\textsuperscript{89,90} This principles is often used by pharmaceutical representatives who have disclosed the use of forming relationships and social bonds as a means to influence the physician to prescribe a medication or product.\textsuperscript{54}

Authority refers to an extreme willingness of people to go to almost any lengths on the command of an authority figure.\textsuperscript{91,92} This is theorized to be powered by the advantage of a widely accepted and multilayered system of authority in the development of necessary sophistication for resource
production, trade, defense, expansion and social control of the society. By submitting to a recognized authority, one is able to trust certain decisions deemed to be out of one’s control.\textsuperscript{55} The pharmaceutical industry typically engages in high status, respected, academic physicians, known as key opinion leaders to guide and influence their peers.\textsuperscript{93} Moreover, industry’s influence in CPG development\textsuperscript{43-45} demonstrates another aspect of maintaining authority over the clinical decision in the prescription of medications. The use of key opinion leaders by industry also reflects another principle highlighted in the Cialdini framework. ‘Scarcity’ refers to people being more motivated by the thought of losing something than by gaining something of equal value.\textsuperscript{94,95} By working with industry and having access to research funding, consultation fees and increased publication productivity, key opinion leaders will therefore receive both the physical rewards along with the psychological reward of acknowledgment for their position.\textsuperscript{54} However, one can surmise that due to their reliance on the pharmaceutical industry for support, they are at risk for loss of these rewards in the case of non-compliance to industry’s influence.

2.4 Ethical and public policy perspectives regarding COI issues inherent in interactions between physicians and the pharmaceutical industry

Some ethical considerations underpinning COI issues were illustrated via a series of experiments demonstrating the psychological forces that shape decision making when choosing between honesty and dishonesty. In one experiment, it was demonstrated that decreasing the chances of ‘getting caught’ cheating when being paid to answer questions correctly would increase the rate of cheating. Interestingly, the rate of cheating tended to level out, which on further experimentation was determined to correlate with what the participants were told was the ‘average’ correct response by the researchers.\textsuperscript{96,97} It therefore appears that cheating or committing acts that may be ethically unsound (such as in the case of COI phenomena) may have strong social determinants of conformity. Researchers then manipulated awareness of moral
standards by having one group of participants recite the ‘ten commandments’ prior to being
provided the opportunity to cheat. This interestingly resulted in decreased rates of cheating,\textsuperscript{96,97}
providing an indication that morality is a fluctuating phenomenon depending on context and
circumstance.\textsuperscript{6} A more recent study further validated this phenomenon by demonstrating that
providing residents with reminders of self-sacrifice would increase their comfort in receiving
gifts from industry.\textsuperscript{98} This study serves to validate the theory that morality or the decision to be
ethical is in fact a non-static phenomenon that can be affected by both factors intrinsic and
extrinsic to the individual.

The model of bounded ethicality has been used to provide a public policy perspective around
mitigating the negative effects related to COI issue during interactions between physicians and
the pharmaceutical industry.\textsuperscript{99} Bounded ethicality refers to the systematic and predictable ways
in which humans act unethically beyond their awareness.\textsuperscript{100} In order to mitigate the effects of
bounded ethicality, it was proposed that factors be identified that lead physicians to provide
treatments and recommendations that depart from optimal patient care, then institute a complex
set of legislative and professional incentives to counteract these corrupting influences.\textsuperscript{99}

A recent paper highlighting the relationship between industry and medicine identified an
alternative perspective known as the ‘principle-agent approach’ to reduce the risk of COI
issues.\textsuperscript{101} The principle-agent problem, elaborated in economics, identifies principles as being
entities or persons who engage agents with superior knowledge in a particular area to advance
interests.\textsuperscript{102,103} The principle therefore is challenged to identify whether an agent is really
promoting the principle’s interests or an alternative interest specific to the agent. The solution to
this problem would be to align the incentives between the principle and the agent. A public
policy perspective employing the ‘principle-agent approach’ has been suggested whereby outside
influencers such as government or academic associations provide legislation and incentive for industry in adhering to principles inherent in promoting the interest of the patient rather than profit to better align the interests of the physician (the principle) and pharmaceutical industry (the agent).\textsuperscript{101,104}

2.5 Curriculum interventions targeting interactions between physicians and the pharmaceutical industry

Physicians tend to develop prescribing and professional habits during residency.\textsuperscript{105} The AAMC, AFMC and the Accreditation Council for Graduate Medical Education (ACGME) have all recommended that training targeting interactions between physicians and the pharmaceutical industry be included in medical training curricula.\textsuperscript{6,7,106,107} The ACGME has incorporated residency training of these interactions within the professionalism sphere of its core competency model.\textsuperscript{107} Despite these developments in the US, the Royal College of Physicians and Surgeons of Canada (RCPSC) and the College of Family Physicians of Canada (CFPC) have not as of yet addressed this need in accreditation and training standards.

Some research has emerged studying the effect of resident curriculum interventions on the behaviours and attitudes of physicians when interacting with industry.\textsuperscript{98,108-113} In 2008, a systematic review of curricula on relationships between residents and the pharmaceutical industry in the US was published. The report concluded that there is a paucity of curricula addressing this relationship and there exists an inconsistency in content, application and evaluation regarding the impact of curricula found.\textsuperscript{114}

One recent study used US national prescribing data from 1652 psychiatrists from 162 residency programs to compare antidepressant prescribing patterns according to physicians who graduated prior to 2001 and subsequent to 2008.\textsuperscript{115} This represented two distinct groups based on an
educational paradigm in which prior to 2001 COI policy adoption was scant in residency programming as opposed to after 2008 when it was more or less ubiquitous. The post 2008 group was further subdivided according to minimally restrictive, moderately restrictive and maximally restrictive COI policies. The outcome data demonstrated that the pre-2001 group demonstrated prescribing trends towards more heavily promoted, brand reformulated or brand name antidepressants and that the difference was greatest when compared to maximally restrictive programs. These findings do suggest that medical education strategies that prohibit industry interactions can result in prescribing behaviours that appear to be less influenced by industry.

2.6 Providing a rationale for an analysis of interactions between physicians and the pharmaceutical industry

Although the research does indicate that trainee perception regarding COI can change with these types of interventions, the literature also demonstrates that level of contact with industry after graduation remains constant regardless of whether or not an intervention has been applied.¹⁰⁹ The implication of this research is that industry contact may be an unavoidable aspect in the delivery of healthcare. For this reason, medical or resident education must focus on shaping both the perceptions and the behaviours of trainees. Curriculum must elaborate beyond a dissemination of guidelines and provide a behavioural approach to education that would ultimately teach the trainee to effectively interact with industry while mitigating the risk to the fiduciary relationship with their patients brought on by real or potential COI.
CHAPTER 3: Methods

3.1 Study design: grounded theory

In order to understand the perceptions early career psychiatrists have regarding interactions between physicians and the pharmaceutical industry, this study required an exploratory qualitative design utilizing a grounded theory approach. The purpose of the grounded theory tradition in qualitative data analysis is to develop a unified theoretical explanation for a process that is generated from data obtained by participants who have experienced the process under study.116,117 This tradition of inquiry is well suited to the overall goal and questions addressed by this study in that 1) there is a paucity of research and theory around how physician perceptions of industry interactions are developed in training and practice, and 2) development of such a theory could provide framework for further research or to inform curriculum for trainees.

Grounded theory emerged from the field of sociology in 1967 by two researchers, Glaser and Strauss who felt that systematic approaches to qualitative data analysis at the time were inappropriate to understanding the processes experienced by participants under study.116 They felt that previous methodology within their field provided for an emphasis on theory testing rather than theory generation.118 Within their seminal publication, they argued for a methodology that consists of flexible analytic guidelines that allow researchers to focus their data collection in order to create and build theory.118,119 Although the general methodology was further refined in future publications,117,120,121 the two founders of grounded theory eventually parted due to disagreements about the meaning and procedures of the methodology.116 Strauss eventually came to collaborate with Corbin in the publication of several books describing a concrete methodology of inquiry into grounded theory.117 The current study has been designed according to the principles of grounded theory as laid out by Corbin and Strauss.117
Grounded theory consists of an iterative, comparative, interactive and abductive process of data analysis. The methodological underpinnings of grounded theory have been defined as applying the use of: 1) theoretical sampling, 2) an iterative process, 3) constant comparisons, and 4) systematic treatment of data through coding. The data itself may include interviews, focus groups, field observations, published documents, reflective pieces and open ended survey material. The type of data used is informed by the principle of theoretical sampling. This technique informs the researcher to fully explore questions related to the study by maximizing opportunities to: 1) develop concepts according to their properties and dimensions, 2) uncover variations and 3) identify relationships between concepts.

Grounded theory also makes use of an iterative process in which data collection and data analysis occur simultaneously. Analysis of data for emergent themes can be used to inform incoming data. This allows for flexibility in alterations of the data collection protocol so that it can be adapted to better address the research questions. This analytic comparison of data for similarities and differences has been referred to as the constant comparison technique.

The data itself is analyzed by a process known as coding. This allows for the development of themes and theories from the data by extracting concepts and developing them in terms of their properties and dimensions. Initially the codes are structured according to concrete measures delineating concepts, but throughout the iterative process the codes are reorganized according to increasing levels of abstraction and relations to each other in order to develop a theory central to the research question. The process of reorganizing the codes is informed by the use of memos, which are written records of analysis that emerge from analyzing the codes within the context of the data source.
Throughout the iterative process, the researcher remains vigilant for a time in which data collection is no longer contributing to: 1) the development of categories in terms of their dimensions and properties, 2) variations of these specific dimensions and properties and 3) the delineation of relationships between concepts. This is referred to as thematic saturation and represents an end point for data collection.

3.2 Setting

This study was undertaken in the province of Alberta. For reasons including financial practicality and ease of access we focused on the metropolitan area of Calgary. Calgary is a city with a total population estimated at 1,120,225. The health care system in Alberta is a government funded institution and is administered by the Alberta Health Services (AHS), Calgary Zone. There are five tertiary care centres in addition to many outpatient facilities operating in the Calgary Zone under the umbrella of AHS.

Undergraduate medical training, postgraduate medical training and continuing medical education in the city of Calgary is administered by the University of Calgary (UofC). In addition to its role in training physicians, the UofC is actively involved in medical research which includes establishing partnerships with the pharmaceutical industry for research into medication efficacy and effectiveness.

The RCPSC and CFPC are the respective accrediting organizations for specialist and family physicians in Canada. In addition to accreditation, these organizations are active in setting standards for medical training, patient and physician advocacy issues and establishing policy around physician behaviours and practice.

The Canadian health care system is governed according to Canada Health Act whose principles are: 1) public administration, 2) comprehensiveness, 3) universality, 4) portability and 5)
accessibility. These principles have generally ensured that most health services are administered by provincial authorities and that most physicians are funded by public finances. Medication remains largely uncovered for most from the public purse, however patients are often supplemented through employer drug benefit insurance schemes; or less often publically funded income or disability support. This circumstance facilitates interactions between the largely publically funded physician prescribers and the private pharmaceutical industry.

3.3 Research team
The research team consisted of the researcher, Thomas Stark (TS); a research supervisor and principle investigator, Jocelyn Lockyer (JL); two research assistants, Amanda Berg (AB) and Rhea Balderston (RB); and supervisory committee members Nancy Brager (NB) and Keith Brownell (KB).

Dr Thomas Stark, Dr Amanda Berg and Dr Rhea Balderston are physicians currently training in the postgraduate psychiatry residency training programme at the University of Calgary. Dr Stark is also enrolled in a postgraduate Master’s of Science (MSc) programme, in the area of Community Health Sciences with a specialization in medical education through the department of Faculty of Graduate Studies at the University of Calgary. This thesis represents the research component to his MSc qualification.

Dr Nancy Brager is an associate professor at the University of Calgary, Department of Psychiatry and current chair of Continuing Professional Development at the Canadian Psychiatric Association. Dr Brager has an interest and extensive work experience in medical education.

Dr Keith Brownell is a professor at the University of Calgary in the Department of Clinical Neurosciences. Dr Brownell has served as a residency program director and was postgraduate
medical education associate dean for nine years. He has over 60 peer reviewed publications and has received numerous awards recognizing his contributing to teaching and education. Dr Brownell has an interest in professionalism issues as demonstrated through publications and involvement as co-chair in the Physicianship course at the University of Calgary, undergraduate medical education.

Dr Lockyer is a professor in the Department of Community Health Sciences and Senior Associate Dean of Medical Education at the University of Calgary. She has an extensive publication record in continuing medical education. Dr Lockyer’s research has focused on physician learning, needs assessment, outcomes of educational interventions and physician assessment using both qualitative and quantitative methods.

This diverse group of specialists in psychiatry, research and medical education was assembled in order to ensure a wide range of experiences and perspectives throughout the research process, thus ensuring integrity and validity with respect to the data analysis.

3.4 Study participants and recruitment
This study employed the technique of theoretical sampling in order to fully explore the research question. One element of theoretical sampling employs the purposeful selection of ‘information rich’ participants to better understand the central phenomenon.\textsuperscript{126} Psychiatry as a specialty in medicine can be considered prone to engaging in physician-industry interactions. Given the plethora of research and marketing of medications used in the treatment of mental illness, psychiatrists are a prime target for industry marketing. Psychiatry and the pharmaceutical industry have a long history of interactions\textsuperscript{127-131} and surveys of psychiatry residency training directors have indicated a paucity of formal policy and training around physician-industry interactions.\textsuperscript{130,131}
One central question guiding this project is to determine how industry-physician interactions developed through training and practice. In order to answer this question, we purposefully recruited early career psychiatrists. We assumed that this group would be in an active phase of learning and reflection due to their recent entry into their professional role. Moreover, this group represents a set of physicians who likely experienced similar training around industry interactions with the more recent implementation of guidelines regulating physician-industry interactions; and the interactions between industry and training or research environments.\textsuperscript{5-7,10-13}

According to this set of assumptions, for the purpose of this study an early career psychiatrist was defined as having graduated from residency no more than 5 years prior to data collection. Medication prescription by psychiatrists is likely a ubiquitous phenomenon (with the possible exception of those engaging in purely psychotherapeutic modalities). For this reason, we purposely selected psychiatrists from a variety of practices. This included both inpatient and outpatient settings as well as those working with children, adults or the elderly. Moreover, given that there are multiple recognized and unrecognized subspecialties within psychiatry, we attempted to sample across these areas of discipline. Finally, although the vast majority of early career psychiatrists have graduated from the University of Calgary Psychiatry Postgraduate Residency Training Programme, participants who graduated from other residency programs or medical schools were actively recruited. This ensured that researchers could assess whether the theoretical constructs that were being developed were not solely accounted for by a local training phenomenon.

To ensure rigor in purposeful sampling, academic and professional profiles were collected from each consenting participant (Appendix I). This was done to ensure that theoretical sampling accounted for an appropriate range of early career psychiatrists in regards to: 1) sex, 2) year of
graduation from postgraduate training, 3) total time in practice since graduation, 4) medical school location of training, 5) postgraduate location of training, 6) whether they had additional fellowship training, 7) type of practice and 8) involvement in private practice.

The mechanics of recruitment involved eliciting involvement via email or letter from contact information obtained by the College of Physicians and Surgeons of Alberta (CPSA) website. Fortunately the CPSA website indicates a date of certification at the RCPSC level which was helpful in distinguishing the early career psychiatrist. A ‘snowball’ technique in which study participants were asked to inform other potential participants was also used for recruitment. Finally, consultation with senior members within the Department of Psychiatry provided further information regarding potentially suitable participants that could be enrolled in the study.

3.5 Data collection

3.5.1 Interviews

An interview is a purposeful interaction in which one person obtains information from another.\textsuperscript{132} It has been a longstanding method of data collection in qualitative research. Interviews can be useful when researchers: 1) need to obtain information that is inaccessible through observation alone, 2) desire to probe participants for attitudes, interests, feelings, concerns and values, 3) wish to follow up with questions on issues that emerge spontaneously in conversation and 4) discuss issues that may be considered too personal to discuss in groups.\textsuperscript{126} This study was designed to use interviews as the sole method for data collection. Given the sensitive nature of the research questions, it was felt that a focus group setting would inhibit full disclosure of perceptions by the participants on the subject. Moreover, this study had a primary focus on perceptions, rather than behaviours and therefore would not lend itself well to an observational component.
The interview itself consisted of a semi-structured format (*Appendix 2*). In order to ensure integrity of data, the questions were carefully crafted around various guiding principles including: 1) minimizing any introduction of bias or personal perceptions of the interviewer, 2) exploring the issue and the individual questions initially in an open ended manner, 3) use of carefully selected probes to ensure breadth and promote discussion, 4) ensuring that all domains of the research goal and guiding questions are addressed and 5) remaining open to changes in interview protocol throughout the data collection process. The rationale around these principles was to obtain a wide breadth of information that was targeted to the research question being addressed while minimizing the risk of data contamination by the interviewer.

### 3.5.2 Interview process

The initial two interviews were conducted by researcher, TS under the supervision of thesis supervisor JL. This was done to ensure the quality and integrity of the interview process itself by having a researcher with a strong background in interview data collection. Given JL’s senior role in the Faculty of Medicine, it was decided that it would be best for TS to continue with the remaining interviews by himself. There was concern that her presence may inhibit discussion around the data participants may disclose.

Throughout the interview process, TS sought follow-up on various responses and clarification to ensure a complete understanding of the participant’s perceptions. Moreover, TS would also attempt to link previous statements or comments made by the participant with incoming data in order to better understand their experiences and provide a larger breadth of rationale to their perceptions. This allowed for a free flowing conversation amenable to stimulating thought and conversation on the topic.
Due to the sensitive nature to potential issues around industry interactions, it was important for the interviewer (TS) to maintain a general sense of curiosity and lack of judgment throughout the process. This was particularly important given that TS is currently training as a psychiatrist himself and therefore carries an additional role of colleague and trainee to the participants interviewed. In order to create a safe environment, the participants were assured prior to the interview that the role of data collection was to create a theory around physician-industry interactions rather than focusing on the specific individual interactions themselves. They were also informed that their experiences may contribute to training interventions that better prepare psychiatry and physician trainees. Finally, although it was explained that confidentiality cannot be entirely assured during the process of data analysis by other researchers, TS did indicate that all transcripts would be personally examined to remove all possible identifying information linking the interviewee, others or institutions to the documents prior to dissemination to the research team. Moreover, the detailed academic and professional profiles would not be made available to researchers aside from TS, thus further ensuring confidentiality. Participation in the interviews was voluntary according to principles of informed consent (Appendix 3). Participants were free to withdraw from the study at any point. Participants were informed they could ask to end the interview at any point and could contact TS in case they would prefer to have their data excluded from the study.

3.6 Data Analysis

The interviews were audio recorded and then transcribed for data analysis. The audio files were made available to a professionally trained administrative and medical transcriptionist through a password encrypted, cloud based storage service within 2 days of each interview. The academic and demographic data collected for each participant was not made available to the
transcriptionist to minimize identification. Furthermore, the transcriptionist was informed of the guidelines around data handling and disclosure of participant data. The transcribed reports identified the participants by number rather than by name and were made available in an encrypted password protected state to TS for verification and further anonymization. Verification consisted of ensuring correctness of the transcription by comparison to audio file. Anonymization consisted of omitting: 1) any information personally identifying the participant; 2) other individuals mentioned during the course of the interview; or 3) specific institutions or places of work that could link the participant to the transcript. Once verification and anonymization was complete, a password protected encrypted digital copy of the file was made available to the research team.

