AN EXPLORATORY STUDY OF THE INCIDENTAL LEARNING BENEFITS FOR PHYSICIAN PEER ASSESSORS IN A FORMAL PEER ASSESSMENT

by

© Christine Richardson

A Thesis submitted to the

School of Graduate Studies

in partial fulfillment of the requirements for the degree of

Master of Education

Memorial University of Newfoundland

October 2016

St. John's Newfoundland and Labrador

Table of Contents

	Page
Abstract	3
Acknowledgements	4
Introduction	5
Literature Review	14
Methods	28
Sample	30
Analytical Procedure	32
Results	35
Discussion	51
Conclusion	57
References	59
Appendix A - CPSO Chart Audit Tool	66
Appendix B - Peer Assessor Feedback from the CPSO	74
Appendix C - Peer Redesign Process (selected emails to Emergency Medicine Peer Assessor Group)	76
Appendix D - Interview Questions	80
Appendix E - Permission from the CPSO	82
Appendix F - Letter of Permission and Consent to Participate	84

Abstract

Clinical peer assessment, by which health care professionals evaluate each other's clinical and documentation practice, has been employed by physician regulatory bodies as a quality assurance method, to ensure that standards of care are met. There are many studies addressing the benefits of charting and practice audits for physicians, however there is a paucity of evidence regarding the effects on the peer assessors themselves.

This study sought to explore if the review process contributes to changing the peer assessor's practice and documentation habits. To answer this question, eighteen Emergency Medicine physicians, who conduct peer assessments for the College of Physicians and Surgeons of Ontario (CPSO), were interviewed, and the data analysed using a grounded theory methodology.

The results suggest that the peer review process motivated peer assessors to reflect on the ways they were providing patient care or preparing documentation in their own practices when they were exposed to different or newer information or after having seen the value already demonstrated by the peer they were assessing. This supports Schön's notion of reflection-on-action, where the practitioner spends time exploring the situation, and developing questions and ideas before building change in a process of continuous learning.

Few physicians are engaged formally as peer assessors with the CPSO. Publicizing the tangible learning benefits of participation in peer assessment has the potential to assist in recruiting newer assessors and could aid in the adoption of local, informal peer assessment groups, which would benefit both reviewee and reviewer

Acknowledgements

Completion of a thesis becomes possible with the support and help of many people. I would like to extend my sincere thanks to all of them.

Foremost, I would like to express my sincere gratitude to my supervisor, Dr. Vernon Curran, for his expertise, guidance and encouraging comments as I embarked on this journey.

A special acknowledgement and thanks is owed to Dr. Sayra Cristancho, at the Centre for Education Research & Innovation, Western University, for her guidance in grounded theory methodology.

I would like to thank my fellow Peer Assessors at the College of Physicians & Surgeons of Ontario for their time and participation in the interview process, without whom I would not have been able to complete this research.

I especially wish to thank my parents, who instilled in me a love to learn. My mother, who has helped along the way with continued encouragement, and my father, who would have enjoyed seeing me complete my M.Ed. My son needs a special mention; his arrival in my life 3 years ago delayed completion of my thesis, but has made my life complete in so many more ways.

An Exploratory Study of the Incidental Learning Benefits for Physician Peer Assessors in a Formal Peer Assessment

In Canada, physicians have been granted the privilege of self-regulation in return for serving the public in ensuring provision of the best quality care. Self-regulation is the responsibility of individual physicians and their licensing bodies, or provincial colleges. Physicians are expected to pursue lifelong education, keeping abreast of new evidence, knowledge, and guidelines and to share this knowledge with each other. The College of Physicians and Surgeons of Ontario (CPSO) issues certificates of registration to physicians, allowing them to practice medicine and is responsible for ensuring its members maintain standards of practice through participation in continuing professional development (CPD) meeting the requirements of either the Royal College of Physicians and Surgeons of Canada (RCPSC) or the College of Family Physicians of Canada (CFPC). Additionally, the CPSO monitors and maintains standards of practice through a program of peer assessment and remediation (CPSO, n.d. –a).

The peer assessment process was designed to ensure accountability among practicing physicians, as well as to prepare medical students for the rigours of practice. Such quality control methods are necessary in the majority of fields, but the demands for clinical competency and the high risks involved with medical malpractice render rigorous review processes an absolute necessity (Fine, 2004; Arnold et al., 2005). Through the 1970s and 1980s, accusations of medical malpractice skyrocketed, leading members of both the medical community and the general public to demand intensified quality control measures (Fine, 2004; Arnold et al., 2005). In the 1970s, US Congressional hearings were

held on the avoidable deaths of children from unnecessary tonsillectomies causing the medical profession to re-examine the clinical need for this procedure. In the 1980s the media highlighted a series of anaesthesia accidents leading to a patient safety committee (Millenson, 2002). These measures were reactive, rather than proactive, thus at this crucial moment in time, the medical peer assessment process was put forward as a potential solution to this growing problem (Fine, 2004; Arnold et al., 2005). It was offered up as a means by which practitioners could aid each other in providing high quality services to patients, as well as restricting errors and mistreatments to the absolute minimum (Fine, 2004, p. 811; Arnold et al., 2005).