Researcher, TS made use of the NVIVO 10 software suite as the main database aid in analysis of transcript data. The previously described methodological underpinnings of grounded theory were adhered to during all stages of data analysis. Moreover, the research team made use of memos to aid in analysis throughout. Memos are written records of analysis\textsuperscript{117} and the research team used them: 1) as a reflective means to discuss concepts related to analytic thought, 2) to maintain a coherent and narrative account of the research process and 3) to maintain communication between TS and other members of the research team. The memos themselves took the form of email threads, committee meeting minutes, text messaging and notes written during interview sessions or meetings between individual researchers.

\textbf{3.6.1 Open coding}

According to the traditional of grounded theory,\textsuperscript{117} the process of coding the data occurred simultaneously with the process of data collection. This ensured an iterative and reciprocal process informing both phases.
Open coding grouped the data according to the main questions addressed during the interview process. This allowed the researchers to compare the emerging concepts with the overall research goal and questions, thus providing assurance that the data collection was open to a wide range of potentials and possibilities. These lower level concepts are categories of data grouped into common conceptual labels that provided the researchers with a language for talking about the data. The initial framework was validated by independent coding of the first two transcripts by both JL and TS and then compared for discrepancies. Any differences were discussed and discrepancies were handled by consensus. Further validation was achieved later in the data collection/open coding process by provision of one transcript each to KB and NB (supervisory committee members) to verify that the emerging coding scheme fully represented the data according to the principles laid out by the research goal and questions. Any differences were discussed and discrepancies were handled by consensus.

3.6.2 Higher level emerging themes

Lower-level concepts point to, relate to and provide detail for higher-level concepts and themes. Each level, from raw data to lower-level concepts to higher-level concepts represents an increase in abstraction and a gain in exploratory power. This process ensures that the higher-level concepts remain grounded in the data.

After agreement was achieved regarding the general outline of open coding, TS independently assessed all transcripts for higher-level emerging themes. AB and RB (research assistants) were provided access to all transcripts and open coding data for independent analysis. Memos of emergent themes were formulated and discussed with TS. Any discrepancies were handled by consensus. JL was also provided with access to all transcripts and memos of emergent themes were formulated and discussed with TS. Any discrepancies were handled by consensus. This
process allowed for a comparative, iterative and collaborative approach to the development of the higher-level themes.

The work was reviewed by supervisory committee members KB and NB after submission for input and review. Consensus was achieved from all members of the research team in regards to which higher-level themes were represented in the data according to the research goal and questions.

3.6.3 Axial coding
Axial coding is the process of crosscutting or relating concepts to each other.\textsuperscript{117} Although this represents a higher-level abstraction of data, this generally occurs simultaneous with both open coding and analysis for higher-level emergent themes. It makes use of interpretations to better understand the underlying meaning of the data and provide links relating concepts and themes inherent in the data. In summary, it provides a means of relating higher-level concepts to each other to make sense of the phenomenon and better clarify the information around the research goals and questions.

This process involves analyzing the data through the lens context and process. Context refers to the set of conditions that give rise to the problems or circumstances in which the participant is responding to.\textsuperscript{117} As data were analyzed and contextual themes identified, the interview process itself was adapted to highlight these issues to further explore the research question. Process refers to ongoing responses to problems or circumstances arising out of the context.\textsuperscript{117} Analysis of the process allows the researcher to identify a set of patterns that consistently provide an approach to how the participant responds to the contextual environment.

A tool useful to identify context is that of the paradigm. This is defined as a set of questions that can be applied to data to help identify the relationships between context and process.\textsuperscript{117} The
questions are designed to clarify: 1) the conditions relating context to process, 2) the interactions and emotions of the participants to the context and 3) the consequences to these interactions. Finally, Corbin and Strauss describe using a conditional/consequential matrix to stimulate thought regarding a wide range of possible conditions and consequences that can enter into the matrix. This tool further clarifies the interaction between process and context by: 1) connecting conditions to interactions/emotions to consequences, 2) tracing the relationships between macro and micro levels of the process and 3) recognizing that conditions and consequences can change according to context thereby affecting the interactions between the elements of the paradigm.

The iterative and collaborative approach continued during this process of data analysis. Researchers TS, JL, AB and RB independently and collaboratively analyzed higher-level emergent themes into a model of relationships. The work was validated by supervisory committee members KB and NB after submission for input and review.

3.6.4 Theoretical integration
Integration makes use of these relationships and the overall context of the phenomenon to link higher-level concepts around a core category or theoretical construct. This core construct: 1) must be abstract, 2) appear frequently in the data, 3) must be logical and consistent with the data, 4) should lend itself to the development of a more general theory and 5) grow in depth and explanatory power through statements of relationship between it and other categories. Methodologies used by TS to formulate and validate a core construct included: 1) use of integrative diagrams, 2) retelling the narrative around the central theory using categories or concepts derived from research and 3) integrating data derived from memos into the central theory. This was further refined according to Corbin and Strauss’ methods through collaboration.
with JL, AB and RB by: 1) reviewing the scheme for internal consistency and logic, 2) filling in poorly developed categories, and 3) trimming excess data and ideas that did not address the research questions.

The final theory was validated by comparing it to raw data from transcripts for fit and presenting it to the supervisory committee for discussion and analysis.

3.7 Protection of the participants: confidentiality and privacy
Throughout this study, the risk of unauthorized external or internal access to identifying information of research participants was minimized through several active interventions. All study participants signed consent forms prior to inclusion (Appendix 3). The consent forms included information on how the data was to be handled and emphasized that consent could be withdrawn at any point. Interviews were transcribed in digital format and loaded onto a password protected computer on the day of interview. Digital files on the device were subsequently deleted from record. The transcriptionist was given access to the digital files via a password encrypted cloud-based internet service after being instructed on the protocol for maintaining the confidentiality and privacy of participants. The transcriptionist was not provided with academic and professional profiles of the participants and was instructed to omit identifying names from transcripts. Transcripts were provided to TS in password protected format that identified participants by number rather than name. Transcripts were then analyzed and anonymized by TS for any information linking the participants or others prior to dissemination to the research team. The transcripts were maintained in encrypted password protected format during dissemination. The data analyzed were maintained on a password protected computer within the NVIVO software system. All printed transcripts, coding or any other information with a risk to link
participants were discarded via a secure external service used in the shredding of medical records.

3.8 Standards of rigour

Rigour was maintained according to Kuper’s principles in critically appraising qualitative research\textsuperscript{133} and Chiovitti’s principles of maintaining rigour in grounded theory research.\textsuperscript{134}

*Credibility* was maintained by: 1) using the participant’s actual words in the development of theory, 2) consistently articulating all researchers’ own biases and personal views through the analytic process and 3) allowing participant data to guide the inquiry process. *Auditability* was addressed by inclusion of a rational for the participants being studied according to the research goals and questions in addition to contextual setting of the study. It also was addressed through systematic description of data collection and data analysis methodology. Auditability was ensured by inclusion of multiple researchers from a variety of backgrounds that represent both diverse yet specialized viewpoints on the subject matter during all phase of data analysis. *Fittingness* refers to the transferability of the study. It was ensured by clearly delineating and describing the participant sample and the contextual setting that can influence the emerging theory. Moreover, concepts and theory derived from research were compared to existing literature for validity and to add breadth to the study. Finally, in order to achieve the standards of rigour so as to assure a complete thematic analysis of the main research questions, the principle of thematic saturation was applied. Thematic saturation refers to an endpoint defined according to when the development of categories in terms of their properties and dimensions no longer emerges from additional data collection.\textsuperscript{117}
3.9 Ethics

This project was approved by the University of Calgary Conjoint Health Research Ethics Board on October 17 2012 (Ethics ID: E-248856)
CHAPTER 4: Results

This chapter will: 1) describe the academic and professional profiles of interview participants; 2) analyze the interview data by open coding according to a framework informed by the initial research questions and interview structure; 3) analyze the data through axial coding; and 4) identify the core theoretical variable defining the perceptions that psychiatrists have about their relationships with the pharmaceutical industry.

4.1 Interview participants

A total of 31 early career psychiatrists were identified through survey of the CPSA website and offered participation by email. Of the 31 early career psychiatrists, 19 volunteers consented to be interviewed during this study. None of the 19 participants withdrew consent during or after the research process. All participants were trained under the Canadian postgraduate psychiatry training system with the exception of one participant who trained outside of Canada. The interviews themselves ranged from 38 to 52 minutes in length and the resulting transcribed documents ranged from 13 to 23 pages (single space, times new roman, font size 12).

Purposeful sampling captured data from a wide range of participants as per criteria of: 1) time in practice (ranging from less than 6 months to 5 years); 2) sex; 3) medical school training location; 4) postgraduate psychiatry training location; and 5) type of practice. A brief summary of participant academic and professional profiles can be seen in table 2. Please note that due to the small community of early career psychiatrists, the author of this paper has purposefully generalized certain aspects of the demographic information collected (Appendix 1) for the purpose of protecting the participants from identification.
Table 2. Academic and professional profiles of interview participants

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Total (n = 19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>9</td>
</tr>
<tr>
<td>Female</td>
<td>10</td>
</tr>
<tr>
<td>Time in Practice</td>
<td></td>
</tr>
<tr>
<td>Less than 6 months</td>
<td>2</td>
</tr>
<tr>
<td>6 months to 2 years</td>
<td>9</td>
</tr>
<tr>
<td>2 to 4 years</td>
<td>3</td>
</tr>
<tr>
<td>4 to 5 years</td>
<td>5</td>
</tr>
<tr>
<td>Year of graduation</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>6</td>
</tr>
<tr>
<td>2009</td>
<td>1</td>
</tr>
<tr>
<td>2010</td>
<td>1</td>
</tr>
<tr>
<td>2011</td>
<td>7</td>
</tr>
<tr>
<td>2012</td>
<td>4</td>
</tr>
<tr>
<td>Medical School</td>
<td></td>
</tr>
<tr>
<td>University of Calgary</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
</tr>
<tr>
<td>Postgraduate Training</td>
<td></td>
</tr>
<tr>
<td>University of Calgary</td>
<td>15</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
</tr>
<tr>
<td>Type of Practice*</td>
<td></td>
</tr>
<tr>
<td>Inpatient</td>
<td>13</td>
</tr>
<tr>
<td>Outpatient</td>
<td>18</td>
</tr>
<tr>
<td>Consultation liaison</td>
<td>6</td>
</tr>
<tr>
<td>Some private system employment</td>
<td>3</td>
</tr>
<tr>
<td>Majority time in public system</td>
<td>19</td>
</tr>
</tbody>
</table>

*Please note: most participants were employed in more than one practice type
4.2 Open coding of transcript data

Open coding of this study involved an analysis of transcribed interview data according to the framework provided by the overall research project goal and questions. The main research questions in this study included:

1) What are the experiences of psychiatrists regarding interactions between physicians and the pharmaceutical industry?

2) How have perceptions regarding interactions between physicians and the pharmaceutical industry developed throughout psychiatric training and practice?

3) How do psychiatrists manage their relationship with the pharmaceutical industry?

Open coding analysis of the main research questions allowed the researchers to provide a framework in applying the emerging higher level concepts to the main research goal of exploring the perceptions that psychiatrists have about their relationship with the pharmaceutical industry.

4.2.1 What are the experiences of psychiatrists regarding interactions between physicians and the pharmaceutical industry?

Transcript data were analyzed according to the general experiences psychiatrists have had in their interactions with the pharmaceutical industry. Data were coded according to 1) the participants’ experiences progressing from the pre-medicine, to medical school, to residency and into psychiatric practice and 2) the setting or venues in which these experiences occurred. The purpose of this section was to provide a general narrative through which analysis of perceptions and tensions affecting the relationship between the participants and the pharmaceutical industry could occur.
4.2.1.1 Experiences during training and practice

Psychiatrists interviewed tended to divide their chronological experiences with industry according to their stages of medical training. On one end of the continuum was the pre-medical stage, a point before formal introduction to the medical culture. On the other end of the continuum was the RCPSC certified staff psychiatrist stage, the point in which the participants considered themselves more integrated within the physician culture.

i. Pre-medical experiences

Interview participants provided little information on their experiences regarding interactions with industry during their pre-medical stage of training. Those who did describe experiences tended to have backgrounds in research, healthcare or medical administration. The experiences tended to be described in a somewhat detached manner, as an onlooker looking into a system they do not entirely belong to. The statements indicated that, at the time, they recognized a certain degree of collaboration occurring between industry and government funded health delivery or university research. They also noted the relationship involved an element of gift giving on the part of the industry. Although it was generally described that, at the time, the participants felt some tension when encountering situations involving gift-giving from industry, these tensions were generally felt to be external to the participant in that they did not perceive these interactions to be having an effect on them carrying out their roles in the context of their employment or studies.

*I was doing a little research project with a clinician... all the nurses were doing drug trials... and they would get Christmas gifts... They were doing phase three trials of their drugs and in that way sometimes the drugs, the drugs were helping people so in that way I could see the benefit. [P6]*

*I don’t think I really had feelings at the time because you don’t know how much is out there; and you’re not really critically appraising the information at all. So not a whole lot of thought around it at all really, because I think I was just doing my work [P8]*
ii. Medical school training

When describing the next phase of medical training, medical school, the participants described having had some experience with industry. In pre-clinical years, the experiences were once again generally infrequent, however during the clinical years of medical school training they described various experiences with interactions emerging. These experiences tended to occur on rotations in which industry sponsored lunches were a part of teaching or when preceptors would invite medical students to industry sponsored events, such as lunch hour drug detailing. Participants tended to frame these interactions as being passive observers. This highlights participant perceptions that early trainees are not autonomous units within their respective healthcare delivery systems. For this reason, participants noted they allowed their experiences with industry to be governed by those responsible for their training. Moreover, there was a general sense that the faculty responsible for their training were actively sheltering them from potential interactions with the pharmaceutical industry.

*We knew they were in the periphery during medical school because you would see them at some of the teaching sessions for clerks. You could see that they paid for lunches; there would be a pharmaceutical rep present at those things [P9]*

*It really didn’t have to be an act of avoidance in medical school, because like I said, I think we were insulated somewhat [P10]*

During the medical school years, participants continued to observe the process of gift giving and food sponsorship by the pharmaceutical industry. Some participants described training interventions that highlighted the dangers of accepting gifts. Others noted an emerging lack of comfort about accepting gifts.

*They gave a talk about why you might be influenced by the pharmaceutical industry and ways to avoid it [P18]*
At rounds and there might be some joking about “oh, this lunch was provided by a pharmaceutical company”; and I think some people were joking about it because there was some discomfort... “now that I am in medicine all of a sudden there are things being provided by pharmaceutical companies; just because I’m a medical professional all of a sudden somebody is catering to us.” [P6]

iii. Residency training

As participants became increasingly integrated as medical clinicians and therefore more autonomous in their role in providing clinical care, interactions between the study participants and industry began to increase throughout residency. Regardless, most participants also believed their residency programs were continuing to shelter them from interactions.

I don’t want to say we were totally sheltered in residency but it was something that was kept at arm’s length from us, for the most part [P14]

The interactions participants described in residency typically involved witnessing direct communication between their preceptors and pharmaceutical representatives as well as industry presence at medical education events. Participants noted two general phenomena throughout these interactions. The first was increased access to services for patients, such as the provision of sample medications, being facilitated through maintaining good relationships with industry; and the second was personal financial gain for the physician or trainee through these very same relationships.

There was one physician who would have a little bit more involvement with them and he would get samples [P10]

They were called drug rounds, where they would sponsor a lunch and then a resident would talk about a certain subject. It didn’t have to be about anything specific it just had to be about some medicine... and then in return they would provide a stipend for books and medical education for the residents [P7]

During their training as residents, the participants described perceiving a dichotomy between physicians with strong relationships with the pharmaceutical industry and others with weaker
relationships. As residents, some of the participants, particularly those with reservations regarding the interactions between the pharmaceutical industry and the healthcare system, felt a need to choose sides. This often manifested itself through actively advocating for the removal of pharmaceutical industry influences from the residency program or making personal choices about not attending industry sponsored events or taking part in industry sponsored gift giving.

*I think my residency... if the conversation came up, it was one of polar opposites. It was people that came from a very clear position of: “I have nothing to do with them” and maybe even comments like, “they are bad, it’s wrong”; to people that I felt were really justifying why they took money from the company [P16]*

*Just as I was coming in, the academic half day was catered by one of the drug companies each week... the drug rep would actually sit in during the teaching; but then that was voted out by the residents. [P10]*

**iv. Psychiatric practice**

After graduating from postgraduate medical education, the participants’ individual experiences varied significantly. These interactions were different from interactions during years of training as they now considered themselves to be autonomous practitioners, independent of the isolating forces provided by the training environment. As a result, the participant now felt they had full control over how they interacted with the pharmaceutical industry.

*Now that I have become a staff person, surprisingly I actually haven’t had a huge amount of one on one interaction and it might just be a personal thing. I know pharmaceutical reps come periodically here to give me pamphlets or papers... I also recently got some invitations to different boards and dinners, again to listen about certain products and topics but haven’t personally chosen to attend those. So really, I mean the vast amount of my exposure would be through sort of a more of a structured like CPA [Canadian Psychiatric Association] lunches for example that are sponsored by the pharmaceutical industry. Or certain symposias... Or our Grand Rounds here I know is often sponsored by the pharmaceutical industry [P14]*

However, regardless of their own personal interactions with industry, the study participants continued to experience interactions with industry vicariously through observation of peers and
colleagues. This process of comparing their own behaviours to the behaviours of peers, continued to create a dichotomy in how the participants categorized physicians with stronger relationships with industry from physicians with weaker relationships. Participants would generally frame this comparison with physicians considered to have stronger relationships than them to the pharmaceutical industry; and therefore more at risk of being compromised through COI.

*If I see someone who has fifteen drug rep associations, I am going to be a little more sceptical of what they’re talking about a medication; because again, I don’t think, humans are above conflict of interest [P5]*

**v. Summary: experiences during training and practice**

In summary, the experiences of early career psychiatrists demonstrated an increasing frequency of interactions as the physician progressed from medical student to psychiatric practice. Moreover, participants noted a change from a more passive role in interacting as trainees to a more active role in interacting as graduated physicians. Several factors were highlighted that participants felt contributed to these phenomena. First, sheltering of trainees appeared to be an ubiquitous occurrence in which faculty were perceived to be actively inhibiting interactions between the trainee and industry. Second, participants described their progression to independent practice as a path leading to more autonomy around decisions to interact with industry that was influenced by having been removed from the medical faculty’s sheltering influences.

**4.2.1.2 Setting or venue of experiences**

The settings and venues in which interview participants described having interacted with industry are shown in *table 3.*
Table 3. Settings or venues in which early career psychiatrists have interacted with the pharmaceutical industry

<table>
<thead>
<tr>
<th>1. Direct advertisement through media</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Promotion of services and products to health care staff</td>
</tr>
<tr>
<td>3. Individualized drug detailing</td>
</tr>
<tr>
<td>4. Provision of samples</td>
</tr>
<tr>
<td>5. Industry sponsored education events</td>
</tr>
<tr>
<td>6. Joint academic-industry sponsored medical education events</td>
</tr>
<tr>
<td>7. Industry sponsorship at medical conferences</td>
</tr>
<tr>
<td>8. Spontaneous interactions</td>
</tr>
</tbody>
</table>

**i. Direct advertisement through media**

Interactions between physicians and the pharmaceutical industry occurred in conjunction with the promotion of products in media based advertisements. Although the advertisements were often marketed to the physician community, such as in the case for posted flyers and print advertisements in journals, the participants also noted interactions between the pharmaceutical industry and their patient population through advertisements in lay media.

*They use a lot of advertising as well, which is in journals; and I read journals, so I will see big colourful nice looking ads for things; and promising all kinds of things* [P4]

*Drug companies are marketing to patients, they’re not marketing to physicians; I should say they are marketing to patients as well as physicians* [P10]

**ii. Promotion of services and products to health care staff**

Industry representatives were also seen as engaging in indirect interactions through promotion of services and products to allied healthcare staff. For example, representatives were observed meeting administrative assistants to book appointments with physicians.

*They are present around the office; and they’ll be talking with the secretaries, getting to know the secretaries, trying to book appointments with us* [P9]
iii. Individualized drug detailing

Often once booked, these interactions would lead to individualized drug detailing sessions in which the pharmaceutical representative would inform the physician about their medication in an office based environment.

*When they come here, it’s just like a meeting... for ten minutes and updates on their drug [P17]*

iv. Provision of samples

At other times, physicians would be accessed to authorize the supply of sample medications in inpatient, outpatient or clinic based environments. Although it was generally perceived by the participants that a physician was required in the final step to authorize and procure the sample medications, most were unaware of how the entire process of obtaining medications occurred. Some attributed administration or nursing staff as being the healthcare members who were responsible for maintaining the necessary relationships with the pharmaceutical industry for continued sample supply.

*I have been asked to sign off on samples. The pharma reps need a signature. So in those cases I have provided a signature when I am the only doctor there, so the samples are available [P16]*

*It’s usually through a nurse that I have to find out who’s the pharmaceutical rep for “blank” drug. The nurses generally tell me, they’re the ones in contact with the pharmaceutical rep because they’ll take the free samples [P11]*

v. Industry sponsored education events

Participants noted that interactions occurred during industry sponsored medical education events. In the case of industry sponsored medical lunchtime or dinnertime events, the organizer was industry itself. Although these events did, on occasion, occur on AHS or UofC premises, they were organized by industry.
Industry sponsored education events tended to involve group based learning involving multiple members of the health care team. In addition to serving as venues for medical education, these events were social activities with gift giving (eg. the provision of fine food). Although these events were perceived by study participants as being voluntary in regards to their attendance, some participants acknowledged that this was not always the case for trainees. Moreover, the content of these talks was different from one on one individualized drug detailing sessions between physicians and pharmaceutical industry representatives. These group sessions included a broader set of medical educational objectives that would progress to information about a specific drug.

*In my geriatric psychiatry rotation, I was told to attend a particular drug dinner and felt that I should go... it felt bizarre to me that we were sitting and drinking and supposed to be getting educated [P16]*

*I found that most of those dinners... there would be quite a few family physicians and psychiatrists in the meeting; also a lot of nurses; and there would be a fancy dinner; and someone with a big name would come and talk in a seemingly unbiased way; but it was fairly clear that there was a certain medication that was being promoted [P11]*

**vi. Joint academic-industry sponsored medical educational events**

Study participants also experienced interactions in more formal, industry sponsored academic medical education events, such as ground rounds presentations. These events were delineated from other industry sponsored medical education events in that they were organized by the UofC.

*Grand rounds here through the Department of Psychiatry... I don’t know the frequency, but it’s regularly enough that it seems like at least someone’s been invited by a drug company, because the drug rep is usually there; usually talking at least somewhat about their medicine [P7]*
vii. Industry sponsorship at medical conferences

Conference events were also a common venue for interactions. Participants commented that these events were organized by various medical communities (e.g., Canadian Psychiatric Association, American Psychiatric Association etc.) and included significant pharmaceutical industry sponsorship. Participants observed an overwhelming presence of industry at conferences. While industry was located in a separate physical space from the medical education event, a more social or collegial relationship occurred during night time industry sponsored continuing medical education that took place outside of the organized program.

"You see it there honestly when you go to the meetings... you’ll see a large presence of pharma at those; very often they have booths and free products; although nothing excessive, pens and knick knacks; and they also supply money to those venues, to support those venues. So it’s a bit of a symbiotic relationship in some ways [P9]"

"I have never felt forced to walk through those halls it always seemed that they were in amongst closed doors that you had to seek out the pharmaceutical area if you really wanted to go [P11]"

"It was a good conference, there were a lot of drug reps there; but it was kept very separate... a colleague of mine said “... a few of us going out for this drug sponsored dinner; and it should be good; and you should come along.”... So I went along and you know it was really quite fascinating. Because the drug reps were drinking copious amounts, as were many of the doctors [P16]"

viii. Spontaneous interactions

Another type of interaction described by participants was more spontaneous in nature. These interactions tended to occur in an unexpected manner in which industry representatives engaged without a scheduled appointment in hospital or clinic settings. The participants generally perceived these interactions as being uncomfortable and inappropriate, in that they felt as if they were somewhat caught off guard and would prefer a more predictable method of engaging with the pharmaceutical industry.
They will often stop by the unit; they’ll just leave their card; or ask if they can book an appointment; or I will see them and they will introduce themselves and say “we should catch up”. That sort of thing. And I usually just brush that off; because I am busy enough; and not particularity comfortable with it either [P4]

vi. Summary: experiences of psychiatrists according to setting or venue

In summary, the experiences of psychiatrists, when analyzed according to place or venue, demonstrated a wide range of areas in which interactions with industry are either chosen by or imposed upon the physician. At times, the presence of industry was noted to be helpful such as when industry engaged in providing patient care and medical education; however at other times industry’s presence was perceived as less welcome. A common phenomenon noted by participants was the entrenched nature in which the presence pharmaceutical industry occurred throughout all aspects in the delivery of healthcare.

4.2.1.3 Summary of the experiences of psychiatrists regarding interactions between physicians and the pharmaceutical industry

In summary, open coding of transcript data according to the research question relating to the general experiences of participants demonstrated that as the psychiatrist progressed through training and practice, interactions became more frequent. Moreover, participants described transitioning from a passive role in which they would generally only witness the interactions between their trainers and the pharmaceutical industry, to one in which they would be required to actively manage these interactions on their own in practice. The transition was made more difficult by the role of the medical education system which sheltered the psychiatrists-in-training and hampered their ability to prepare for these interactions once in practice. When questioned as to the venues or settings in which these interactions occurred, participants described interactions that were pervasive throughout all aspects of education and patient care.
4.2.2 How have perceptions regarding interactions between physicians and the pharmaceutical industry developed throughout psychiatric training and practice?

Study participants described a number of factors that led to their own perceptions regarding interactions between physicians and the pharmaceutical industry. A thematic grouping of four major themes expressed by study participants are shown in table 4.

<table>
<thead>
<tr>
<th>Table 4. Major factors affecting early career psychiatrists’ perceptions regarding interactions between physicians and the pharmaceutical industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factors intrinsic to the medical education training system</td>
</tr>
<tr>
<td>Factors intrinsic to the psychiatrist’s practice of medicine</td>
</tr>
<tr>
<td>Factors intrinsic to physician culture</td>
</tr>
<tr>
<td>Factors intrinsic to the promotion of pharmaceutical goods</td>
</tr>
</tbody>
</table>

4.2.2.1 Factors intrinsic to the medical education training system

The factors intrinsic to the medical training system that affected participant perceptions regarding interactions between physicians and industry are shown in table 5.

<table>
<thead>
<tr>
<th>Table 5. Factors intrinsic to the medical education system having an effect on psychiatrists’ perceptions regarding interactions between physicians and the pharmaceutical industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal training</td>
</tr>
<tr>
<td>Sheltering of trainees</td>
</tr>
</tbody>
</table>
i. Formal training

Although a small minority of study participants did highlight various formal medical education interventions that targeted training in managing interactions between physicians and the pharmaceutical industry, the majority concluded that there was little training from both undergraduate and postgraduate medical education training systems.

*I might be missing something, but I don’t recall actually getting a lecture in our half days about the bias in the pharmacology literature. I don’t recall getting that as a lecture, but I could be wrong.* [P2]

When teaching did occur it usually consisted of sessions highlighting the psychological research on how industry marketing and gift giving had an impact on biasing physician prescription patterns. The solutions offered through these interventions tended to focus on strategies of avoiding interactions as a means to decrease the potential for bias.

*I remember going to a talk one time called “There’s no free lunch”... I think they were trying to give us a heads up there that, yeah that even though these companies may be helping you out in certain ways there is an expectation that you will reciprocate at some point. Not there necessarily, but somewhere down the road.* [P9]

One training paradigm addressing COI issues involved the dissemination of professional guidelines to trainees. Although most participants were able to acknowledge the existence of these guidelines, they provided little information about specific ways the guidelines restricted physician behaviour. The general consensus of participants was that despite their lack of familiarity with the guidelines, they did recognize the utility in physician culture adopting them in order to curb behaviours that could result in COI.

*They would pay for hotels and all kind of mini-vacation kinds of things. That does seem like totally going past the boundary of appropriateness to me. And so I am glad that there are checks in place to limit that kind of thing. I think as a group, physicians will always have different boundaries in terms of what they accept and what they don’t accept. And it’s useful to have that kind of objective guideline to say “hey we need to cap what physicians receive”.* [P15]
There were informal ways for trainees to interact with industry, mainly during clinical rotations with preceptors who themselves had stronger relationships with the pharmaceutical industry. Although many participants perceived this type of mentorship helpful, it also resulted in a great deal of confusion as it provided little clarity in terms of defining effective and appropriate behaviours.

*There’s huge variations as you know... I mean there’s people who don’t want to have any interactions with industry, and then there are people who have lots of interaction with industry. And so it’s really confusing to navigate, and I think a lot of it really depended on who you worked with and who you saw.* [P13]

Given a lack of formal training, participants commented that upon graduating from postgraduate training programs, they felt unprepared for these interactions as they assumed independent practice. This would result in a pattern of generally avoiding interactions with industry.

*I feel like when I first graduated, I didn’t have the skill set to navigate this, but I have had to learn; and so I think the one thing is that it might be easier to actually maintain the current stance, because I am much more comfortable setting boundaries.* [P16]

### ii. Sheltering of trainees

Outside of providing sporadic formal sessions highlighting the problematic relationship between the pharmaceutical industry and the physician community, the study participants perceived both the undergraduate and postgraduate medical education training programmes as largely silent in providing direction. Participants perceived undergraduate and postgraduate medical education systems as insulated them from industry. The participants commented that the training programmes felt they were vulnerable to industry influence as trainees and therefore the programs needed to create a buffer between the trainee and the pharmaceutical industry. The result of this intervention was a general sense of feeling unprepared on graduation and a tendency to avoid interactions with the pharmaceutical industry.
I don’t want to say we were totally sheltered in residency but it was something that was kept at arm’s length from us... I haven’t had a lot of exposure... So I definitely think with more exposure and getting a better sense of what they do, what their role is; would probably help me get involved with them more frequently [P14]

A phenomenon arose when the participants described themselves in the reverse role acting as instructor to a group of trainees. Interestingly in this situation, the phenomenon of treating the trainee as vulnerable to industry influence was re-created despite the reservations expressed by participants that their medical education system has sheltered them.

_The rep was in there and I would say something about a particular medication and then the rep might say something a little bit different. And so my concern was that they may not be getting the full accurate viewpoint and they might be getting a biased viewpoint. And I didn’t want that to happen. You know, as medical students they are starting out; and they’re there to get all the knowledge; and learn clinically; and learn from their preceptors; and learn from the residents; and I didn’t want it to be biased. [P13]

**iii. Summary: factors intrinsic to the medical education training system**

In summary, participants described a context in which the training offered by the medical education system was generally limited and focused towards reducing the risk of bias that might be introduced through these interactions. Moreover, the medical education system was perceived as sheltering the trainee. This resulted in a sense of vulnerability due to the lack of experience in engaging in these interactions prior to entering into autonomous practice.

**4.2.2.2 Factors intrinsic to the psychiatrist’s practice of medicine**

The major factors intrinsic to the participants’ practice of medicine that had an effect on their perceptions of interactions between physicians and industry are shown in _table 6_.

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Table 6. Factors intrinsic to early career psychiatrists’ practice having an effect on their perceptions regarding interactions between physicians and the pharmaceutical industry

<table>
<thead>
<tr>
<th>Factors related to patient care</th>
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<tbody>
<tr>
<td>Factors related to personal or professional development</td>
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<tr>
<td>a. Gifting or financial gain</td>
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<tr>
<td>b. Opportunities to network or socialize</td>
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<td>c. Career development</td>
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<td>Type of practice in which physician is employed</td>
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<td>a. Medications available</td>
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<tr>
<td>b. Patient diagnostic profiles</td>
</tr>
<tr>
<td>c. Participant preference in using various therapeutic interventions</td>
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</tbody>
</table>

**i. Factors related to patient care**

All participants commented that their primary motivation to interact revolved around patient care. This was framed around their perceptions that the primary goal of the physician lies in servicing the best possible healthcare to the patient.

*So what guides me, I suppose, is a sense of ethics, values, morals, whatever you want to call it, that I see myself as having an obligation to the patient.* [P16]

Given the role of physicians in treating illness and the need to prescribe medications, their primary obligation to the patient often manifested as an intense desire by the participants to be able to procure the best treatment for the patient irrespective of cost. The participants generally felt that their role in providing optimal patient care carried with it the additional responsibility to seek out the best treatments available to their patients.
I want my patients on the medication that’s gonna help them, give them the least side effects, get them better, get them functioning well and that’s my goal. And if it’s an expensive medication then I’m gonna want to figure out how can I get it covered for them… I’m just here to do my job and treat my patients and that’s what I care about. [P13]

For this reason, if an interaction with the pharmaceutical industry was deemed to be in the best interest of the patient, the participants would consider pursuing the pharmaceutical industry for support.

I would tend to use their product when it’s helpful for me and beneficial for the patients; so I would tend to have more of a relationship with them… I guess it’s just based on whether I think it would be useful for the patients. [P12]

Interacting with industry for direct patient benefit generally involved the procurement of medications. Given a system in which medication cost may be a burden for the patient unless covered through private insurance, a publically funded disability scheme or in the case of government funded income support, the participants often would feel compelled to seek pharmaceutical industry supports in obtaining medication coverage. This was often enacted through temporary industry supports while awaiting for government mechanisms to process claims or at times coverage could be accessed from industry indefinitely through a compassionate care programme.

A variety of situations could lead to a patient’s inability to pay for required medications, however most fell into one of two categories. The first simply involved situations in which socioeconomic issues prohibited the patient from being able to afford medications deemed necessary in promoting good health by the physician.

And at times I do need to use them [industry]. Otherwise I can’t get this guy, like there’s no other means of paying for a medicine that’s like five hundred dollars a shot unless I talk to them. And I feel like this is the only thing that’s going to help keep this guy out of hospital. [P4]
At other times, the patient may have had sufficient coverage for their current medication regime, but the medications were deemed to be no longer effective or the prescriber felt the patient might benefit from a new medication trial. In these cases of failed treatment, when the patient was unable to pay for it or if insurance was not willing to cover a medication felt to be potentially beneficial by the prescribing physician, the participants would seek interaction with industry so as to procure compassionate care.

Sometimes the severity of a patient’s case makes me turn to industry; more so to look for new treatments if I’m not getting anywhere with what I have available to me. [P11]

ii. Factors related to personal or professional development

The factors related to personal or professional development that affected participants perceptions are shown in table 7.

<table>
<thead>
<tr>
<th>Table 7. Factors related to personal or professional development having an effect on psychiatrists’ perceptions regarding interactions between physicians and the pharmaceutical industry</th>
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</thead>
<tbody>
<tr>
<td>Gifting or financial gain</td>
</tr>
<tr>
<td>Opportunities to network or socialize</td>
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<tr>
<td>Career development</td>
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</tbody>
</table>

| a. Gifting or financial gain                    |
As highlighted during the review of literature, the main focus of research into COI issues brought about by interactions between physicians and the pharmaceutical industry relates to the effect of gifting-reciprocity on the prescribing bias of the physician. Throughout the data collected, all participants noted the common practice of gift giving by industry. Interestingly, the participants noted that a cultural shift had been occurring over the last few decades in which the value of the gifts offered to physicians had significantly decreased. They perceived the excesses of gifting in
previous eras to have been mitigated in part by a shifting cultural awareness in which the concept of gifting-reciprocity effects had become more prominent in the current cultural context.

I remember hearing from people going to big conventions, to big conferences, and how [much] stuff they would actually pick up... so yeah, there’s not very much free loot [P2]

It shifted, because when I started residency there were definitely people who liked that; they liked the schmoozing; and they liked getting that special kind of treatment; and go on trips; and get extra money; and all that kind of thing; and then I think over the course of my residency the population of the residency body changed and that just became less desirous [P17]

Regardless of the shifting attitudes and culture, most participants perceived gifting by industry as being a strong motivator in promoting interactions. The participants noted that pharmaceutical promotions and sponsored events outside of AHS and UofC premises occurred in comfortable higher end restaurants and hotels. They perceived the desirability of these venues as a motivator in promoting attendance to the events that may have otherwise been declined by attendees.

Obviously there is some wining and dining because if they have events, usually it’s at a really nice venue. It’s kind of a ritzy venue; it’s really good food; a really nice atmosphere; a nice ambiance... they want to provide an educational event that’s going to be fun; and it’s also gonna be good food; and it’s gonna be a venue that people feel good at. So I think that’s one way they get people to come. [P9]

So the funding, it’s a double edged sword really... without a lot of this funding we wouldn’t have these conferences; or at least they wouldn’t be in the same venue... you wouldn’t have the same experience [P7]

Most of the gifting described by participants involved paid lunches and dinners to promote attendance at pharmaceutically sponsored education events. Interestingly, given that the value of these items is quite small when taking into account the incomes earned by physicians, the participants who did attend industry sponsored lunches and dinners during periods of training also noted themselves to attend less often post-graduation. They perceived this change as
occurring due to a decreased need to rely on industry supports for high value items they previously were unable to afford.

When you are a student you also are poorer and probably don’t go out to nice dinners as much... So then if someone is taking people out and paying for your meal then, that on one level is kind of nice experience that you don’t have all the time... And now I feel like I have sort of moved beyond that, now that I am working... I don’t need that, I don’t want that. [P4]

b. Opportunities to network or socialize

Another important aspect of personal or professional benefit that affected participants’ perceptions related to the social elements of these interactions that could result in personal and professional benefit. Professional benefits related to the ability of some participants to make use of pharmaceutical industry sponsored social events as an opportunity to network with other members of their community or liaise in order to improve patient care.

There aren’t really many social opportunities as a resident to network with staff. I mean there are opportunities with other residents, but not so much with staff. So I thought it was kind of very helpful [P12]

... not just learning from the drug reps but you are learning from other physicians that are out there and doing things as well; so you get that interaction that you wouldn’t get otherwise. Sometimes you never see another doctor... you don’t really interact much with your colleagues, except at those kinds of events [P9]

In addition to using pharmaceutical sponsored events to network or get clinical advice, some participants described these events as being useful in fulfilling their need to socialize with peers and colleagues.