In theory, peer assessments, foster professional development by providing those under review with expert feedback regarding their professionalism, the efficacy of their practice habits, and the reliability of their documentation processes (Nofziger, Naumburg, Davis, Mooney, & Epstein, 2010; Arnold, Shue, Kritt, Ginsburg, & Stern, 2005). In turn, undergoing a peer review spurs personal growth; contributes to shaping practitioners' practice habits, attitude, professionalism, and behaviour; facilitates greater team participation and improves collaborative efforts; and determines the degree to which an individual contributes to his or team (Nofziger et al., 2010; Speyer, Pilz, van der Kruis, & Brunings, 2011). Moreover, the establishment of this formal process through which colleagues are able to provide feedback and criticism in a safe, respectful environment encourages all practitioners to be attentive to each others' habits, encouraging the provision of on-going feedback, even independently of the formal assessment process (Speyer et al., 2011). Thus, although it is best known as an evaluation instrument, peer reviews serve not only as effective tools of assessment; they also enforce active self-

monitoring and invest a degree of social control in the workplace (Speyer et al., 2011). For these reasons, the peer assessment process is widely viewed as a useful tool in the medical profession overall (Nofziger et al., 2010; Speyer et al., 2011).

The College of Physicians and Surgeons of Ontario (CPSO) has run a Peer Assessment program since 1980 (CPSO, n.d. -b; Wenghofer et al., 2006). Physicians are selected for peer review either randomly or upon reaching the age of 70 (CPSO, n.d. -c). This program calls for the review of 20-30 randomly selected charts, which allows for the collection of information about a physician's practice as reflected through his or her documentation. In other words, clinical chart review is an indirect method of measuring actual medical performance. However, it is nevertheless employed extensively by quality assurance programs and licensing boards, thanks in large part to the relative ease with which the process may be executed, in comparison with longer-term in-person evaluations (Rethans, Martin, & Metsemakers, 1994). An added benefit is that there is a significant correlation between meticulous, detailed record keeping and other measures of the quality of practice (Goulet et al., 2002). In assessments where poor documentation is discovered, reviewers are more likely to make a judgement of substandard care; specifically Weingart's study using a chart audit tool demonstrated that "poor documentation increased the odds of finding substandard care" (Weingart et al., 2001, p 364).

However, as with all measurement tools, significant and potentially unresolvable flaws have been identified with this mode of evaluation (Goulet, Jacques, Gagnon, Racette, & Sieber, 2007). First, physicians may recognize a shortcoming of their practice, or identify an action that should have been taken during the previous intervention, and

accordingly falsify their actions, documenting a positive practice they did not, in fact, perform at all (Goulet et al., 2007). Conversely, they may recognize that one of their actions was mistaken, and in turn, simply avoid documenting it (Goulet et al., 2007). In either scenario, the results of the chart-based assessment program would be skewed, pointing to the relative advantages of conducting in-person, real-time evaluations of physicians as they actually practice. It should also be noted, however, that these concerns may be relevant only in a small number of cases. The documentation process is in place to ensure physician accountability, and practitioners are under strict obligations to maintain accurate, reliable, and truthful records of the care they have provided. Failure to comply with these obligations can result in substantial penalties. It is thus likely that the majority of physicians avoid the falsifying practices outlined above, making the chart-based review process mostly reliable.

In an effort to rectify these potential shortcomings of the chart-based assessment program, peer assessors have combined this approach with more interpersonal strategies. In one study conducted in Ontario, Wenghofer assessed the use of one such enhanced peer assessment program, in which the physician undergoing review was asked to self-reflect and identify learning objectives which they could discuss with their assessor. Following a review of the physician's charts, the assessor holds a meeting with the physician to discuss his or her practice based learning needs and pre-set learning objectives. Based on the outcomes of this meeting, the assessor develops a customized practice based learning plan and directs the physician under review towards the appropriate learning resources that will facilitate his or her success in effectively completing that plan. Ninety percent (90%) of the physicians who underwent review in

this manner reported that they saw educational value in the Enhanced Peer Assessment Program. They indicated that all aspects of the process – including the chart review, discussion of pre-set learning objectives, and the establishment of a practice-based learning plan with learning resources provided by the assessor – were useful in aiding the process of improving their practice habits (Wenghofer et al., 2006). The complicity and support of physicians themselves are recognized as key components in the successful administration of peer assessments, leading to the best results in terms of actually changed and improved practice habits. Thus, this multi-pronged approach was found to be largely effective in providing feedback that was consciously received, as well as providing tangible action plans that allowed physicians to work towards incorporating that feedback into their practice.