Yeah, so besides education, I mean it’s nice to go and socialize with your colleagues and connect with them... I think that’s the nice part [P13]

c. Career development

Participants noted interactions could be beneficial to career development through a variety of ways including access to research opportunities, being able to teach, or through reimbursement
for industry sponsored medical education. Some participants received additional personal
benefits tied to these career development opportunities acting to enhance their motivation to
interact with industry.

That’s my next step... now I’m giving talks... and maybe I’d enjoy that. I’m guessing that
there are people that I respect that do that work; and it remunerates well; and it provides
education; and they seem to like it [P3]

You see somebody doing these talks, and you’re like, wow that looks like a lot of fun. I
like educating and it kind of gives you a broader audience to educate colleagues... other
physicians and multidisciplinary teams outside of just residents and students... I still
enjoy teaching, it’s just kind of cool to do more. [P18]

I am at the cusp of deciding whether I want to participate in a study about schizophrenia
that is sponsored by a drug company. I am a bit on the fence, I feel like I am ready to
cross a threshold... I feel like that’s something I want to do, but it’s just new territory for
me [P3]

iii. Type of practice in which the physician is employed

The factors related to the type of practice in which the physician is employed that affected
participants perceptions are shown in table 6.

<table>
<thead>
<tr>
<th>Table 6. Factors related to the type of practice in which the physician is employed having an effect on psychiatrists’ perceptions regarding interactions between physicians and the pharmaceutical industry</th>
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<tbody>
<tr>
<td>Medications available</td>
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<tr>
<td>Patient diagnostic profiles</td>
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<tr>
<td>Participant preference in using various therapeutic interventions</td>
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</tbody>
</table>

a. Medications available

For many participants, particularly those working in inpatient hospital based settings, the
formulary of medication offered by the public health system had a large impact on their practice
of medicine. Government funded health services must maintain reasonable costs according to
predetermined budgets, therefore formularies tend to focus on older generic medications. An introduction of newer medications can occur after significant lobby from the pharmaceutical industry and other stakeholders. Given that promotion of pharmaceutical goods tends to involve newer patented medications, in these types of environments many of the heavily marketed medications are not available for patient use. For this reason, physicians employed in an environment restricting prescription to older generic medications have little interest in pursuing interactions with the pharmaceutical industry. They see little benefit in learning about medications they are unable to prescribe and see little benefit for their patients in starting them on a medication they are restricted from using.

As an inpatient physician we use almost all formulary so it’s really hard to access non-formulary. So I would say that almost all of what I prescribe is all formulary in an inpatient setting. It’s harder to get non-formulary stuff. It’s harder to get people on samples, its more onerous, it’s difficult, and that’s a stance that the hospital, that the pharmacy takes. [P3]

b. Patient diagnostic profiles
According to data analyzed, the type of patients treated also had an impact on perceptions. There exists a wide degree of variability in the diagnostic profiles of patients and use of medications in a given diagnostic profile may be additionally confounded by other factors such as age or comorbid conditions. This is consistent with variability in the practice of psychiatry. Participants noted that the patients they treated had both an impact on their interactions with industry and on how industry would choose to interact with them. Some participants felt that due to research exclusions and subsequent off label use of medications for their patient demographics, industry representative were less active in pursuing them.

... because drug trials aren’t done on my patient base. They’re generally done on adult or a certain age range; and maybe that’s why they don’t target us as much. [P11]
Others would note the opposite. When treating patients where medications are considered the gold standard of care, increased interaction with the pharmaceutical industry would in turn be required or necessary. One participant surmised that physicians who work with a patient population where medications (versus psychotherapeutic interventions) were the gold standard of care may be more open in their interactions with industry in order to procure the drug for their patients.

*They’ve maybe worked with a population such as early psychosis or schizophrenics where medication is one of our only tools. The medications work; and so it makes sense that they would develop strong beliefs about medications; and see medications as one of the key tools to helping patients.* [P6]

c. Participant preference in using various therapeutic interventions

As with patient diagnostic profiles, the practice of psychiatry, even within a given population, can be diverse. Given a wide range of treatment modalities and clinical guidelines that support a wide variety of treatment types for mental illness, it was not surprising that the participants reflected this diversity in practice approach. Similar to how the effect of patient diagnostic profiles with strong evidence base for medication treatments could affect the participants’ interactions with the pharmaceutical industry, the participants own beliefs around treatment could also affect their perceptions regarding the need to interact with the pharmaceutical industry.

*I think in both their cases they believe strongly in biological theories of mental illness; and so they use medications quite frequently; and I think they use medications more so than doing psychotherapy; or maybe addressing other psychosocial factors that might be going on for the patient.* [P6]

vii. Summary: factors intrinsic to the psychiatrists’ practice of medicine

In summary, participants described several factors intrinsic to their own practice of medicine having an impact on their perceptions regarding interactions between physicians and industry.
These include: 1) factors related to patient care, 2) factors related to personal or professional development, and 3) the type of practice in which the physician is employed.

Factors related to patient care involved participants interacting with industry to procure the best possible treatment for the patient in situations in which it would not otherwise be available. Factors related to personal or professional development involved interacting with industry to i) improve their personal or professional statuses through gift giving or financial gain, ii) be provided with opportunities to socialize or network with other professionals and iii) attain resources or training for career development. Finally, the type of practice the physician offered affected industry interaction by providing a framework for i) medications that were available, ii) diagnoses were being treated and iii) preferences each individual participant had in using medication versus other approaches in the treatment of mental illness.

### 4.2.2.3 Factors intrinsic to physician culture

Factors intrinsic to physician culture that had an effect on participant perceptions are shown in table 7.

<table>
<thead>
<tr>
<th>Table 7. Factors intrinsic to physician culture having an effect on early career psychiatrists’ perceptions regarding interactions between physicians and the pharmaceutical industry</th>
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<tr>
<td>Dominant cultural values within medicine</td>
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<td>Perceptions regarding peers and colleagues</td>
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<td>a. Perceptions around peers having lost autonomy</td>
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<td>b. Perceptions around peers being motivated by personal gain</td>
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</table>
i. Dominant cultural values within medicine

Participants described a cultural milieu that was impactful in shaping their perceptions. During training and practice, a dichotomy was perceived differentiating physicians having strong relationships with the pharmaceutical industry and those with weaker relationships. This was often perceived as a rigid division in which one camp was defined as ‘pro-pharma’ and the other as ‘anti-pharma’. The trainees perceived the groups as having a very different frame of reference in regard to what behaviours were deemed appropriate and what behaviours were not. Moreover, they perceived the ethical viewpoints as expressed by the two groups as being incompatible resulting in a pressure for them to choose allegiance with one of the two groups.

Those three versus those two. They were butting heads... [psychiatrist name] and [psychiatrist name] were like “There's no problem working with drug companies... you should take a common relationship with them, so we’re on the same page.” And the other three were like “No way, no interactions at all, prescribing practices will be influenced and you'll be a terrible physician if you do that”.... It was just really interesting to watch this dichotomy between the two groups as a junior resident. And it was just like, hum well, I have some deciding to do too, I guess. [P18]

Complicating the issue was that participants perceived the ‘anti-pharma’ group as presenting itself to the trainee as ethically superior to the ‘pro-pharma’ group based on tenets related to the values of providing unbiased medical care to patients free from issues inherent in COI. The ‘anti-pharma’ group tended to have a very negative view on industry, particularly in regards to its profit based incentive. Moreover, participants noted that the ‘anti-pharma’ group asserted its cultural dominance by maintaining an overriding sentiment that physicians having interactions with the pharmaceutical industry are at risk for bias through COI and therefore will not be able to provide appropriate patient care.
I think again there's a pervasive sentiment among my peers that drug companies are unethical and just want to make money and we should avoid them... I would say it’s more just in joking or really cynical comments that the message is passed... like “oh, so and so, he makes a ton of money doing drug talks and I would never do that. I would never stoop that low” [P6]

Despite their perceptions of physician culture being divided along rigid lines between two extremes, the participants themselves perceived the issue to be more complex when relating it to their practice. Although specific behaviours and perceptions varied between participants, all agreed that the pharmaceutical industry is integral to the practice of medicine and avoidance of all interactions is both impossible and possibly detrimental to patient care. However, due to the cultural milieu in which there exists perceptions of rigid dichotomies between the ‘pro’ and ‘anti-pharma’ groups, when participants would choose to interact with the pharmaceutical industry they often would consider and fear potential judgement by peers:

There’s certain people that really don’t want to have any interactions with the pharmaceutical industry... if I go against that... and I decide to interact with them... how am I viewed by my colleagues? Will they see me as a psychiatrist that is biased... that's influenced by the pharmaceutical industry? [P13]

Resident culture as perceived by the participants when training, was very much the same when compared to physician culture. The participants expressed a dominant group within resident culture that deemed interactions with industry to be automatically associated with a profit based motive leading to poor patient care. The resultant sentiment was that all industry interaction must be avoided. Moreover, any alternative sentiment was perceived by the participants as being suppressed by the dominant group.

I didn’t feel like I wanted to speak up against it in any way because, it seemed like people were just really so passionately opposed to it and I’m not really there to change their minds about it... It just felt like this culture, it was ingrained, it wasn’t questioned, there really weren’t two sides of the issue represented... I guess there really wasn’t much of a balance there, the, “hey this is what can be helpful for you or your patients, but this is what you have to watch out for” [P12]
Some participants noted that the approach taken by undergraduate and postgraduate medical education programs, likely reinforced the rigid dichotomy and power balance between the two groups. It was felt that the resident ‘anti-pharma’ group’s ethical standpoint was generally favored by the university responsible for their education.

*That was an institutional decision that pharm reps were not allowed. So that just made it easier and kind of validated in some ways my thoughts that maybe this isn’t a good relationship to have.* [P5]

Another element reinforcing the cultural perspective involved the participant’s perception regarding public opinion on the issue. Participants believed the public also had reservations around industry interactions.

*I think it was also a shifting culture… nowadays that the general public has concerns about pharmaceutical influence in terms of physician practice and vice versa. So I think coming up during that time when that understanding was becoming more readily available; I think that also influenced me.* [P14]

*I mean there is certainly some patients that come in and they’re worried. I certainly have had patients ask me “are you connected with the pharmaceutical industry?”* [P13]

**ii. Perceptions regarding peers and colleagues**

The participants in this study did not exist in isolation from the greater culture of medicine or psychiatry. Being psychiatrists, they contributed to the norms and culture of the medical and psychiatric establishment. Analysis of data for perceptions held by the participants themselves provided a wealth of information in regards to how elements intrinsic to physician culture influenced participant perceptions. These perceptions are summarized in table 8.
Table 8. Perceptions regarding peers and colleagues having an effect on early career psychiatrists’ perceptions regarding interactions between physicians and the pharmaceutical industry

<table>
<thead>
<tr>
<th>Perceptions around peers having lost autonomy</th>
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<tr>
<td>Perceptions around peers being motivated by personal gain</td>
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</table>

### a. Perceptions around peers having lost autonomy

When discussing factors that negatively impact participant perceptions regarding interactions, a common perception was voiced by participants about peers who they felt had lost clinical decision making autonomy. The loss of autonomy was related to the introduction of psychological bias through what they considered to be heavy interaction with the pharmaceutical industry. A common thread in data analysis was that this perception was very much automatic in nature. Rather than highlighting the elements that could result in bias, participants tended to simply label those with more interactions as being more biased. The automatic linking of interactions with loss of autonomy reflects the dichotomy of rigid divisions as expressed by the medical culture dividing psychiatrists into ‘pro’ versus ‘anti-pharma’ groups.

*I wonder if people who are more heavily involved in learning the talking points for certain drug companies actually get those ingrained in their own way of thinking and their own way of practicing.* [P10]

### b. Perceptions around peers being motivated by personal gain

Another commonly held belief by study participants that had a negative influence on their perceptions was that peers having strong relationships with the pharmaceutical industry were primarily being motivated by personal gain. The perception related to these motivations was grounded in fears that bias would be introduced through gifting-reciprocity. Perceptions held around peers being largely motivated by profit were once again largely automatic in nature.
Similar to their perceptions around peers having lost autonomy, when describing peers being overly motivated by personal gain, rather than highlighting the specific elements of gifting-reciprocity leading to bias, many participants would simply assume others with more interactions had a personal gain motivation. Once again the automatic nature of assumptions made by participants is likely representative of medical culture promoting a rigid division, grouping psychiatrists into ‘pro’ versus ‘anti-pharma’ groups.

*He made a lot of money off of the drug companies doing research for them; and doing talks for them; and that kind of stuff. So I think for him there was a bit of a kind of ulterior motive for his involvement. And that’s why I got a bit of a negative impression for him in particular. So he might be why other physicians have a negative view of drug companies too because they see physicians that are like that, off flying all over the world; and doing all these talks; and making crap loads of cash... that crazy lifestyle and you might get a bad taste in your mouth [P17]*

The automatic nature of these perceptions was most evident when participants described their emotional responses to the disclosure slide mandatory in all medical education presentations. Designed as an intervention by educational authorities to highlight any potential financial conflicts of interest by presenters, when presented with this slide, participants not only would describe an increased sense of vigilance in analyzing the material presented, but some also voiced an overt sense of distaste with the presentation.

*If the disclosure slide is really, really biased, I am gonna be uncomfortable in the talk; and either not go; or it’s going to affect how I perceive the information that is being transmitted to me... I will prejudice myself against whatever they are saying; and really thinking about what they are talking about; and looking for bias [P3]*

*When I see a disclosure slide saying that somebody is working with a certain drug company, I think my gut reaction is that maybe that person is a bit greedy... Unfortunately this is the gut reaction; that they are a bit greedy; that they’re maybe working with this unethical drug company [P6]*
iii. Summary: factors intrinsic to physician culture

In summary, factors intrinsic to physician culture having an effect on participants’ perceptions fell into two interrelated major categories: 1) dominant cultural values within medicine and 2) perceptions regarding peers and colleagues who have interacted with industry.

Dominant cultural values within medicine resulted in a splitting of a complex issue into two opposite poles. One end was the viewpoint of a group of physicians advocating for more cooperation with the pharmaceutical industry and on the other was the alternate viewpoint of a group of physicians advocating for the banishment of all interactions with the pharmaceutical industry. According to the participants, the latter group is the dominant viewpoint held by the physician culture. This splitting of a complex phenomenon into a duality of viewpoints had in turn affected participants’ own perceptions in how they judged peers who actively interact with industry with judgments being made that they lost autonomy or were motivated by personal gain.

4.2.2.4 Factors intrinsic to the promotion of pharmaceutical goods

Factors intrinsic to the promotion of pharmaceutical goods that had an effect on participants’ perceptions are shown in table 9.
Study participants perceived the primary goal of the pharmaceutical industry was to sell medication and generate profit. Other motivations were generally considered to be subservient to this goal.

_I would say that their intention clearly is to make money and sell their products; and I think they’re probably happy if their products are working and helping people. But that’s not their primary motivation; I wouldn’t be under any illusion that that is the case [P4]_

_I think the bottom line for any industry, and corporation, the main driving factor is to make money and profits for its stock holders and investors. So if a treatment doesn’t work but people like to take it for maybe an addictive reason or something... I don’t know if they’re going to restrict their manufacturing limit [P11]]_

Due to the primary motivation by industry to create profit through the sales of medication, participants described pharmaceutical industry interactions in a framework of tactics used by industry to meet these goals. As a result of their role in prescribing medications, participants viewed themselves as necessary intermediaries used by industry in order to realize the ultimate goal of selling medications for profit.
Their primary objective is profit... whatever is going to sell more medication or keep people on it for longer; and so I feel that for lack of a better term, that I have ended up as a middle man in my career [P16]

In order to realize the goal of producing profit through the sale of medication, study participants highlighted two interrelated ways in which factors intrinsic to the promotion of pharmaceutical goods have influenced their perceptions that developed throughout psychiatric training and practice.

i. Influencing prescribers and the healthcare system

The perceptions around the pharmaceutical industry’s influence of prescribers and the healthcare system are shown in table 10.

<table>
<thead>
<tr>
<th>Table 10. Perceptions around the pharmaceutical industry influence of prescribers and the healthcare system having an effect on early career psychiatrists’ perceptions regarding interactions between physicians and the pharmaceutical industry</th>
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<tbody>
<tr>
<td>Controlling the information regarding its products</td>
</tr>
<tr>
<td>Gifting-reciprocity</td>
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</table>

a. Controlling the information regarding its products

One important tactic identified by study participants that industry utilizes to achieve its profit based goal of selling medications, involves attempting to maintain control of the information regarding its products. Participants perceived that industry uses controlled flows of information to foster a sense of credibility and trust in its products. According to the participants, trust fostered by industry was not based in evidence, as industry is concerned more with profit rather than promoting truth. Therefore, given the role of physicians in prescribing medications and thus acting as necessary intermediates to allow for the sale of pharmaceuticals, pharmacy had a vested
interest in influencing prescribers. Participants commented on industry’s tactics of using misleading information, misleading scientific jargon and short term study end points.

*You can fudge data. I mean pharmaceutical trials are not always published... they pick their trials; they only pick the ones that have good results.* [P18]

*Yeah sometimes these studies use medical jargon which they are not always accurate but they look like its substantiated because they use all the right words like “statistically significant”. They just know how to use the right words that are buzz words... But when you really examine the studies there’s usually a discrepancy between what they are saying... and what you could take away from that study.* [P1]

*We hear all about the bias in the research that’s been performed by private drug companies all the time right? Not publishing negative studies, a lot of these safety studies aren’t looking at the end markers that are helpful clinically. They’re looking at getting their drug out.* [P7]

In addition to influencing prescribers through research publications on their products, participants also perceived influence through more conventional advertisement of product placements in medical journals.

*They have those ads where people are always looking in the distance; and very pensive; and kind of happy which usually catches your eye... they’re very good at marketing... not newspaper but magazine ads... pretty much our physician magazines.* [P18]

**b. Gifting-reciprocity**

Another commonly discussed tactic used by industry to influencing prescribers was through gift giving. The majority of participants recognized this as being a risk of introduction of prescription bias through mechanisms of gifting-reciprocity.

*There’s dinners and stuff like that as well. I haven’t attended those but that could be considered a strategy as well. When you integrate food or other giveaways I think that definitely, I never want to say it can bias people, but it can influence people.* [P14]

*Quid pro quo right? ... That’s the problem. I would like you to give me samples for this poor person that’s in my practice. But then in that relationship it becomes complex. Like one feels like one ought to pay back for favors somehow.* [P2]
In addition to the direct influence on prescribers by pharmaceutical industry marketing structures, some participants described a phenomenon in which bias was introduced indirectly by colleagues or key opinion leaders. The participants perceived that once introduced, bias could be propagated by one prescriber to another without direct influence by the pharmaceutical industry. Moreover, some participants perceived corporate structures as using other prescribers, often perceived by participants as being more heavily involved with industry, as indirect agents purposed to influence the medical environment.

*I mean if we are all influenced individually; and I sit down at rounds with three other psychiatrists most mornings; and we are frequently working with each other; and giving each other ideas and opinions, so I guess if we’re all influenced. If we are individually influenced we may be passing that influence away along secondarily. [P7]*

*So some of these physicians using the new products have relationships with the pharma companies... the physicians are being paid to change the environment. Change the environment such that we start using these products in the hospitals. And that happens; we see that happen. [P9]*

Study participants perceived that pharmaceutical marketing structures influence was not solely constrained to the prescribing community, but some also described tactics in which it influences the medical and the governmental systems. Once again, participants perceived the aim of these interactions as being ultimately for the sake of generating sales and procuring profit.

*In terms of pharm [the pharmaceutical industry] they're lobbying again the government for their interest; not for the advocacy of schizophrenia; but for the advocacy of schizophrenia treatment via their medications; and making sure you don’t get rid of your patents; and all that stuff that affects their bottom line... and drumming up pathology, because it’s for profit. And I get it. I totally get it. That’s what they should be doing based on their perspective [P5]*

Another tactic participants perceived corporate structure using in influencing prescribers was indirectly through the consumer of pharmaceutical products. Participants described instances in which their patients would directly request a specific medication be prescribed. When discussing
these instances, the participants considered them as an unwanted or unwarranted intrusion by industry into their medical practice.

*Patients will come in and say, “what about this one [medication].” And usually probing as to why that was, you know comes up with some evidence of industry involvement with the patients and how they make a decision.* [P10]

Participants commented that industry actively employed covert mechanisms to influence physicians. They also noted that physicians were unaware of these tactics thereby resulting in a general sense of vulnerability to influence.

*So the greatest trick the devil ever played was convincing people he didn’t exist... I’m sure as you do your interviews you’ll hear people say, “they don’t have influence on me, because I do certain things.” But they wouldn’t exist if they didn’t. So I am sure there is what I think to be a complex thought process if I am going to be prescribing something; that I am sure has influences in things; that I am not actually consciously aware of. So I think that there’s a whole world of, I don’t know how they do it, but I am sure they are doing a good job of it* [P10]

**ii. Creating a role for itself in the healthcare system**

Study participants perceived that in order to influence prescribers and other members of the healthcare system, the pharmaceutical industry marketing structures require a venue for these interactions to occur. Throughout their discussions on how the pharmaceutical industry functions in the healthcare environment, participants described various ways in which industry has created a role for itself in medicine outside its traditional role as producer and researcher of medications. A summary of the methods the pharmaceutical industry uses are shown in *table 11*. 
Table 11. Perceptions regarding the methods which the pharmaceutical industry employs in creating a role for itself in the healthcare system having an effect on early career psychiatrists’ perceptions regarding interactions between physicians and the pharmaceutical industry

| Delivery of healthcare | Provision of education to medical personnel | Integration of the pharmaceutical representative agents into the healthcare system |

a. Delivery of healthcare

One method commonly described by study participants where the pharmaceutical industry has created a role for itself in the healthcare system is through positioning itself in supporting the delivery of healthcare. Most commonly this was through the provision of sample medications or ongoing medication treatment to indigent patients through compassionate care programs. Despite having some reservations around the issue, most participants would either regularly access the various programs in order to treat their patients or would consider accessing the programs if needed. Psychiatrists commented that the provision of samples provided industry with an entry point to access physicians and healthcare staff. Another reason for sample provision commonly cited would be to introduce a medication that would hopefully stabilize a patient, thus ensuring continued sale of the product.

*They are more than happy to provide samples; so at the same time they have access to you at that point; they can give you a spiel on the product [P9]*

*Of course leaving samples gets people hooked, it’s like a cocaine dealer [P18]*

Other participants described using or having seen materials designed to be given to patients to educate them on medical conditions or medications used in treatment. Some participants noted
that some items displayed branding, likely with intent to be used as a marketing aid in addition to its role in patient education.

*They try to offer patient education materials that they know will be attractive to us... Particularly psycho-educational materials. And so mostly, I think they just try to appeal to what is gonna be most useful to us; and what we are gonna want to hand out to patients.* [P12]

*There’s a good poster for ADHD. It’s up just over in the hall in one of the outpatient programs... and it had the companies names at the bottom, so we got it clipped off* [P7]

Regardless of the type of healthcare activity, the purpose for industry’s influence on the delivery of healthcare initiatives, according to participants, was to create a role for itself in the healthcare system. Also, study participants perceived the same overriding motive for these actions: to promote the sale of medications. One participant remarked on a conversation with a pharmaceutical representative, highlighting the overarching motives of industry in this context:

*And she [pharmaceutical representative] said, “We want to create an environment where it’s easier for you to administer and care for these patients who are on our medications” she said “We don’t care if they are getting other medications; we’ll have no influence over what medications you give them; or what’s allowed to happen within that clinic; but we want to create a place where our patients can get the [medication]”* [P16]

**b. Provision of education to medical personnel**

The provision of education to medical professionals was another way industry influenced professionals. Participants commented on sponsorship of conferences or other large medical education events. Participants described industry’s presence at conferences. Similar to the use of samples or the provision of patient education materials, many participants noted that the intention of the pharmaceutical industry was to create a venue in order to market its products and influence prescribing physicians.

*Well just, I mean they're everywhere. Like you go to a conference and you walk in, and the banners and the displays are huge so you can’t really avoid it.* [P13]
They obviously sponsor different conferences; and get their names on the sides of busses; and have dinners; and talks there that are sponsored by the drug companies ... and they try to lure you in and entice you. [P12]

In addition to sponsorship of large conference events, participants also observed a significant presence at smaller local medical education events. These events were described as being targeted to various members of the allied health staff and usually occurred in conjunction with a lunchtime or dinner time meal. This format was described by participants as making use of key opinion leaders, physicians funded by the pharmaceutical industry to deliver talks. The physicians employed to conduct the educational seminars were described as being carefully selected to enhance the promotion of the products being sold. Moreover, a general format was described in which the talk would appear to be broad based and on a general educational topic but invariably would narrow down to the product marketed, reinforcing the perception of industry sponsored medical education events as functional in creating a venue for marketing or influence of prescribing physicians.

And they try to find speakers I think that have a lot of clout. You know they find speakers that have won awards; or who have had lots of publications; or come from far away; and have information for us on stuff in different areas of the world; or different areas of Canada so that we get information on stuff that’s not just local; so they try to have sort of big name people who give their talks. [P9]

Yeah, the drug dinners. I have gone to a few usually because I know the speaker; and yeah, that’s a structured talk where they start with a topic and narrow it down fairly quickly to a specific product [P9]

Sometimes the medical education seminar would be described as a short drug detailing session in the office of the physician. This type of format was recognized by some participants as being very convenient to the provision of medical education, given the time constraints of busy doctors.
I can imagine for very busy clinicians, often a family doctor, to have someone that comes in; provides lunch; gives you a half hour spiel about how to use this new medication; Pros, cons, side effects, yada yada yada; and then gives you a bunch of samples, that must be very attractive to an individual. [P16]

Participants would often describe pharmaceutical industry sponsored medical education seminars directed towards trainees. Some participants perceived such seminars as a tactic by industry to familiarize the trainee with their presence in the medical environment, thus normalizing their presence in medicine outside of their traditional roles as producer and researcher of medications.

You would see them at some of the teaching sessions for clerks. You could see that they paid for lunches, there would be a pharmaceutical rep present at those things but there wasn’t a lot of product selling you might see a logo on some of the handouts of the company, but there wasn’t any specific product that they were selling. It’s just more about they were in our environment and we were, I guess getting comfortable with them being present [P9]

c. Integration of the pharmaceutical representative agents into the healthcare system

Participants made a distinction between industry representatives and the marketing structures they served. Whereas the marketing structures of the pharmaceutical industry represented an aloof corporate entity, industry representatives were seen as agents that functioned to serve as a human bridge between these distant marketing structures and the prescribing physician. In effect, participants felt the industry representatives to be invaluable tools used by the pharmaceutical industry as the final step allowing for direct marketing of medications to prescribers. The participants perceived the main purpose for the integration of pharmaceutical representatives was to create relationships with physicians. According to the participant, this process of relationship building begins with engaging the trainee and continues throughout their career.

Even as a resident I would see reps and they would know me, or talk to me a bit; but it almost seemed like they were paving the way for future interactions [P4]
I think being a new staff allows them to make those connections early on; and we know that doctors don’t like a lot of change; or change is hard for them; so they know that sometimes there’s stability right? And that’s how relationships are made. It’s harder to get out than to get in [P1]

The purpose of creating the relationship, according to the participants, was to generate a sense of familiarity, connection and trust with the pharmaceutical representative. Moreover, according to the participants, the representatives would often present themselves as being accessible to helping the physicians, particularly through the provision of sample medications. Once this connection was established, participants perceived the pharmaceutical representatives as having an entry point into the physicians psyche to introduce bias thereby affecting prescribing patterns.

... trying to get to know you... so this becomes personal, this connection; so they’re not just a business person, but a friend or someone you know; or someone you can call on [P7]

They want a piece of your time to describe the product, and the way they see it, from their end is that they’re educating us around the use of these products... but I’m not that naïve. I know at the end of the day it’s about sales; and that they are in there for the business; and it’s about gaining influence; and trying to get a market share [P9]

Not only are the pharmaceutical representatives perceived by the participants as being integral to the pharmaceutical industry in creating relationships with physicians, but according to participants they carry an additional role in creating relationships with other health care staff. This area of integration of pharmaceutical representatives into the health system is perceived by participants as having two main purposes. The first is the use of allied health and administrative staff to gain access to the physician. This is acknowledged by participants as being instrumental in creating the relationships with the prescribers and thus facilitating the sale of medication. The second involves gaining access to the delivery of patient care.
So I have had drug reps show up on the inpatient unit; the outpatient unit, asking to meet with me. Sometimes I don’t even know what’s happening and the nurse or secretary comes to find me and say there is somebody here to meet you; and I have walked out and been taken a bit aback [P16]

The office managers usually, in each clinic are responsible for inviting the drug reps or letting them come through; because they usually call first and then, coordinating them - stocking the cabinet if they’re running low [P18]

In describing the pharmaceutical representatives, study participants shared common perceptions regarding their demeanor, their appearances and their general styles of communication. Many study participants commented on the physical appearance of the typical pharmaceutical representative. They were generally described as being attractive individuals. This was often attributed to the fact that they were likely selected by the pharmaceutical industry for this quality in order to facilitate the relationships they are responsible for creating with physicians and others. Another common perception was that typically, pharmaceutical representatives would present themselves as being very professional, cheerful and knowledgeable individuals. This was perceived as being influential in allowing them to interact effectively with physicians in order to engage in salesmanship and thus enhancing their ability to influence.

You know there is the bell curve for everything right? And it’s been my personal impression that looking at the bell curve, the physical attractiveness of drug reps is a standard deviation or so above the mean [P16]

They are all very well dressed; they are all very articulate- well spoken; they’re always in a good mood; they are always putting their best foot forward... they want to portray a professional and very knowledgeable air; and they want to make sure that you want to talk with them [P17]

Interestingly participants noted two general types of pharmaceutical representative that they had come into contact with during their training and practice. The first was the helpful, patient-oriented and not overly aggressive type. This was considered to be the newly emerging dominant practice style of the pharmaceutical representative participants had encountered. Moreover, this
‘low-key’ type was considered to result in interactions perceived as being more pleasant by the participant. The second type was described as being aggressively sales oriented. This was considered by participants to be a practice style that was more antiquated and becoming less prominent among representatives that they tend to encounter. Moreover, this ‘pushy’ type was considered to result in interactions perceived as being off-putting and more likely to be avoided.

Yes definitely. Somebody who is very pushy; and has a bit of that arrogant flair; who is in your face; and always trying to wine and dine you. I don’t like that type of drug rep as much as somebody who wants to talk about my experiences with my patients; and wants to understand what I need from a medication; and what’s important to my practice... somebody who is just more down to earth; and wants to chat about how to help my patient population [P17]

When they see you in the hallway of the hospital; and grab you; and try to pull you aside, I find it’s just uncomfortable… it’s usually this particular ‘car-salesmen’ one that tends to do that... that’s why I just started ducking when I see him, just sort of go the other way. [P12]

Another common perception held by participants regarded theories about the training of the pharmaceutical representative. Although the specific theories varied, a common thread involved training paradigms to enhance interpersonal effectiveness, the ability to persuade and salesmanship. Interestingly some participants suspected that the pharmaceutical representatives themselves were likely influenced and biased by the pharmaceutical industry during their own training process. This was theorized to enhance their salesmanship of medications, as the representatives themselves were more convinced of their efficacy.

I suspect they’re trained in good psychology and psychological principles; how to get their foot in the door and keep you talking; and so I think there skilled sales people. Why wouldn’t they be? That’s their objective [P16]

I suspect that they go to a lot of very motivating talks about how to sell the medication and why it’s better than any other drugs… Because it’s hard to sell things you don’t believe in [P11]
iii. Summary: factors intrinsic to the promotion of pharmaceutical goods by industry

In summary, factors intrinsic to the promotion of pharmaceutical goods that had an impact on participant perceptions regarding interactions between physicians and the pharmaceutical industry included: 1) industry’s ability to influence prescribers and the healthcare system and 2) industry’s motivation in creating a role for itself in the healthcare system outside of its traditional role as researcher and producer or medications. Industry was felt by participants to be influencing both prescribers and the delivery of patient care through systematic control of the information of its products and through processes of gifting reciprocity to enhance selection of its products. Moreover, participants described an active process in which industry sought to create a role for itself in healthcare delivery by i) inserting itself in the delivery of medications and other health services, ii) providing training to medical personnel and iii) integrating its own representative agents in the healthcare system.

4.2.2.6 Summary of how perceptions developed during training and practice

In summary, the perceptions regarding interactions between physicians and the pharmaceutical industry developed through a complex interaction of factors that participants noted during their training and practice. A summary of the factors affecting participants’ perceptions is shown in table 16.
Table 16. Summary of factors affecting early career psychiatrists’ perceptions around interactions between physicians and the pharmaceutical industry

<table>
<thead>
<tr>
<th>Factors intrinsic to the medical education system</th>
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<tbody>
<tr>
<td>Formal training</td>
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<tr>
<td>Sheltering of trainees</td>
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<table>
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<tr>
<th>Factors intrinsic to early career psychiatrists’ practice</th>
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<tbody>
<tr>
<td>Factors related to patient care</td>
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<tr>
<td>Factors related to personal or professional development</td>
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<tr>
<td>Type of practice in which physician is employed</td>
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<table>
<thead>
<tr>
<th>Factors intrinsic to physician culture</th>
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<tbody>
<tr>
<td>Dominant cultural values within medicine</td>
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<tr>
<td>Perceptions regarding peers and colleagues</td>
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<table>
<thead>
<tr>
<th>Factors intrinsic to the promotion of pharmaceutical goods</th>
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</thead>
<tbody>
<tr>
<td>Influencing prescribers and the healthcare system</td>
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<tr>
<td>Creating a role for itself in the healthcare system</td>
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The first main category affecting participant perceptions around interactions between industry and physicians was intrinsic to the medical education training system and included aspects of the formal curriculum highlighting the risk of bias from industry and the sheltering of trainees from interactions by faculty.

The second main category was intrinsic to the participants’ own practice and included: i) factors related to patient care, ii) factors related to personal and professional development and iii) the type of practice in which the participant was employed.
The third main category was intrinsic to physician culture and related to a dominant view in medicine that interactions with industry are problematic resulting in participants developing perceptions regarding peers and colleagues who have strong relationships with industry as losing autonomy and being motivated by personal gain.

The final main category was intrinsic to the promotion of pharmaceutical goods and included perceptions of industry as influencing prescribers and the healthcare system as well as creating a role for itself within healthcare outside of its traditional role as producer and researcher of medications.

4.2.3 How do psychiatrists manage their relationship with the pharmaceutical industry?

Thematic analysis of the how research participants manage their relationship with the pharmaceutical demonstrates four major categories of strategies as shown in table 17.

<table>
<thead>
<tr>
<th>Categories of strategies early career psychiatrists employ in managing their interactions with the pharmaceutical industry</th>
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<tbody>
<tr>
<td>Avoidance of pharmaceutical industry interactions</td>
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<tr>
<td>Managing the relationship between the pharmaceutical industry and the healthcare delivery system</td>
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<tr>
<td>Understanding industry and its tactics</td>
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<tr>
<td>Managing their own behaviours when interacting with industry</td>
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Table 17. Categories of strategies early career psychiatrists employ in managing their interactions with the pharmaceutical industry.
4.2.3.1 Avoidance of pharmaceutical industry interactions

A common phenomenon was noted in transcript data in which participants described a predominant strategy when managing their relationship with the pharmaceutical industry as being one of avoidance. Analysis of data demonstrated that much of this avoidance was based on fears the participants had about risk of becoming compromised through interactions. Patterns of avoidance of industry interactions are shown in Table 18.

| Avoidance due to the fear of being judged by others |
| Avoidance due to the effects of being sheltered as a trainee |

1. Avoidance due to fear of being judged by other

Participants described avoidance of industry interactions driven by the fear of appearing compromised to peers or the public. In these instances, the participants would actively avoid industry interactions as they perceived their colleagues and the general public to be negatively judging physicians who interact with industry.

*I really wasn’t sure if I should go up to the pharmaceutical booths; or was that taboo; or would people judge me if I go up and talk to them? Does that somehow mean that I am biased in some way? … I would sometimes go up to some booth and see what the newest medication was and I know, I definitely felt uncomfortable. Like are people watching to see whose talking? [P13]*

2. Avoidance due to the effects of being sheltered as a trainee

The participants shared a distinct perception as being sheltered from pharmaceutical industry interactions as trainees. This lack of preparatory exposure resulted in a pattern of avoidance of industry interactions. Feeling unprepared and vulnerable to industry influence, participants would automatically avoid interactions for risk of becoming compromised. Moreover,
participants would often describe a difficult transition as they entered into practice due to their perceived lack of skills in interacting with industry.

>You are so sheltered, you never really develop an approach; and I do struggle with that; and that’s why I feel like for the first couple years as a new staff I’m vulnerable. But during that time, I hope to develop a balanced approach because I do think it’s important... whether you like it or not, they are still part of medicine [P1]

**iii. Summary: Avoidance of industry interactions**

In summary, participants described two categories or circumstances in which they would avoid industry interactions. The first was due to a fear of being judged by the dominant peer culture as being compromised when interacting with industry. The second related to a sense of vulnerability to industry influence due to being sheltered as a trainee.

**4.2.3.2 Managing the relationship between the pharmaceutical industry and the healthcare delivery system**

Given that the pharmaceutical industry was perceived to operate outside of the health care delivery framework, participants maintained a sense of responsibility in managing the relationship between the pharmaceutical industry and the healthcare system at large. Categories of circumstances in which participants described managing the relationship between the pharmaceutical industry and the healthcare system are shown in *table 19*.

<table>
<thead>
<tr>
<th>Table 19. Strategies employed by psychiatrists in managing the relationship between the pharmaceutical industry and the healthcare system</th>
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<tbody>
<tr>
<td>Imposing limits on pharmaceutical representatives</td>
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<tr>
<td>Managing the expectations of the patient</td>
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83
i. Imposing limits on pharmaceutical representatives

Interactions between pharmaceutical representatives and the agencies responsible for publically funded healthcare delivery were perceived by participants as introducing risk by potentially compromising patient care. Participants described imposing limits on pharmaceutical representatives in order to alter behaviour that could have resulted in unwelcome introduction of industry influence around patient care.

One of the ways of managing the pharmaceutical reps was; or one of the tips given was, to book an appointment time... that way both parties knew there was going to be an appointment time. There would be time set aside for some teaching and some introduction of new medications, and to make that very, not discreet, but very explicit. And in that way, maybe trying to eliminate other sort of meetings in the hallways... and avoid more covert kinds of meetings and messages. [P6]

I remember kicking them out of behind the [inpatient unit] desk where people were discussing confidential information about patients. They just had no place being there [P3]

Participants also described imposing limits on various salesmanship tactics used by representative. When a representative was described as being helpful, low-key and patient oriented, participants described themselves as more likely to interact. When a representative was described as aggressive and sales oriented, participants would be less amenable to interacting.