Currently, the CPSO uses a chart audit tool designed for each specialty; the Emergency Medicine chart audit is found in Appendix A. Physicians selected for peer review are sent a questionnaire designed to evaluate their practice parameters, and to provide recipients with the opportunity to reflect on their learning needs. The assessor, who has received the results of this questionnaire in advance of the peer assessment, typically meets with the physician undergoing review prior to the commencement of the review process. Together, they collaboratively examine several charts in order to provide the assessor with an improved understanding of the physician's charting style, any short forms he or she may use, and the organizational structure of the charts. The assessor then reviews the 20 – 30 randomly selected charts, as described above. Following the chart audit, the assessor will meet with the physician to clarify any charting concerns, discuss adherence to practice guidelines and standards of practice, and then, based on these

findings, make recommendations for improved practice and documentation habits. The completed audit tool and recommendations are forwarded to the CPSO, which then makes a final assessment of the quality of medical practice and determines whether there are further changes the physician must make to his or her practice. These additional recommendations will then be reviewed at a later date, to ensure the physician understands the suggestions and the need for them, and to provide him or her with support and guidance in their efforts to implement them.

In Ontario, Peer Assessors are selected after first undergoing the peer review process themselves and reflecting on whether they wish to become a reviewer (CPSO, n.d. -d). Once selected, they undergo a one-day training program covering the goals of peer review, and are introduced to the peer review tools they will be using (CPSO, 2009). Peer Assessors are paid a nominal rate by the college for the time they commit to the training and actual assessment processes, but little is known about whether the assessors gain other tangible benefits from their involvement. In other words, the existing literature fails to explore whether assessors learn from examining the charting practices of other physicians, or from discussing medical decision-making processes with their colleagues. There is also a related gap in the literature regarding the rate at and efficacy with which assessors translate theory into practice: that is, if they do indeed learn anything from their assessments of others, do they then incorporate this new knowledge into their own medical practice?

There is thus a paucity of literature on the educational benefits of the peer assessment process for the peer assessor him- or herself. The first gap this study seeks to explore, are the potential educational benefits for peer assessors who are already

practicing physicians. Those few studies that have been conducted on closely related research questions consider only resident physicians, who are considered trainees, rather than practicing physicians. One such study, which assessed adherence to health screening guidelines, suggested that the residents significantly improved in providing preventive care over time after the peer audit program was implemented (Paukert, Chumley-Jones, & Littlefield, 2003). The authors did not, however, investigate whether the practicing physicians involved in the chart audit program also improved in their ability to provide preventive care. Moreover, even the improvements observed with the residents are questionable, given that some of these developments were likely the expected results of the on-going learning that typically occurs during a residency, rather than direct results of the chart auditing assessment process. To repeat then, there is a need for studies that focus on established, practicing physicians, as opposed to resident physicians, as there are alternate variables that might skew the learning results of peer assessments among the latter.

A related problem involves the correlation between charting habits and actual medical practice. This study also seeks to explore whether physician peer assessors implemented changes to their clinical practice and/or documentation. Another study considered the effects of peer chart audits conducted for resident physicians, and specifically evaluated the documentation processes related to diabetic foot exams. In this study, residents reviewed 2-5 of their peers' charts during each of 3 phases between 2003 and 2004. While no formal feedback was provided to residents, the authors suggested that faculty and residents most likely engaged in informal discussions on the importance of the foot exam during the study period, which would presumably encourage residents to

modify their practice and documentation habits in response to such feedback (Thomas, Gebo, & Hellman, 1999).

Indeed, the researchers found that the audit process led to improved documentation among participants treating patients with foot problems. However, they did not (and were arguably unable to) comment on participants' initial and post-audit *performance* of clinical care (Staton, Kraemer, Patel, Talente, & Estrada, 2007). As mentioned above, it is possible that practitioners modify their charts in ways that are inconsistent with their actual practice. Moreover, the Hawthorne Effect (McCambridge, Witton, & Elbourne, 2014) may have been a driving factor in the improved documentation in this and every other study under consideration in the present literature review: namely, study participants are likely to modify a given behaviour when they are aware that they are participating in a study designed to assess that behaviour. Nevertheless, the authors conclude that their study "demonstrates the feasibility of the peer chart audit method and suggests that an educational tool allowing residents to review the charts of their peers may serve as reminders of standards of care, and may heighten awareness of the need for quality improvement efforts" (Staton et al, 2007, p. 5). To repeat, these are all valid, convincing points in theory, but remain unsatisfactorily empirically tested.