One day he was trying to follow up with me on the unit about something and I just went outside to talk to him and just said. “Listen, you and I have fundamentally different objectives. I can find out this information on my own. I have the ability and the tools to do so. Your objectives are to sell medication and to make a profit for your company therefore you and I have very different agendas... I need you to stop.” And he did stop. [P16]

ii. Managing the expectations of the patient

Participants noted that patients may become vulnerable to bias through industry marketing and advertisement strategies. Moreover, participants noted patients to have reservations around interactions between physicians and industry, similar to those of the physician community. In
these instances, participants would make use of their expertise to manage the expectations of their patients. In cases where the patients were felt to have been biased by the pharmaceutical industry through marketing, the physicians would manage the patient through their expertise as prescribers of medicine for individualized patient care. In cases where patients expressed reservations regarding the potential of their physicians having been compromised by industry interactions, the participants would provide reassurance by educating them on physician compensation by the healthcare system.

*I find that generally patients are willing to listen and appreciate the doctor’s opinion... if you explain some of your concerns about the one they’ve heard about on TV and why it’s not used in their particular instance, I think patients are generally understanding of that... I always try to explain to my patients that I am looking at them as an individual whereas particular studies or television shows are advertising to a mass media.* [P11]

*I do explain that yeah, medications they are an industry; and there is that interest in making money; but at the same time physicians are removed from financial benefit of that kind of stuff; and I think it’s realistic to say we don’t really benefit one way or the other; we don’t really get kickbacks from it; and so in some ways they sort of have to trust that we are sort of making our judgments based on what we see as clinically relevant.* [P15]

### iii. Summary: managing the relationship between industry and the healthcare system

In summary, participants described two approaches in managing the relationship between industry and the healthcare system. The first included imposing limits on pharmaceutical representatives whose behaviours or influence were thought to be a negative influence in being able to carry out patient care. The second involved managing the expectations of the patient.

4.2.3.3 Understanding industry and its tactics

Participants described two categories around developing an understanding into industry and its materials. These are summarized in *table 20.*
Table 20. Strategies employed by psychiatrists in understanding industry and its tactics

<table>
<thead>
<tr>
<th>Understanding the operations of private industry in relation to the healthcare system</th>
<th>Critical appraisal of industry materials</th>
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### i. Understanding the operations of private industry in relation to the healthcare system

Participants perceived that through the process of experience and learning, one can get a better understanding of how the pharmaceutical industry operates. By better understanding how industry operated, participants noted increased confidence in being able to carry out effective and appropriate interactions. Moreover as participants gained insight into their role in the pharmaceutical product development and distribution, specifically in regard to the notion that industry requires their prescribing services in order to sell its medications, they appeared more confident in managing their interactions with industry.

*I suppose going to a drug lunch; and if there is a drug rep there; and you were actually to get talking with them; and hear a bit more of their side of the story; understand where they’re coming from; understand what kinds of medications they’re doing trials on, I suppose attending these types of things you could gain more information about the pharmaceutical industry [P6]*

*I still feel like we have the power – like I don’t see it that way – but I sort of think they need us and so I don’t feel badly if I have to cancel a meeting with a rep because I have to see a patient… I have got my priorities and they seem, whatever, they’ll reschedule. I’ve never had an issue with that, never have I felt badly [P17]*

### ii. Critical appraisal of industry materials

Critical appraisal skills were defined by research participants as a powerful technique to analyse industry research material for the potential of bias. By being able to effectively apply critical appraisal skills to research materials, participants uniquely defined themselves as being experts
in evaluating the materials supplied by the pharmaceutical industry to physicians. Moreover, this skill set provided a positive shift in the participants’ perceived vulnerabilities to industry influence.

*When you’re hearing someone talk to you; and showing you data and stuff, to be able to actually critically analyze what you are seeing in front of you there; and understand if what they are showing you is in fact, I mean, it’s about evidence based medicine at that point [P9]*

### iii. Summary: understanding industry and its materials

Participants described two strategies to better understand industry in order to mitigate the risks inherent to industry influence. The first involved gaining a better understanding of how industry positions itself in the healthcare delivery system. The second involved increasing expertise in critical appraisal skills so as to improve their ability to detect bias and influence in industry sponsored material.

#### 4.2.3.4 Managing their own behaviours when interacting with industry

Participants described setting limits on their behaviours when interacting industry. Strategies described by participants in managing their own behaviours when interacting with industry are show in *table 21*.

<table>
<thead>
<tr>
<th>Conforming to physician culture</th>
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<tr>
<td>Setting limits on their own behaviours</td>
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*Table 21. Strategies employed by psychiatrists in managing their own behaviours when interacting with industry*
i. Conforming to physician culture

When interacting with industry, participants described conforming to various norms of the physician culture. In doing so, participants would seek counsel from colleagues or role model the behaviours of peers as a means to gauge whether a given interaction would be appropriate to physician culture.

*I would say a really big factor for me is what my colleagues are doing. And so watching, as a resident, watching how the staff I work with; how they interact with industry certainly influenced me, because there wasn’t a lot of knowledge or sessions about this type of thing. I would see what the staff was doing and then I think I learned from that [P13]*

ii. Setting limits on their own behaviours

Participants perceived themselves to be vulnerable to pharmaceutical industry bias. They tended to display a good understanding of *quid pro quo* interactions and they acknowledged that they were not invulnerable to bias introduced by factors intrinsic to the production of pharmaceutical goods. Moreover, they recognized significant risk in becoming compromised by introduction of industry prescription bias and therefore tended to remain vigilant to the potential for introduction of bias by the pharmaceutical industry. Through this sense of insight into their own vulnerabilities, participants would often set limits on their behaviours in order to prevent themselves from being influenced by industry. Although between participants, the specific limits they imposed upon themselves varied, transcript data demonstrated the pervasiveness of this phenomenon among all participants. Some examples include, setting boundaries to reduce the risk of bias by having an overly familiar relationship with a pharmaceutical representative or imposing limits when receiving gifts. Regardless of the limit, the main mediating factor was insight into their own vulnerabilities to becoming biased.

*I think it’s a slippery slope because you know I wouldn’t accept to go on a cruise or feel good about going on a cruise... but I will attend the off drug dinner [P6]*
It’s one thing for a salesman to take out his client and pay for dinner. We are the intermediary and our choices affect what our patients get. And so I think we sort of have a duty to keep it cleaner [P16]

What was I saying about doing this dance with pharma companies? Because they have the products that we use, we can’t just say they are evil and ignore them… So at the same time we don’t want to be unduly influenced and feel indebted to a company… It’s about maintaining a distance that is professional and courteous, without getting overinvolved [P9]

iii. Summary: managing their own behaviours when interacting with industry
In summary, participants described two strategies they employed when managing their own behaviours while interacting with industry. The first had them seek information from outside themselves by matching their own behaviours to physician culture through a process of conforming to norms. The second had them seek information from within by gaining insight into their own vulnerabilities to bias and placing limits on their behaviours.

4.2.3.5 Summary of how psychiatrists manage their relationship with the pharmaceutical industry
In summary, participants describe a wide range of strategies when interacting with the pharmaceutical industry. The approaches they described fell into four main categories and are summarized in table 22.
### Table 22. How early career psychiatrists manage their relationship with the pharmaceutical industry

<table>
<thead>
<tr>
<th>Avoidance of pharmaceutical industry interactions</th>
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<tr>
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<table>
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<tr>
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Avoidance of industry interactions occurred when participants: i) were at risk of facing negative judgment by others and ii) felt vulnerable due to inexperience after having been sheltered from interacting with industry as a trainee.

Participants also described managing the relationship between industry and the healthcare delivery system. This was achieved by: i) imposing limits on pharmaceutical representatives and ii) managing the expectations of the patient.

Another approach involved the participants gaining a better understanding of industry itself or its research materials, through: i) critical appraisal skills and ii) understanding how the private industry operates within the healthcare system.
The final approach involved the participants managing their own behaviours when interacting with industry by either i) conforming to medical culture or ii) setting limits on their own behaviours to prevent themselves from being affected by COI issues.

4.3 Axial coding: Integrating the concepts
Throughout the process of open coding for lower level concepts and higher level emerging themes, researchers treated the data via the technique of axial coding. Axial coding allowed for the integration of data so as to provide an understanding of the paradigm or internal model through which the participants applied their perceptions regarding their relationship with the pharmaceutical industry into practice. The development of this model required researchers to formulate understandings related to:

1) The role of the physician in the provision of patient care

2) The context in which participant interactions with the pharmaceutical industry occurred

3) The tensions moderating participant interactions with the pharmaceutical industry

4) The process through which tensions moderating participant interactions led to an approach in how they managed their relationship with the pharmaceutical industry

4.3.1 The role of the physician in the provision of patient care
When describing their roles as physicians, study participants framed their responsibility to the patient according to a value central to medicine, the privilege in holding a fiduciary relationship. This is a relationship defined by a sense of absolute loyalty to the patient and a value system in which personal interest cannot override this duty.
... you take an oath right? In medicine never do harm to patients. I would say mostly that your duty to your patients would be number one [P1]

Central to the fiduciary relationship is the ability to provide unbiased care in the service of the patient. This resulted in participants expressing a fear of becoming compromised through industry influence. They worried that if unable to maintain autonomy when making clinical decisions regarding medication prescription, their patients would suffer. The risk of becoming compromised was compounded by participants’ own described vulnerabilities to industry influence and their perceptions of industry’s expertise at influencing prescribers

I do kind of wonder if some of my treatment decisions will be based upon some of my influence with these companies. I don’t think they will be; and I always hope I won’t be... But you know, they pour a lot of money into marketing and psychological research... there’s a reason why they do this stuff, right? And to a degree I am kind of wondering if that might happen to me. I hope it doesn’t and I hope it hasn’t already. But I don’t know. [P18]

Participants worried that their own motivations for personal gain may align with the goal of industry to generate profit through medication sale. This could result in a situation in which they would be readily engaging with industry thus exposing themselves to influence and bias. Should this situation result in them prescribing an ineffectual or harmful medication, their responsibility in providing unbiased patient care according to the fiduciary relationship with the patient would be compromised.

I have seen people who are more connected... I think that they do, whether it is conscious or not, they prescribe more of that kind of medication. Or I think that they are swayed... And so that’s another reason I don’t want to be someone whose making decisions in part filtered on interactions, that are input into my own brain from the pharmaceutical industry. I would rather make it based on what I think is gonna be best for the patient at the time. [P4]

However, despite their reservations around interacting with industry, participants noted some dangers inherent in refusing to interact altogether. Given their perceived responsibility in
providing the patient with the best possible care, refusing industry supports that would be otherwise unavailable could also undermine their fiduciary relationship with the patient.

I wonder if it could be potentially harmful to patients if physicians avoid pharmaceutical reps and avoid learning new information about new drugs just because we have this preconceived idea that the pharmaceutical industry must be avoided; they're all unethical. [P6]

Taken together, the motivation to provide optimal patient care using all resources available while remaining free from industry bias introduced conflict into they conceptualized the role of the physician.

We have physicians that are involved in patient care and also heavily involved with the pharma. So now they’ve got one foot on either side of the fence; so they are getting paid well by pharm to represent their product and at the same time are involved in patient care. So I think they are probably dancing a finer line as far as balancing patient care. [P9]

4.3.2 The factors driving interactions between physicians and the pharmaceutical industry

Data analyzed determined a set of conditions in which interactions between physicians and the pharmaceutical industry occurred. The factors driving interactions between physicians and the pharmaceutical industry are shown in figure 1.
Participants noted a preference for government or university supported resources over industry support. In the case of medical research or medical education, they described a preference for university administered rather than industry administered supports. In the case of patient care, such as provision of medications to patients with insufficient coverage, they described a preference for government supports. However, participants perceived government or university funds in having limited budgets, which result in a situation where, according to the participants, sub-optimal healthcare is available to their patients. Moreover, university and government funding of research and medical education were equally perceived to be limited.

In situations in which government or university funds were perceived to be insufficient, participants noted industry to be offering its support. In effect, insufficient government or
university funding created a condition driving interactions between the participants and the pharmaceutical industry.

*It’s hard to find funding for post-residency fellowship training and we benefit by having people do that training, patients are gonna benefit in the long run for that... It’s not very easy to get money from the public purse for that. So then the pharmaceutical companies may step up to the plate and sponsor fellowship training [P2]*

*If you don’t have coverage, how are you gonna put this patient on this medication? ...it’s mainly around that. That there’s no coverage, or ...there’s no funds and it’s very expensive. So how can we get some compassionate supply? [P13]*

*Wouldn’t it make more sense that the company could grant the money to an academic facility who could then do unbiased research... that would have a significant arm’s length away from the drug company, rather than the drug companies doing the research themselves? Which is pretty painfully obvious, there’s a potential for bias there. So it would be nice if we could move to a more transparent and I don’t know what the word is... but a system that allows much more honesty and that separation. [P16]*

In addition to the circumstance in which industry has offered support for services not available through government or university funds, participants also described situations in which a physician may be driven to interact with industry for the sake of personal gain.

*I think the people who really get in the back pocket of pharma like the attention, they like the money, they like the travel [P17]*

### 4.3.3 Tensions moderating interactions with the pharmaceutical industry

Data analyzed determined a complex set of behaviours guiding how the participants managed their relationship with the pharmaceutical industry. The behaviors and thoughts expressed by the participants that influenced their interactions with the pharmaceutical industry were coded according to whether they resulted in promotion versus inhibition of industry interaction. Moreover, tensions moderating the interactions were also analyzed.
### 4.3.2.1 Avoidance of interactions for fear of becoming compromised

Once presented with opportunities to interact with the pharmaceutical industry participants, outlined several fears around becoming compromised through these interactions. The tensions related to the fear of becoming compromised by industry interactions are shown in *figure 2*.

![Figure 2. Tensions around the fear of becoming compromised moderating physicians' interactions with the pharmaceutical industry](image-url)
Participants described the fear of appearing compromised to the physician community or public as being a factor resulting in avoidance of industry interactions. This pattern of avoidance was mediated by the fear of being judged by others and hence related to participants’ sense of identity rather than their role in providing patient care.

*I don’t want to be seen as one of these guys that’s always at the drug talks. So that perception of feeling dirty or feeling like you don’t want to be one of “those guys”, you know? ... And there are those guys. [P3]*

Participants also described a fear of becoming compromised due to their own perceived vulnerabilities to industry influence resulting in an avoidance of interactions. The sense of vulnerability was attributed to the lack of experience in interacting with industry due to having been sheltered from industry as a trainee. This pattern of avoidance related to participants’ fear around being unable to provide patient care free from industry influence.

*You are so sheltered you never really develop an approach and I do struggle with that. That’s why I feel like for the first couple years as a new staff I’m vulnerable, but during that time I hope to develop a balanced approach because I do think it’s important. They are, whether you like it or not, still part of medicine. [P1]*

4.3.2.2 Provision of optimal medical care in the absence of government or university supports

In the context of insufficient government or university funding, participants would consider interacting with industry. This was motivated by their perceived role in providing the best possible patient care using all resources available. However, this also places their motivation to provide patient care free from industry bias, at risk. Through a process of rationalizing the outcome of the interaction in an attempt to maximize the provision of optimal care to the patient while minimizing industry bias, participants would define strategies leading to either interacting or not interacting with industry. A summary of these strategies is shown in figure 3.
Participants recognized that knowledge is power when interacting with the pharmaceutical industry. By better understanding the pharmaceutical industry through 1) learning corporate structure and function, 2) engaging in participatory observation of interactions, and 3) using critical analysis skills; they described gaining a better sense of confidence in mitigating the risk of industry bias.

Another strategy described by participants was imposing limits on their own behaviours that may lead to vulnerability to industry influence through COI. This strategy required the physician to have a comprehensive understanding of the industry tactics used to influence prescribing practices as well as insight into their own vulnerabilities to influence and bias.

Participants also described the strategy of conforming to the medical culture. By conforming to the medical culture, they were able to determine ways in which interactions could benefit the patient while mitigating the risk of prescription bias by placing the trust in their cultural milieu to determine what behaviours may constitute a COI. This provided an oversight mechanism into the
participants’ perceptions around personal vulnerabilities to industry influence. This strategy required the physicians to have either an understanding of the codified rules pertaining to appropriate behaviours when interacting with industry or a comprehensive understanding of physician norms around the issue.

In managing the relationship between industry and the healthcare delivery system, the physician is in a position to ensure that the goals of medicine are adhered to when industry offers its assistance in providing treatment to the patient that is otherwise not covered through government or university supports. This strategy empowers the physician to mitigate the risk of bias during interactions between the pharmaceutical industry and either the healthcare system or the patient.

**4.3.4 The three approaches used by physicians when interacting with the pharmaceutical industry**

Analysis of the various strategies participants employed when interacting with industry was categorized into three main approaches used by physicians when interacting with industry. *Figure 4* illustrates the three approaches.
The ‘conservative-avoidant’ approach, refers to an automatic avoidance of industry interactions. Interactions involving this approach were driven by the fear of becoming compromised. The nature of the fear varied. In the case of perceiving oneself to be vulnerable to interactions as an effect of having been sheltered as a trainee, the fear of becoming compromised occurred in direct relation to an absence of knowledge around industry tactics used to influence physicians. The fear of being judged by peers or society was grounded in the participant’s angst around being excluded from their physician culture or losing the trust of their patients. Avoidance of industry interactions was grounded in the preference to maximize the goal of mitigating the risk of industry influence at the expense of potentially providing optimal patient care when industry offers its support. In this case, the physician lacks confidence around how they can position
themselves in the relationship between industry and the healthcare delivery system and results in an ‘insecure’ interaction. The choice not to interact with industry, in a given situation, is not sufficient to define the ‘conservative-avoidant’ approach. However, when the avoidance was grounded in the fear of appearing or becoming compromised, then that interaction could be considered to be ‘insecure’ and be following this approach.

The ‘rational-principled’ approach could include the choice to interact with industry or the choice not to interact with industry. Physicians employed strategies to rationalize around providing optimal patient care in situations when industry offers its support, while minimizing the risk of bias. Various strategies were described including 1) understanding industry and its materials, 2) conforming to medical culture, 3) managing one’s own behaviours when interacting with industry and 4) managing the relationship between industry and the healthcare delivery system. Common to all of these strategies is the requisite for 1) comprehensive knowledge around industry tactics used in influencing prescribers, 2) insight into their own vulnerabilities to being influenced, and 3) the rules regulating physician interactions as defined by physician culture or guidelines. Given that the main process regulating this approach was rationalizing a strategy around the core fiduciary principle of providing optimal patient care free from COI, it would result in an ‘ethical’ interaction.

As shown in figure 4, a factor differentiating the ‘conservative-avoidant’ and ‘rational-principled’ approaches to a given interaction is knowledge. Knowledge in this case, encompasses 1) understanding the tactics used by industry to influence prescribers, 2) insight into their own vulnerabilities at being influenced and 3) the expectations laid out by society and medical culture around interactions. In the case of the ‘conservative-avoidant’ approach there is a general lack of knowledge and a sense of insecurity leading to automatic avoidance of a given interaction. In the
case of the ‘rational-principled’ approach there is sufficient knowledge leading to a sense of security in being able to position oneself within the relationship between industry and the healthcare delivery environment while maintaining an ethical approach guided by the fiduciary relationship. Movement from the ‘conservative-avoidant’ approach to the ‘rational-principled’ approach requires development of knowledge.

This was described by some participants as moving from ‘black and white’ thinking to a more ‘balanced’ thought process. The ‘black and white’ thought process resulted from lack of exposure or lack of knowledge around industry interactions. ‘Black and white’ thinking could result in the physician acting from a position of fear of becoming compromised when faced with an interaction. The ‘balanced’ thought process required adequate exposure and knowledge of the pharmaceutical industry, resulting in rationalizing an approach according to their motivation of providing optimal patient care free from industry bias.

*It’s such a complicated relationship that it’s easier just to split things; and make it black and white; and assume the pharmaceutical industry is unethical rather than seeing that there are shades of grey; and maybe you need to make decisions on a case by case basis; and maybe there are advantages to have the pharmaceutical industry involved [P6]*

Although the final approach, the ‘compromised approach’, used by physicians when interacting with the pharmaceutical industry was widely cited throughout the transcript data, it was not an approach in which the study participants themselves tended to identify with. This approach was generally elaborated when participants described other physicians they felt to be compromised through their interactions with the pharmaceutical industry. This approach was characterized by interactions with industry framed by primary motivations relating to personal gain and therefore represented a failure in achieving the physician’s goal of providing optimal patient care free of COI. In a situation whereby the physician lacks sufficient knowledge and is unknowingly
influenced by subconscious means the interaction is defined as ‘susceptible’. In the case whereby the physician has sufficient knowledge and has consciously chosen personal gain over optimal patient care the interaction is defined as ‘unethical’.

4.3.5 Summary of axial coding
In summary, integration of open coding into higher level emerging themes provided insight into:
1) the perceived role of the physician, 2) the conditions driving interactions with the pharmaceutical industry occur, 3) the tensions moderating participant interactions with the pharmaceutical industry and 4) the process through which tensions developed.

Participants conceived the role of the physician in the context of their interactions with industry as being to delivery optimal patient care free from COI. Optimal patient care related to using all resources available to benefit the patient. Industry, through its ability to influence prescribers, was thought to pose risk to the provision of patient care by the introduction of bias. However, participants also recognized that industry, at times, could provide supports normally unavailable through government or university funds, leading to a perception that refusing interactions with industry could also lead to suboptimal patient care.

A condition driving interactions with the pharmaceutical industry occurred when the participant noted that insufficient government or university funding was available for patient care, medical education or research. Industry would then offer its support in those areas, setting the stage for an interaction. Moreover, in some circumstances, physicians were described to interact with industry around motivations for personal gain.

The process through which the decision to interact occurs is heavily influenced by the participants’ knowledge and experience around industry interactions. Under the ‘conservative-avoidant’ approach the physician will rigidly avoid a given interaction for fear of becoming or
appearing compromised. Under the ‘rational-principled’ approach the physician will balance the risk of becoming compromised by bias with the goal of providing optimal patient care, thus rationalizing the outcome of their behavior according to an ethical framework. In instances in which the physician is motivated to interact with industry due to personal gain rather than patient care, whether it be by conscious or unconscious mechanisms, an interaction with industry will occur via the ‘compromised’ approach.

4.4 Identifying the core variable
Throughout the process of open and axial coding, the data was further refined and integrated around a core variable or theoretical construct mediating all others. Data analyzed demonstrated that the factors mediating the participants’ interactions with the pharmaceutical industry involved tensions between two aspects of the fiduciary relationship with the patient: 1) the provision of treatment free from industry bias and 2) the provision of the best available patient care using all resources available. Interactions or avoidance of interactions leading to the interruption of either of these two goals could lead to physician compromise. Moreover, the idea of becoming compromised was experienced by participants as 1) an internal self-perception in how they successfully carry out their roles as physicians, and 2) how they are perceived by their community or the greater society in light of their interactions with the pharmaceutical industry. Taken together and as shown in figure 5, these concepts were integrated under the heading of ‘physician integrity’. As demonstrated, this heading describes a sense of self conception mediated through both an internal and external point of reference.
4.4.1 The conditional matrix

Through integrating the data derived from axial coding and the concept of ‘physician integrity’, researchers were able to illustrate the perceptions that psychiatrists have about their relationship with the pharmaceutical industry. This is illustrated as a conditional matrix in figure 6.
Figure 6. The conditional matrix: the process through which physicians perceive their interactions with the pharmaceutical industry

The conditional matrix (figure 6) illustrates the factors affecting perceptions that psychiatrists have about their relationship with the pharmaceutical industry. It shows this by demonstrating: 1) connections between the context consequential for interactions between psychiatrists and the pharmaceutical industry, 2) the relationships between main variables affecting psychiatrists’ interactions with the pharmaceutical industry and 3) providing for recognition of changing conditions and consequences that can affect the interactions between psychiatrists and the pharmaceutical industry according to the main tenets of the paradigm.

The context resulting in the potential for an interaction is shown on the left hand side of the diagram. This includes: 1) insufficient government or university support for medical education, research or patient care; 2) motivation for personal gain; and 3) industry’s offer of support for healthcare delivery.
The conditional matrix diagram then highlights the three approaches through which specific interactions with the pharmaceutical industry occurred. These include the ‘rational-principled’ approach, the ‘conservative-avoidant’ approach and the ‘compromised’ approach. Given that participants did not personally identify with the ‘compromised’ approach but rather used it when describing others they judged to have been influenced by industry it is represented in a dashed box.

The three approaches to interactions are all defined according to concepts around both physician role and physician identity. In interactions involving the ‘rational-principled’ approach the physician is gauging whether an interaction will fulfill their role of providing optimal patient care using all resources available while minimizing risk of industry influence. In interactions involving the ‘compromised’ approach the physician has forsaken their role in providing optimal patient care in favor of personal gain, resulting in a compromised identity when judged by others. In interactions involving the ‘conservative-avoidant’ approach, the physician maintains one aspect of physician integrity, the provision of patient care free from industry influence but optimal patient care using all resources available may be at risk by refusing industry support. All three approaches are defined according to concepts of physician role and physician identity thus demonstrating the core variable mediating all interactions with the pharmaceutical industry as being ‘physician integrity’.

4.4.2 Summary: physician integrity

By comparing information distilled from concepts around how participants defined the role and identity of physicians in relation to interactions with the pharmaceutical industry, the research team demonstrated that ‘physician integrity’ was core to regulating the various approaches to interacting with industry.
The three approaches to interacting with the pharmaceutical industry led to four defined types of interactions. The ‘rational-principled’ approach resulted in interactions defined as ‘ethical’ due to the adherence around the core value of providing optimal patient care using all resources available and while minimizing the risk of COI. This approach resulted in a preserved sense of integrity. The ‘compromised’ approach resulted in either an ‘unethical’ interaction when the physician consciously placed their own needs ahead of the patient, or a ‘susceptible’ interaction when the physician unconsciously did not realize they were placing their needs ahead of the patient. In either case the goal of providing optimal patient care was interrupted by the risks of COI resulting in compromised sense of integrity. The ‘conservative-avoidant’ approach occurred when the physician avoided a given interaction with the pharmaceutical industry so as to minimize the risk of COI at the expense of providing optimal patient care using all resources available. All three approaches were informed by and came to define an overall sense of ‘physician integrity’ described by the participants.
CHAPTER 5: Discussion

5.1 Overview of significant findings

5.1.1 Statement of purpose

The purpose of this thesis was to explore the perceptions that early career psychiatrists have about their relationships with the pharmaceutical industry. This line of research was conducted in order to clarify the decision making process physicians engage in when choosing whether to interact with the pharmaceutical industry. Grounded theory was used to explore early career psychiatrist perspectives on their relationship with the pharmaceutical industry leading to an exploration of factors that promoted or inhibited interactions with the pharmaceutical industry.

This study adds to the literature by demonstrating that ‘physician integrity’ is the core variable mediating the perceptions physicians have regarding their relationship with the pharmaceutical industry. Moreover, it demonstrates the factors mediating the various strategies physicians employ in their interactions with the pharmaceutical industry and how these are influenced by their sense of professional integrity. Finally, it defines three approaches when faced with an interaction leading to four typologies of interactions. The study therefore helps to distill the complex phenomena around interactions with the pharmaceutical industry into a more coherent pattern that can lend itself to improved medical education of healthcare personnel.

5.1.2 Original research questions: Integrating the concepts and considerations in light of existing research

The main purpose of this study in exploring the perceptions psychiatrists have regarding their relationships with the pharmaceutical industry was accomplished by answering the following three research questions:
What are the experiences of psychiatrists regarding interactions between physicians and the pharmaceutical industry?

The experiences participants described regarding interactions between physicians and the pharmaceutical industry took place throughout their training and practice. Experiences and interactions with industry were noted to increase throughout the training process. Prior to medical training, participant descriptions around their interactions with the pharmaceutical industry were varied and inconsistent. Regardless, they likely entered medicine with a general understanding of how private industry operates and the negative public sentiment around the influence of the pharmaceutical industry on physicians. Upon entry into medical training, the physicians began a new process of socialization in which their own expected roles and identities as physicians, particularly as they pertained to the fiduciary relationship to the patient, became more apparent.

When describing their interactions with the pharmaceutical industry, the general sentiment was that of a pervasive presence of industry within the healthcare system. Participant descriptions of interactions with the pharmaceutical industry were similar to areas of interactions described in the literature and included: 1) advertisement, 2) promotion of services and products to healthcare workers, 3) individualized drug detailing, 4) provision of samples, 5) industry sponsored educational events, 6) joint academic-industry sponsored medical educational events, 7) industry sponsorship at medical conferences, and 8) spontaneous interactions.17,21-26,32,34-36,47,48,53

How have perceptions regarding interactions between physicians and the pharmaceutical industry developed throughout psychiatric training and practice?

The perceptions regarding interactions between physicians and the pharmaceutical industry developed through a complex process related to both participant training and their general experiences while operating within the healthcare system. Four main phenomena were noted to
contribute towards how participants developed their perceptions. These include: 1) the medical 
education system, 2) the physicians’ practice of medicine, 3) physician culture, and 4) the 
positioning of the pharmaceutical industry in promoting its products.

When describing the contributing influences of the medical education system, participants noted 
limited training during medical school and residency targeting effective behaviours used to 
interact with industry. This phenomena is consistent with data in the literature which suggests a 
paucity of curricula around developing relationships with the pharmaceutical industry.114 
Moreover, throughout their training, participants noted an active effort by faculty to shelter them 
from the effects of pharmaceutical industry prescription bias by limiting their ability to interact. 
This phenomenon is likely guided by research suggesting that medical education strategies that 
prohibit industry interactions can result in prescribing behaviours that appear to be less 
influenced by industry.115 Moreover it represents an intervention modelled on the theory of 
bounded ethicality which relates to the systematic and predictable ways in which humans act 
unethically beyond their awareness.100 Interestingly, the lack of curricula and the medical 
education system’s efforts in sheltering trainees led to a sense of vulnerability when participants 
transitioned from residency to practice due to inadequate development of skills in interacting 
with industry. This data is consistent with the principle of ‘disruptive novel elements’, a concept 
in the literature which relates to the multiple novel tasks that early career physicians must attend 
to that were not experienced in their residency leading to difficulties during the transition to 
practice.135 

The participants’ practice of medicine also affected their motivations around engaging with 
industry. Some motivations included the desire 1) to procure the best possible treatment for their 
patients; 2) to be provided with resources or training; and 3) to network with other professionals.
These motivations were framed around using industry supports to improve patient care in a healthcare environment lacking these supports. Given that participants perceived that these vital aspects of healthcare delivery were often unavailable via governmental or university supports and therefore could only be accessed through industry support; this phenomena supports previous research indicating that interaction with industry may be an unavoidable aspect in the delivery of healthcare. Participants also described seizing on interactions to improve their personal or professional status through receiving gifts or financial gain. This motivation to interact is at most risk of resulting in COI, as the physician may consciously or subconsciously place their own needs ahead of those of the patient.

Participants described dominant cultural beliefs that treat industry interactions as problematic. They also expressed their own negative perceptions on peers and colleagues whose interactions may have compromised their ability to deliver patient care free from industry bias. This phenomenon resulted in the splitting of a complex issue into two extremes of opinions. On one end was a group of physicians who were described as treating all interactions with industry as problematic due to the risk of bias. On the other end was a group of physicians whose interactions with industry were thought to be motivated by greed and therefore were judged to be compromised. The participants feared being categorized in the latter ‘disgraced’ group due to the potential for negative judgments by their peers and the general public.

The overall phenomenon described by participants is that of cultural stigma. It appears to be serving a role in inhibiting interactions with the pharmaceutical industry for risk of being shamed. The phenomenon of stigma, as described by participants, is consistent with stigma research. Goffman defines social stigma as the extreme disapproval of (or discontent with) a person or group on socially characteristic grounds that are perceived, and serve to distinguish
them from other members of the group. In the case of physicians interacting with the pharmaceutical industry, this process may serve to ensure a social means of ensuring members of the physician community conform to acceptable behaviours and mitigate the risk of becoming biased by industry for fear of exclusion from the group.

The final phenomenon contributing to participant perceptions around interactions between physicians and the pharmaceutical industry relates to the positioning of the pharmaceutical industry in promoting its products to physicians. Industry’s attempts at influencing prescribers and other members of the healthcare system was perceived to be accomplished through 1) gifting-reciprocity; 2) controlling the information regarding its products; 3) active efforts to engage in the delivery of healthcare; 4) provision of education to medical personnel; and 5) integration of pharmaceutical representative agents into the healthcare system. All strategies can be seen, at times, to employ some of six principles inherent to the Cialdini framework relating to persuasion and influence including: 1) reciprocity, 2) commitment and consistency, 3) social proof, 4) authority, 5) liking, and 6) scarcity.

Participants noted the pharmaceutical industry to be promoting its products through its attempts at creating a role for itself in the healthcare system outside of its traditional role as researcher and producer of medications. This phenomenon is consistent with the ethnographic data in the literature which suggests that industry uses gifts and financing of research or educational events to gain a foothold into physician culture thereby creating a venue for subconscious influence of physician prescribing behaviours.
5.1.2.3 How do psychiatrists manage their relationship with the pharmaceutical industry?

Participants managed their relationship with the pharmaceutical industry by using four strategies. These include: 1) avoiding interactions, 2) managing the relationship between industry and the healthcare system, 3) understanding industry and its tactics, and 4) managing their own behaviours when interacting with industry.

Participants described several instances in which they would avoid interacting with the pharmaceutical industry. One involved instances brought on by the social forces and culture. It involved the fear of being judged by the physician community as being compromised by industry bias thus resulting in a powerful motivator to automatically avoid any interaction with the pharmaceutical industry. As discussed, this pattern of avoidance is reflective of social stigma effects described in the literature.\textsuperscript{136}

Another instance of avoidance occurred in the context of the participants feeling vulnerable as a result of having been sheltered as trainees from industry interactions. When perceiving themselves to be vulnerable and inexperienced in their abilities to interact with industry, participants would often engage in a strategy of automatic avoidance. As discussed, this pattern of avoidance is reflective of concepts related to ‘disruptive novel elements’ described in the physician transitions literature.\textsuperscript{135}

Study participants described managing their relationship with the pharmaceutical industry by managing the relationship between industry and the healthcare delivery system itself. The strategies used included 1) imposing limits on pharmaceutical representatives; 2) providing reassurance to patients who carried reservations around the relationship between industry and healthcare; and 3) reminding patients who they felt to be biased by industry of their expertise in
providing individualized patient care. This strategy requires a comprehensive understanding of industry and its tactics. Moreover, it represents a situation in which the physician him or herself acts as an agent of influence in mitigating the potentially detrimental effects of industry influence.

Participants also managed their relationship with the pharmaceutical industry by better understanding industry and its tactics. Critical appraisal of industry materials was described by participants as an empowering tool useful in discriminating the potential bias that industry sought to introduce to prescription practices. Critical appraisal is described as a key enabling competency under the domain of scholar in the CanMEDS framework. Moreover, critical appraisal of scientific material has been demonstrated to be vital in evaluating industry sponsored material for the types of bias that can negatively influence prescriber behaviour.

Participants also described managing their own behaviours during interactions with industry. Given that participants had little knowledge of the codified rules of interaction as laid out by their community through guidelines, they observed the social milieu of the culture to determine what behaviours were acceptable and what were not. Participants also described setting various limits on their own behaviour when interacting with industry. This strategy required both a comprehensive understanding of industry tactics as well as personal insight around their own vulnerabilities to influence.

5.1.3 Physician integrity

Analysis of data included an examination into the participants’ understanding around their own roles as physicians. This included the responsibility they perceived to have in providing the best possible care to their patients using all resources available which, at times, conflicted with a fear of that role becoming compromised by the risk of industry bias. This was further complicated by
the perception that the healthcare delivery system lacked the governmental or university funded supports required for optimal patient care. These tensions resulted in a complex thought process leading to various strategies the participants employed when managing their relationship with the pharmaceutical industry.

Interactions with the pharmaceutical industry were noted to occur in one of two contexts. The first involved interacting with industry around motivations related to personal gain. Data analysis demonstrated a clear link between participant perceptions around interactions with industry for the sake of personal gain and the direct negative impact on the fiduciary relationship with the patient, a phenomenon well documented in the literature.\textsuperscript{17,20,26,29,31} The second context occurred when participants perceived a lack of resources by the government or the university to support patient care, medical education and research. In this situation, participants would consider interacting with industry.

Data analysis demonstrated three main approaches participants described physicians as utilizing when interacting with industry. The ‘compromised’ approach occurred when the physician interacted for sake of personal gain thus introducing the risk of prescription bias through conflict of interest issues. This could either occur when the physician recognized industry’s attempt at influence and acted unethically, in conscious violation of the fiduciary relationship to the patient; or when the physician did not recognize industry’s attempt at influence and acted in an unconscious and susceptible manner. Study participants did not personally identify with this approach but noted it when describing others. The phenomenon may be mediated according to the principle of bounded ethicality which states that humans act unethically in a systematic and predictable fashion, thus precluding study participants from recognizing their own vulnerabilities to becoming compromised.\textsuperscript{100}
The ‘conservative-avoidant’ approach occurred when the physician chose to avoid interactions due to insecurity around feeling vulnerable to industry bias as a result of lack of experience training; or fears of being judged by the community as being compromised as a result of their interactions. In this case participants would prioritize mitigating the risk of industry bias over the potential of accessing additional support that was otherwise not available through government or university funding.

The ‘rational-principled’ approach occurred when the physician weighed the risk of industry bias with the benefit of accessing supports not funded by government or university according to the principles inherent in the fiduciary relationship. The physician could use knowledge gained around industry’s ability to influence and their own vulnerabilities to COI phenomena in order to mitigate the risk of industry bias and interact in an ethical manner.

The three approaches demonstrate a model of decision-making while facing a complex moral issue and are reflective of Kohlberg’s model for moral development. The first or pre-conventional level is defined by behaviours based on either self-interest or fear of punishment. The ‘compromised’ approach follows this pattern. According to the model, guidelines regulating interactions between physicians and the pharmaceutical industry can prevent the unethical interactions defined by this approach by enacting the fear of punishment.