The third and final gap in the research that the present study seeks to fill is the dearth of studies directed towards the emergency department specifically. The studies examining the practices, behaviours, and responses to audits exhibited by residents described above all focus on a particular type of medical practitioner, target a select form of treatment (such as diabetic foot care), and narrow in on a specific behaviour. In

contrast, peer assessors of emergency medicine must cover a much broader range of patient concerns and provider professionalism, care, behaviours, and documentation practices. Because emergency care providers must negotiate such a wide spectrum of scenarios, concerns, and treatments, their audits may "provide a general insight into many spheres of medicine and nursing. Each patient and situation is completely individual and can be extremely varied," providing unique opportunities to ensure the practitioner undergoing evaluation is adequately equipped to manage such an array of circumstances (Walker, 1996, p. 29).

However, the very same diversity that provides us with such valuable insights into the breadth of the medical and nursing fields also poses a unique challenge for peer assessors. The practitioner conducting an evaluation of an emergency care provider is expected to have a commensurate knowledge base when performing a chart audit of such a care provider, in order to discover discrepancies in the physician's charting compared to expected guidelines and standard of care. In other words, the peer assessor must be exceptionally knowledgeable, and have acquired a much greater base of experience, in order to reliably and usefully assess an emergency care provider than to conduct a more straightforward evaluation of practitioners who specialize in one field, as is the case in the studies outlined above.

The purpose of the present study is to explore whether these complications inherent to the assessment of emergency medicine practitioners in fact benefit the peer assessors themselves. Do peer reviewers engaged in this particular type of evaluation improve their provision of clinical care and documentation of that care through informal learning processes, via their reviews of such a wide variety of charts, and their

interactions with the experienced practitioners they are assessing? The study then goes on to explore in even greater detail the specific stimulus for those changes, the ways in which the changes were implemented, any facilitators or barriers to the changes the practitioners intended to make, and the ways in which the changed practice behaviours were eventually evaluated themselves. Specifically, the research questions of the study were designed to explore: 1. What are the professional development benefits for peer assessors from participation in a peer review process? 2. How may participation as a peer reviewer influence one's own clinical practice or performance?

Literature Review

Many empirical studies confirm the theoretical benefits of the peer review process for the individual physician undergoing review, as well as for medical practice as a whole. Due to its widely recognized and empirically validated efficacy, several committees and quality assurance boards require ongoing evaluations and assessments of practitioners to be performed (Ottolini et al., 2007). For example, one study found that medical students who were evaluated by senior faculty advisors twice per year were significantly more likely to report practice improvements related to their reflective learning habits (Bashook, Gelula, Joshi, & Sandlow, 2008). Through their interviews with medical advisors across two medical school campuses, the researchers found that advisors who regularly reviewed their students had a better grasp of those students' learning styles, reflective abilities, and maturity levels, allowing them to cater their teaching to these students' needs (Bashook et al., 2008). The review process also allowed advisors to

identify "warning signs" early on in their students' careers, and in turn, provided them with the opportunity to address these concerns before they became problematic (Bashook et al., 2008). Finally, the review process was found to encourage better relationships between advisors and their students; facilitate more focused discussions that effectively addressed any issues with which the student may have been struggling; and generally enhanced communication between the two parties (Bashook et al., 2008). Overall, this study revealed various benefits related to the review process, and concluded that participants in both the advisor and student roles found the experience beneficial (Bashook et al., 2008). Peer assessment has additionally been shown to be an effective tool for fostering desired professional behaviours for medical learners; change was more likely to be demonstrated when feedback was specific and constructive (Nofziger, Naumberg, Davis, Mooney, & Epstein, 2010). This study reflected the work of Schönrock-Adema et al., which recommended the introduction of peer assessment in medical education after demonstrating an improvement in professional behaviours exhibited by medical students (Schönrock-Adema, Heijne-Penninga, van Duijn, Geertsma, & Cohen-Schotanus, 2007). Due to the desirability of these outcomes, the peer assessment process has been adopted by physician licensing bodies in order to ensure that physicians are maintaining an acceptably high standard of care (McAuley, Paul, Morrison, Beckett, & Goldsmith, 1990). Norton et al. looked at non-specialist physicians who were found in need of help to improve their record keeping and/or patient care during their initial CPSO randomly selected peer assessment in a follow-up study. The follow-up peer assessment was performed an average of 6 years after the first intervention and reviewers were blinded as to whether this was an initial or repeat assessment and the

results demonstrated that their practice was "significantly better" (Norton, Dunn, Beckett, Faulkner, 1998). The most common changes over a three-month period by practicing physicians, after receiving peer feedback, are those that they are able to easily control or initiate such as improved communication and provision of printed resources to patients; a larger gap was seen in actual versus contemplative change of behaviours when the changes were more complex and required extensive collaboration with colleagues or extensive learning (Fidler, Lockyer, Toews, & Violato, 1999).

Many are also concerned with the reliability and qualifications of the assessors themselves, as biased and otherwise flawed assessors may contribute to providing skewed or inaccurate recommendations for alterations to a physician's practice. There do exist some bias inherent in the peer review process, which peer assessors must remain cognizant of. For example, some studies have shown that medical students' ratings during their assessments are significantly influenced by how likeable they are to senior faculty, and by their demeanour towards patients, rather than by their ability to follow protocols, administer procedures correctly, follow adequate charting practices, and generally practice well (Ottolini et al., 2007). Moreover, when several senior practitioners evaluate junior physicians, the evaluators' ratings have been found to be inconsistent, indicating a low degree of inter-rater reliability (Ottolini et al., 2007). Studies have demonstrated that this tends to occur when assessors have not been trained as to the best ways in which to use their evaluation scales, or when different evaluators have received different training (Ottolini et al., 2007). An early study of peer tutors by Hay suggested that when stakes are high, as they would tend to be when peer assessment is part of a licensing body mandated process, that evaluations provide inflated estimates of performance (Hay,

1997). Similarly, both Hall et al. and Ramsey et al. reported higher ratings of physicians by their peers on the Physician Achievement Review and Professional Associate Rating respectively (Hall et al., 1999; Ramsey, Carline, Blank, & Wenrich, 1996). It is difficult to appreciate whether these higher ratings reflect the high stakes bias or simply the high quality of the study physician groups (Norcini, 2003).

One study suggested that physicians, as teachers, were vulnerable to the "perceived student's personality and reputation as a source of assessment-bias" when judging the student's communication skills (Hulsman et al., 2013). One further complication regarding the reliability of the assessment process is the qualifications of the assessor and in turn, the quality of review he or she is capable of providing. For example, one study asserts that peer assessments can be effective only if the reviewer and the practitioner under review have obtained roughly the same levels of education and experience (Arnold et al., 2005). Moreover, reviewers should not, according to these authors, be in positions of power over those who they are assessing, as is the case with reviews that advisors or supervisors conduct of their students or interns (Arnold et al., 2005). Finally, reviewers and those under review should be of roughly similar standing in the hierarchical power structure of their organization (Arnold et al., 2005). This will ensure that the practitioner under review is unable to exercise his or her authority in order to reduce negative commentary from the reviewer, or hinder the reviewer from reporting any observations of malpractice (Arnold et al., 2005). Bias can be reduced through attention to selection and training, with routine feedback of ratings to the reviewer (Edwards, 2013). "In their roles as evaluators, students should be compared to each other, and those who are too stringent or too lenient should receive remediation" (Norcini, 2003,

p. 543). Recognizing the importance of this quality improvement process, the CPSO asks all physicians undergoing peer assessment to provide feedback on their experience and on the performance of their peer assessor, which is, in turn, provided to the assessor (Appendix B).

Further, the CPSO has recognized that there exists variability in assessments performed by its physician peer assessors and is currently working on a peer redesign project. Working groups from various specialties, including emergency medicine, have been meeting periodically over the past year via webinar and in person to discuss and refine scoring rubrics, which will improve consistency amongst peer assessors. (Appendix C)

As I will outline below, measures have accordingly been taken to develop highly reliable assessment tools, as well as to ensure assessors themselves are qualified, well-trained, and effective overall.

Many peer review tools have been developed and used, each with its advantages and disadvantages. For example, Evans, Elwyn and Edwards completed a systematic literature review of published peer rating instruments, identifying 4566 articles and reviewing 42 in depth; of these they identified eight tools, only 3 of which met their criteria for validity and reliability. In particular, they commented on the "lack of attention given to construct and criterion validity" and noted that none of the identified instruments referred to a theoretical framework from which they were developed (Evans, Elwyn, & Edwards, 2004). First, the Professional Associate Rating instrument developed by Ramsey et al., which reflects the American Board of Internal Medicine's (ABIM) 11 domains of competency using a 9-point Likert scale completed by peers and patients, and

is currently used by ABIM as a formative instrument (Ramsey et al., 1996). The Peer Evaluation Review Form developed by Thomas et al. similarly reflected ABIM's domains using a 9-point Likert scale, but was aimed as a formative evaluative tool for trainees and completed by their preceptors (Thomas, Gebo, & Hellman, 1999). Finally, Evans et al. examined Hall's Peer Assessment Questionnaire, later renamed the Physician Achievement Review (PAR). Developed in Canada by Hall et al., and adopted in 1999 by the Alberta College of Physicians and Surgeons, the PAR is a multisource feedback tool with 24 statements rated on a 5-point Likert scale (Hall et al., 1999). Feedback on the PAR is provided by physician peers, other health care providers, and patients with the goal of identifying physicians in need of more in-depth practice assessments. Only these three studies met Evans et al.'s criteria for validity and reliability while the remaining five fell short. The implications of their findings suggest that those practitioners utilizing the alternative five tools will not enjoy the benefits of peer assessment outlined above, as their instruments are insufficient. A systematic review of sixteen studies on the impact of workplace based assessment concluded that multisource feedback could lead to performance improvement (Miller, 2010). The strengths of workplace based assessment, which is the goal of a peer review, include evaluating performance in context. The review further noted, however, that performance improvement by the physician being assessed, was additionally influenced by the context of the feedback, such as whether it was provided by a peer or non-peer, and the presence or absence of facilitation on developing learning goals and a plan (Miller, 2010). Newman et al., prior to designing a peer assessment tool for medical faculty teaching performed an extensive literature review and found "a paucity of validated, criterion-based peer assessment instruments" (Newman,