The second or conventional level of moral development is described as morality being interpreted by comparing actions according to society’s expectations and as a result, behaviours are split into categories of right and wrong. The ‘conservative-avoidant’ approach appears to follow this pattern in that it represents an automatic avoidance of an interaction. As mentioned, this approach occurs when a given interaction is avoided, not through a process of rationalizing the risks or benefits of the interaction, but due to fear of appearing or becoming
compromised. In this case, in order to maintain a sense of professional integrity, the physician would defer to society’s perception that treat all interactions with industry as problematic.

a sense of vulnerability to becoming biased by industry leads the physician to automatically default to the expectations of the dominant group that treats interactions as problematic.

In the third or post-conventional level of moral development, the individuals recognize themselves as being separate from society with an independent set of values and perspectives. This viewpoint allows individuals to live by their own ethical principles and therefore they will be less inhibited in disobeying the rules of society when these rules are noted to conflict with internalized codes of ethics. Rules are therefore viewed as being useful yet changeable mechanisms that guard against violations of social order and human rights.139-141 The ‘rational-principled’ approach follows this pattern by allowing the physician to make his or her own independent decisions around interacting with the industry according to the ethical framework laid out by the fiduciary relationship with the patient.

Integration and analysis of the three approaches demonstrated that ‘physician integrity’ was the core variable mediating participant perceptions around their relationship with the pharmaceutical industry. Physician integrity, in the context of interactions with the pharmaceutical industry, incorporated aspects related to physician role and identity. As discussed, participants described the physician’s role as 1) providing the best possible care to the patient using all resources available while 2) maintaining a fiduciary relationship with the patient free from COI and industry bias. Participants described their identity according to how they, their peers or the public would judge them to be effectively carrying out their role.

Physician integrity meets several essential features highlighted by Corbin and Strauss in defining a core variable within the grounded theory methodology.117 First of all, this core construct is a
sufficiently abstract concept that is logical and consistent with the data as it can be seen to contain the various dimensions of behaviours the participants exhibited when interacting with the pharmaceutical industry. The concept appeared frequently in the data both in terms of how participants viewed themselves and their contemporaries in relation to industry interactions. Finally, by relating physician integrity to each of the approaches physicians employ when interacting with the pharmaceutical industry it is noted to grow in depth and explanatory power.

5.2 Implications

5.2.1 Systems based approaches to mitigating the risks of industry bias

As discussed, this study substantiates previous research indicating that interaction with industry is thought to be an unavoidable aspect in the delivery of healthcare and therefore systems based interventions are necessary to address problematic COI issues. One approach to mitigating the negative effects introduced by COI issues can utilize the principle of bounded ethicality which states that humans act unethically in a systematic and predictable fashion. As mentioned, an interesting outcome of this study related to the finding that participants would readily note other physicians to be engaging in a ‘compromised’ approach when interacting with industry, but would not identify themselves as using this approach. This phenomenon may be mediated through the principle of bounded ethicality. In this case, physicians may be unable to acknowledge instances in which interactions are at risk of compromise through a mechanism that serves to protect their own sense of professional integrity. Given that integrity is fundamental to how physicians construct their role and identity, consciously acknowledging behaviours as being compromised may be unacceptable to the physician’s own sense of self. Therefore, when acting in a compromised manner, the physician may consciously or subconsciously rationalize their behaviours in order to maintain a sense of professional integrity.
In order to address risks introduced by the principle of bounded ethicality, public health policy must promote increased regulation around how physicians interact with industry in situations where they are motivated by personal gain. This intervention is consistent with what some commentators have advocated for in the literature.\textsuperscript{99} Moreover, this approach can also curtail the prevalence of ‘unethical’ interactions by introducing the fear of reprisal to physicians who knowingly interact with the pharmaceutical industry for personal gain while consciously abandoning principles inherent to the fiduciary relationship.

According to another moral perspective termed the ‘principle-agent’ theory, the principle (the physician) is challenged to identify whether an agent (the pharmaceutical industry) is really promoting the principle’s interests (patient care) or an alternative interest specific to the agent (corporate profit).\textsuperscript{102,103} In this case it has been proposed that government legislation be directed to controlling the pharmaceutical industry itself so as to better align industry interests around promoting optimal patient care rather than share holder profit.\textsuperscript{101,104}

\textbf{5.2.2 Improving the medical education curriculum addressing effective physician behaviours when interacting with industry}

In the context of a medical education system lacking effective curricula to better prepare early career physicians to interact with the pharmaceutical industry, the results of this study can provide some direction into issues that such a curriculum could address. A summary of curricular interventions suggested by the author in light of this research is shown in \textit{table 23}. 
Table 23. Curricular interventions to train the medical graduate to effectively interact with the pharmaceutical industry

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<tr>
<td>1.</td>
<td>Avoid sheltering the trainee, while this is effective at preventing the introduction of bias, it does not prepare the medical graduate to effectively interact with the pharmaceutical industry</td>
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<tr>
<td>2.</td>
<td>Incorporate guidelines regulating physician behaviours around interactions with industry into the medical curricula</td>
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<tr>
<td>3.</td>
<td>Provide training on the ethical determinants of COI phenomena; and the potential conflicts around ensuring optimal patient care while minimizing risk of bias in practice</td>
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<td>4.</td>
<td>Prepare the trainee to understand the healthcare system in which they will be working</td>
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<td>5.</td>
<td>Improve the trainee’s understanding of how the pharmaceutical and private industries operate</td>
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<td>6.</td>
<td>Promote insight around how physicians can be unknowingly influenced by providing training on the psychological determinants of influence and persuasion</td>
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<tr>
<td>7.</td>
<td>Develop critical appraisal skills</td>
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A successful curriculum around promoting effective interaction with industry would require the trainee to rationalize their interactions according to the risk of becoming biased and the benefits that an interaction could provide to the patient. When introducing curricula around interactions with industry, educators should promote a ‘rational-principled’ approach.

One intervention involves a recognition from the medical education system that sheltering trainees is an inadequate response to the risk of being introduced to industry prescription bias. Sheltering, although effective at preventing introduction of bias to the susceptible trainee, can introduce a sense of vulnerability when transitioning to practice. Programmes must therefore introduce a curriculum that balances provision of material aimed at decreasing vulnerability to influence, while allowing the trainee to interact with the pharmaceutical industry in a progressive and supported manner.
Another intervention is the incorporation of guidelines that have been established by medical and academic associations regulating physician behaviours into medical curricula. Although similar to the phenomenon of modelling peer behaviours, it provides for a concrete approach to guiding physician behaviour given the variability of behaviours expressed in the physician community. Moreover, provision of this curricular element will be influential in curbing questionable behaviour of unethical physicians who do not hold the principled viewpoint related to the primacy of the fiduciary relationship. Similarly, it will curb the behaviour of those unconsciously susceptible to COI issues due to a lack appropriate knowledge that may result in compromised interactions.

Another set of interventions that can help reduce susceptibility to industry influence can be designed to promote insight around how the trainee him or herself can be unknowingly influenced. These interventions could focus on the psychological determinants affecting COI phenomenon. By providing education around the mechanics about COI phenomena and insight into how their own needs may be co-opted by these forces, the trainee will likely develop a better understanding around setting limits on their own behaviours in order to decrease the risk of being negatively influenced by industry.

Another intervention is helping the trainee to better understand the context of the healthcare system in which they will be working. Not only will this prepare them for encounters in which public support for patient care is lacking, but it will also prepare them in situating themselves within the relationship between industry and the healthcare system.

An intervention that can be used in helping the trainee to effectively interact with industry is by training them to understand industry itself. The goals of industry are very different from the goals of the physician. By integrating this knowledge into the decisions regarding when and how
to best interact with industry, the physician will more effectively be able to remain vigilant to the
potential for bias. Also, by understanding drug development from research to marketing, and the
integral role the physician plays in the delivery of medication to consumer, physicians will better
be able to situate themselves in the relationship between industry and the healthcare system.

Another tool the physician can be equipped with when interacting with industry is through the
rigorous development of critical appraisal skills. The authority and influence industry poses
when attempting to control the information around its products through dissemination of research
and other propaganda tools will thus become obsolete in the hands of the knowledgeable
physician.

5.3 Limitations

Although this study was rigorous and conducted according to the principles of credibility and
auditability as outlined by Kupper and Chiovatti through the systematic description of data
collection and analysis outlined in the methodology, several limitations should be noted.

This study explored early career psychiatrist perceptions regarding their relationships with the
pharmaceutical industry in semi-structured interview format. The way in which they manage
their interactions with the pharmaceutical industry was therefore deduced according to
conversations rather than direct observation of behaviours. It is therefore at risk to issues
inherent in participant recall. Moreover, given the noted stigma around interactions with the
pharmaceutical industry, participants may have minimized actual behaviours in the context of the
interview. In order to minimize this risk, the interview was conducted according to an open style
of questioning and an inquisitive rather than judgmental manner of interrogation.

The interviewer, TS, is a psychiatry resident who has worked alongside and known many of the
study participants. Given the trainee designation of the interviewer, a power dynamic may have
been set up in which interview participants would make use of the interview to teach the interviewer about proper relations with the pharmaceutical industry rather than merely providing an unbiased description of their experiences. This risk was minimized similarly to the risk imposed by stigma in that the interviewer maintained a non-judgmental inquisitive stance throughout the interview process and that the clear role of researcher was discussed with the participants prior to interview.

Researchers, TS, NB, AB and RB belong to the psychiatric department as training or practicing psychiatrists. This may have biased data analysis by the introduction of preconceived notions regarding pharmaceutical interactions. Fortunately, two members of the research team, KB and JL are from outside of psychiatry and therefore could add breadth to the data analysis through the process of data triangulation and achieving consensus on all findings.

This study took place in the city of Calgary within the department of psychiatry. Due to the contextual nature of how health is administered in this catchment area, and the noted importance of context affecting interactions with the pharmaceutical industry throughout the data analysis; a different area with a different mechanism for health delivery may affect the transferability of the research results. Moreover, study participants were mainly limited in having been exposed to the modern Canadian medical education system. Transferability of results may be affected when considering physicians or psychiatrists trained in a different era or different location. Finally, this study focused on psychiatrists, transferability of results to other specialties in medicine may therefore be affected if another cultural or training paradigm exists.

This study focused on the perceptions of early career psychiatrists. Although this group was purposefully selected as they represent a modern training paradigm, inclusion of psychiatrists further on in their career progression may have resulted in more breadth according to how
psychiatrists manage their interactions with the pharmaceutical industry and how the relationship is perceived. Moreover, inclusion of other health care personnel such as nursing, office managers, administrators, medical students and postgraduate residents could have provided more breadth in the theory relating to interactions between the pharmaceutical industry and the health care system. Finally inclusion of pharmaceutical representatives or other employees of the pharmaceutical industry could have provided researchers with a point of view from industry in regards to their own relationships with the healthcare system.

In this study, selective sampling was used due to constraints of available resources including time. The total sample size represented 62% of those meeting inclusion criteria, however thematic saturation was achieved with the 19 interviews used in the analysis. Subsequent to the 15th interview, further interviews failed to create new themes on analysis.

5.4 Recommendations for further research
This study explored early career psychiatrist perceptions regarding their relationships with the pharmaceutical industry and determined that physician integrity was central to the way in which that relationship is managed. Physician integrity and its relationship to other domains of physician functioning can therefore be further explored and developed. Given the strong socialization forces inherent in the training of the medical doctor, one could posit that elements related to the concept of physician integrity, as defined by this study could also be at work in other elements inherent in the practice of medicine. This theory could also lead to explanations around the long work hours and the overly conscientious commitment to work over personal life that has long been phenomenon in medical practice.142

By replicating elements of this study in other physician groups or physicians trained in other eras, one could also determine how views around their own perceived professional integrity may
affect these groups when managing their interactions with the pharmaceutical industry. Moreover, given that the psychiatrists in the catchment area tend to be well paid professionals, a study of physicians receiving more modest payment could clarify how the competing goals to satisfy one’s material needs and to provide optimal patient care while minimizing industry prescription bias may manifest in the interactions with the pharmaceutical industry for the physician who feels his or her financial needs are not being met by the healthcare system.

One element of this study that conflicts with the literature relates to whether or not physicians feel as if small gifts by industry can lead to compromise. Previous studies indicate that physicians deny the phenomenon of social reciprocity when receiving small gifts.20 This was not the case in this study. This could represent an emerging awareness of the effects of gifting-reciprocity in the larger cultural milieu. Further study might clarify this through surveys or other methods.

The results of this study can be used to inform medical curriculum around how to promote effective interactions with the pharmaceutical industry using a post conventional moralistic approach. With introduction of a curriculum that both promotes better knowledge of industry and provides for supervised experiences in interacting with industry, research could be used to determine if the results of such a curriculum do in fact provide for a more effective transition from postgraduate trainee to practice. Moreover, the principles of the post conventionalist moralistic approach could be further expanded to accommodate other areas of ethical medical decision making in the realm of medical education.

5.5 Conclusions
This study was able to meet the overall purpose of exploring early career psychiatrist perceptions around their relationship with the pharmaceutical industry. The methodology, which made use of
grounded theory to analyze transcribed interview data was successful at clarifying how perceptions on interactions with the pharmaceutical industry had an effect on how the participants managed the relationship. Moreover, more is now known regarding how these perceptions develop in psychiatric training and practice as well as how physicians perceive industry as interacting with their own community. Physician integrity is central to determining when and in what way a physician will interact with industry. Moreover, knowledge about industry and experience in interacting with industry will provide for a fuller repertoire of behaviours by allowing the physician to balance the risk of being compromised with the benefits patient may experience through these interactions. Most importantly, findings of this study can be used to formulate a curriculum that better prepares the physician trainee to interact with the pharmaceutical industry prior to transitioning into practice.
References


Appendices

Appendix 1

Survey of Academic and Professional Profiles of Study Participants

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<td>4. Medical School Training Location(s):</td>
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<td>6. Fellowship Training Location(s):</td>
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<td>7. Year of graduation from postgraduate psychiatric training:</td>
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<td>8. Years in practice (excluding significant time off):</td>
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<td>9. Specialty or sub subspecialty areas of training:</td>
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<td>10. Type of practice: INPATIENT</td>
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<td>11. Any elements of private practice (outside public health system):</td>
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Appendix 2

Interview Guide

Hello, thank you for agreeing to be interviewed. The purpose of this study is to explore the perceptions that psychiatrists have about their relationships with industry. I have a few questions here that I want to ask you.

1. Tell me about what you know about the relationship between physicians (or psychiatrists) and the pharmaceutical or medical technology industry?

2. Tell me about some of your experiences with the pharmaceutical industry.
   
   Probe: Are these experiences the same for the medical technology industry? Or do they differ?

   Probe: How do you feel about interacting with industry in these venues?

3. Give me some examples of the venues where these interactions occur.

   Probe: How do you feel about interacting with industry in these venues?

3. What type of things impact on how you interact with industry?

   Probe: Are there any impediments to interacting with industry?

5. If you think about the goals that industry has in creating relationships with physicians, how are these goals congruent with goals physicians may have? How might they differ?

6. When you interact with industry what skills and strategies do you draw upon?

   Probe: How did you learn them?

7. What skills and strategies do you think industry uses to engage you?

   Probe: How about industry reps?

   Probe: How about strategies they may use to engage with your patients?

8. In your training and in practice, how might have your perceptions about industry-physician interactions changed?

   Probe: What do you think are some factors that have affected your perceptions or the perceptions of others?

   Probe: How might your perceptions or relationship with industry change over time?

9. Is there anything else you can tell me about psychiatry and industry relations?

Thank you very much for taking the time to answer these questions. If you have any concerns, email me. My email address is tjstark@ucalgary.ca.
LETTER OF CONSENT

TITLE: Perceptions of Recently Graduated Psychiatrists on the Interactions between Physicians and the Pharmaceutical and Medical Technology Industries.

INVESTIGATORS: Dr Thomas Stark - Researcher, Dr Jocelyn Lockyer - Supervisor and Principle Investigator, Dr Nancy Brager - Supervisory Committee Member, Dr Keith Brownell - Supervisory Committee Member, Dr Rhea Balderstone - Research Assistant, Dr Amanda Berg, Research Assistant

Dear Participant:
This consent form, a copy of which has been given to you, is only part of the process of informed consent. It should give you an idea of what the project is about and what your participation will involve. If you would like more detail about something in this letter, or information not included here, please ask. Take the time to read this carefully and to understand any accompanying information. You will receive a copy of this form.

WHAT IS THE PURPOSE OF THIS STUDY?
The goal of this project is to explore the perceptions of recently graduated psychiatrists on the interactions between physicians and the pharmaceutical and medical technological industries.

WHAT WOULD I HAVE TO DO?
Your participation will involve being interviewed for 1 hour. Questions like “Can you tell me about some of your experiences with the pharmaceutical industry?”, “What skills or strategies do you feel that you use are important and effective when interacting with industry?”, and “In your career and training, have your perceptions about industry-physician interactions

Appendix 3
changed?” will be asked. The interview will be audiotaped with your permission. After the transcription is complete, you will be asked to verify the information.

**WHAT ARE THE RISKS?**
Your interview will be arranged at your convenience. There will be no risk to you for participating.

**WILL I BENEFIT IF I TAKE PART?**
There will be no benefit to you. The answers we get may help to identify skills psychiatrists have acquired when interacting with industry and apply those skills to curriculum development.

**DO I HAVE TO PARTICIPATE?**
Participation in this study is voluntary and you may withdraw from the study at any time by letting the principal investigator or his supervisor know by way of direct conversation or any other form of communication. The researcher can withdraw you from the study if your information is not pertinent to the study or the interview is causing you any emotional discomfort.

**WHAT ELSE DOES MY PARTICIPATION INVOLVE?**
Nothing else is involved with your participation.

**WILL I BE PAID FOR PARTICIPATING, OR DO I HAVE TO PAY FOR ANYTHING?**
You will not be paid for your participation and you will not be required to pay for participating.

**WILL MY RECORDS BE KEPT PRIVATE?**
Any information that we collect will remain strictly confidential. Names and identities will be disguised in the final report, and care will be taken to ensure that any descriptions of situations or direct quotes cannot be connected to you. In order to preserve anonymity, you may choose your own pseudonym, or, if you prefer, I will choose one for you.

All materials, including tapes, transcripts of tapes, and any notes that might be made will remain confidential and will be stored in a locked cabinet in the researcher’s office. The University of Calgary Conjoint Health Research Ethics Board will have access to the records. They will be destroyed 5 years after the report is written as per the University of Calgary Research Ethics Board guidelines.

All the data from the interviews will be used, in a summative way, as the basis for publications in scholarly journals, and presentations at academic conferences.

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**Protocol Title:** Perceptions of Recently Graduated Psychiatrists on the Interactions between Physicians and the Pharmaceutical and Medical Technology Industries: Maintaining Fiduciary Care in the Face of Corporate Influence

**Principal Investigator:** Dr Jocelyn Lockyer

**Version:** 3

**Ethics ID:** 24856

**Date:** Oct 16 2012
SIGNATURES
Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the investigator or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time.

If you have further questions concerning matters related to this research, please contact:
Dr Thomas Stark at 403-993-8667 or tstark@ucalgary.ca
or Dr Jocelyn Lockyer at 430-220-4248 or lockyer@ucalgary.ca

If you have any questions concerning your rights as a possible participant in this research, please contact The Chair, Conjoint Health Research Ethics Board, University of Calgary, at 403-220-7990.

Do you agree to participate in the study according to the conditions outlined above? YES NO
May we tape record your participation in this interview? YES NO

Participant’s Signature_________________________________ Date______________
Investigator’s Signature________________________________ Date______________