Lown, Jones, Johansson, & Schwartzstein, 2009). Lockyer and Violato have further explored the PAR used by the College of Physicians and Surgeons of Alberta to assess its reliability and generalizability across specialities; recognizing that different specialities inherently emphasize the importance of different factors such as communication skills for psychiatry compared to diagnostic skill for internists. They determined the psychometric quality of this multisource feedback instrument to be high and sensitive to the differences amongst the specialties studied (Lockyer & Violato, 2004).

A more recent systematic review of multisource feedback (MSF) tools by Donnon et al. assessed 96 articles for eligibility and included 43, including the PAR from Alberta described previously. They concluded that completion of the MSF by 8 peer physicians, 8 allied health coworkers and 25 patients was sufficient to provide a reliable and valid assessment while remaining financially feasible. Many of the MSF instruments assessed did not meet criterion for construct validity; those that gauged different domains of physicians' skills in keeping with CanMEDs roles (Royal College – n.d.) including communication, professionalism, medical expert, and collaboration which were included in the Physician Achievement Review by Hall did meet their definition of construct validity and show good psychometric properties (Donnon, Al Ansari, Al Alawi, & Violato, 2014).

To date, the existing research that aims to explore the catalysts that might propel changes in practice behaviour focuses primarily upon intentional methods, whereby practitioners actively seek new tools, instruments, approaches, and processes (Saddawi-Konefka, Schumacher, Baker, Charnin, & Gollwitzer, 2016). In order for continuing medical education (CME) to be most effective, learning needs should be identified by the

physician (Mazmanian & Davis, 2002; Grant, 2002). For example, many physicians seek out supplementary learning experiences through CME opportunities including attending conferences, grand rounds and the use of multimedia resources including reading journals, blogs, medical sites such as eMedicine or UpToDate, and listening to pod-casts. The utilization of these resources is intentional in that practitioners must actively make a decision to first, improve their practice habits and second, look for avenues through which to do so. Traditional didactic CME activities, such as lectures, where physicians as learners are not actively engaged, have not been demonstrated to be effective in changing physician performance. Conversely, interactive CME sessions that allow the physician to practice a new skill through hands-on practice, role play or case-based discussion can have a positive impact on physician practice behaviour (Davis et al., 1999). Mazmanian and Davis further comment that "CME must be self-directed by the physician, including management of the content of and context for learning" noting that physicians need to engage in critical reflection of their practice and learning needs (Mazmanian & Davis, 2002). Continuing medical education as previously noted, is sought out by physicians based on their perceived learning needs. However, as Davis et al. (2006) point out in their systematic review of 17 articles of self- and external-assessment, "the ability of physicians to accurately evaluate their own knowledge, skill & performance without external measures is limited" (Davis, Mazmanian, Fordis, Harrison, Thorpe & Perrier, 2006, p. 1095). External measures that have demonstrated effectiveness for perceived learning needs include surveys, questionnaires, interviews, and, more broadly, focus groups (Grant, 2002; Lockyer, Fidler, Hogan, Pereles, Lebeuf & Wright, 2002; Norman, Shannon, & Marrin, 2004; O'Shea & Spike, 2005).

In contrast, changes made as a result of the peer assessment process are believed to be less explicitly intentional. In other words, through engagement as a peer assessor, the physician may discover formerly unperceived learning needs. These are the learning needs that are uncovered through external measures such as chart audits, critical incidents, and knowledge tests (CEPD, n.d.). Norman et al (2004) suggest that physicians can self-evaluate through their own electronic medical records by conducting analyses of their diagnostic and therapeutic habits, and use objective information to guide their learning needs (Norman, Shannon, & Marrin, 2004). In a similar way, peer reviewers may encounter an item during their chart review, or uncover an aspect of practice in their discussions with the reviewee, that they may have never considered previously. They may simply find this new discovery interesting, or it could be unsettling, if it deviates from the behaviours they themselves typically use in their own standard practice. Only upon reflecting on these unintended findings would peer assessors then make adjustments to their own charting behaviours or practice.

This latter process of change falls under the domain of reflective learning or reflective practice, as described by Jarvis and others (Merriam, Caffarella, & Baumgartner, 2007, p. 164). Indeed, many researchers have highlighted that learning rarely occurs in the intentional manner described above. Rather, as Kolb (Kolb & Kolb, 2005) and others have described, learning more typically occurs as part of a cyclical process, beginning with a significant experience, after which the individual critically reflects upon him- or herself, conceptualizes the various happenings in abstract terms, and finally engages in active experimentation, during which he or she applies what has been learned to actual practice (as cited in Bernard, Gorgas, Greenberger, Jacques, &

Khandelwal, 2012). Similarly, Schön (1983) suggests that professionals conventionally learn and, in turn, alter their behaviours in *response* to a particular event, rather than spontaneously deciding they would like to learn more. More specifically, a practitioner tends to "encounter some puzzling, or troubling, or interesting phenomenon ... tries to make sense of it," and then "reflects on the understandings which he surfaces, criticizes, restructures, and embodies in further action" (Schön, 1983, p.50). Finally, Epstein expands upon these theorizations with his model of mindful practice. He notes that reflection may be prompted by "a critical incident involving an error, a difficult situation, or an unexpected result of one's actions. At other times, reflection is prompted by the maturing of an idea rather than by a discrete external event" (Epstein, 1999, p. 836).

Various studies have sought to evaluate the efficacy of reflective learning in the medical field, albeit with regards to other elements of practice than the peer review process (Branch, 2010; Dunn & Musolino, 2011; Mettiainen & Vahamaa, 2013; Embo, Driessen, Valcke, & Van Der Vleuten, 2014; Clarke, 2014; McMahon, Monaghan, Falchuk, Gordon, & Alexander, 2005; Koh, Wong, & Lee, 2014). For example, Thomas and Goldberg (2007) examined the record-keeping habits of medical students serving their terms as ambulatory clerks. Their web-based patient log system incorporated an open-text field, titled "Learning Need," where students where encouraged to write notes regarding teaching points they observed while tending to a patient, their future goals, questions, etc. (Thomas & Goldberg, 2007). In 44.1% of patient encounters, students entered material into the Learning Need field (Thomas & Goldberg, 2007). The researchers concluded that only when prompted to reflect on their patient interactions did students conjure the types of questions and critical thinking points that would drive their

own practice habits forward (Thomas & Goldberg, 2007). They accordingly argue that such log systems or other strategies should be used to encourage reflective thinking and learning among medical students in order to incorporate this significant learning style into the medical curriculum (Thomas & Goldberg, 2007).

Similarly, Grant, Kinnerley, Metcalf, Pill, and Houston (2006) facilitated the participation of 35 Cardiff University students in tutorials, where they discussed the reflective learning journals the students had been instructed to keep. Their results demonstrated that students who engage in a self-reflective learning exercise – such as journal keeping – are better able to identify learning objectives, apply their theoretical learning to practice, and identify areas of weakness, where they needed to seek further guidance and assistance (Grant et al., 2006). Slotnick (1999) interviewed practicing physicians describing their self-directed learning episodes. Reflection occurred as participants described going through the learning stages of problem identification & goal setting, reviewing resources and determining if criteria for completion had been met (Slotnick, 1999). More recently, Leung et al. (2010) refined and validated a reflective learning framework (RLF) through their work with practicing family physicians. They concluded that the RLF could be used to "observe specific performances of change, which is considered to be an important effect of CME on practice" (Leung, Pluye, Grad, & Weston, 2010). In Canada, both the College of Family Physicians of Canada (CFPC) and Royal College of Physicians and Surgeons of Canada (RCPSC) incorporate self-evaluation learning processes into their maintenance of certification programs, encouraging reflective learning activities (Silver, 2008). Pearls, through the CFPC, is an evidence-based practice inquiry and reflection process that helps practicing physicians

incorporate new information into their practice, and to gain CME credits while doing so (CFPC, 1998).

The examination of reflective learning practices in a setting closest to that which will be examined in the present study was conducted by Beecher, Lindemann, Morzinski, and Simpson (1997). The authors explored the experiences of practitioners who were required to prepare a teaching portfolio that demonstrated their expertise (Beecher et al., 1997). They were specifically interested in determining whether this experience prompted practitioners to reflect upon the quality of medical practice and the degree and efficacy of education that is provided to students (Beecher et al., 1997). Ten faculty members who had prepared teaching portfolios were interviewed, and the transcripts were coded. Results demonstrated that the entire sample had engaged in reflective learning during the process of compiling their portfolios, in at least one of the following four categories (Beecher et al., 1997First, participants may have discovered new dilemmas with their practice habits, those of their peers, or across the medical community as a whole (Beecher et al., 1997). Second, some were prompted to search for new supports (Beecher et al., 1997). Third, some became motivated to consider ways in which the education of medical students could be reformed for the better (Beecher et al., 1997). And finally, participants reported actually changing aspects of their teaching in order to enhance their students' learning experiences, and attributed these changes to the portfolio compilation process (Beecher et al., 1997).

The present study is theoretically grounded in this concept of reflective learning or practice (Schön, 1983), hypothesizing that this more intuitive, natural process is more likely to occur among a greater number of physicians than is the more forced intentional

approach. Moreover, reflective learning presumably "sticks" better, as practitioners gain authentic, practical experience with the given aspect of practice they will eventually change, rather than merely addressing it through CME opportunities. The peer review process appears to be a particularly useful learning opportunity in this respect, since, as Loughran (2002) and others have noted, a more detached self-reflection tends to prove most useful. Indeed, the efficacy of reflective learning may be taken for granted, "because it rings true for most people as something useful and informing" (Loughran, 2002, p.33). However, Loughran posits, "for reflection to genuinely be a lens into the world of practice, it is important that the nature of reflection be identified in such a way as to offer ways of questioning taken-for-granted assumptions and encouraging one to see his or her practice through others' eyes" (Loughran, 2002, p. 33). This is precisely the reflective value provided by the peer assessment process, whereby those being assessed are provided with the opportunity to have their practice evaluated by a removed third party, but also, because the assessor him- or herself has the ability to observe practice moments and documentation habits that he or she might also engage in from a different perspective. Observing another make mistakes or enjoy successes can motivate the reviewer to reflect upon his or her own practice.

The present research seeks to confirm these conceptual theories, exploring whether the peer assessment processes not only holds the practitioner under review accountable to medical standards, but also, if the review contributes to changing the assessor's practice and documentation habits for the better. Answering these questions is of particular importance because it would provide greater weight to the review process, encouraging greater numbers of practitioners to participate. Although those who

participated in the present study generally indicated a relative sense of eagerness to become an assessor, other studies have found that many practitioners and students are reluctant to engage in the process. For example, Arnold et al. (2005) report that residents, practitioners, and students are unenthusiastic about their participation either as reviewers or those being reviewed, and some even simply refuse to engage. The explanation for this reluctance has yet to be studied thoroughly, meaning that the reasons behind such unwillingness is not yet fully explained (Arnold et al., 2005). Other studies reveal that a significant source of discord among the medical community is poor collaborative skills (Hastie, Fahy, & Parratt, 2014). With a widespread preference to work individually, many practitioners lack teamwork skills, which can lead to poor outcomes for their patients in instances where interdisciplinary care is required from practitioners of diverse fields (Hastie et al., 2014). Furthermore, these collaborative skills were rarely the focus of medical teaching or training scenarios, leading to limited opportunities for practitioners and students to develop or improve them (Arnold et al., 2005; Hastie et al., 2014). In response, the peer review process has been conceptualized as a potential solution to this issue for practicing physicians, as it forces colleagues to collaborate, in a sense, and come together in discussions of issues plaguing their fields (Arnold et al., 2005; Hastie et al., 2014). Similarly, effective methods through which to promote more widespread and enthusiastic participation in the peer review process have yet to be explored (Arnold et al., 2005,). The present study thus seeks to fill this gap in the existing literature, by exploring the many benefits that peer assessors obtain through the evaluation process – benefits that enhance their own practice, in addition to enriching the medical community

as a whole. These positive outcomes should serve as motivating factors, driving greater participation in the mutually beneficial peer review process.

Methods

To satisfactorily answer this research question, a grounded theory approach was selected. The present study analyses qualitative data gathered through semi-structured interviews with established peer assessors, who have experience evaluating emergency medicine physicians.

Participating physicians were interviewed by an Emergency Physician, who has worked with the College of Physicians and Surgeons of Ontario as a Peer Assessor. The semi-structured interviews were administered via telephone or video-conference using the following template (please see Appendix D for a complete transcript of interview questions, both semi-structured and demographic):

1. What made you decide to become a Peer Assessor?

2. What were your own expectations? Has this occurred? Did something else happen instead (elaborate)?

3. I would like you to think about a specific case or physician chart you came across during a peer review and how it changed your own practice or documentation.

4. Have you made other changes to your practice as a result of a peer assessment?

5. What was the stimulus (surprise) that ignited the need for change?

6. What was the process (reflection-in-action) that ignited the need for change?

7. Was it easy to implement the change?

8. How have you evaluated the effectiveness of the change?

In line with grounded theory principles (outlined in greater detail below, under Analytical Procedures), data collection occurred on an ongoing iterative basis until saturation was reached. Each interview was recorded and then transcribed verbatim, allowing the researcher to familiarize herself with the broad, high-level themes emerging from the interviews. In the event that saturation was not reached via the individual interviews, the practitioner was contacted a second time via email, and additional questions were asked in order to gather sufficient data; two participants provided additional information through this means. The data collection and analysis processes were conducted concurrently, with ongoing interviews being held to allow participants to elaborate on their original answers, fill gaps in the evolving analysis, and confirm emerging themes. Semi-structured interviews were selected as the basis for the present research in order to acknowledge the researcher's insider role as a Peer Assessor, and to allow for a more open exploration of the non-formal learning benefits for her fellow Peer Assessors. In contrast, quantitative data collection methods can be more limiting, restricting participants' ability to expand upon or explain their responses. For example, questionnaires that only provide a few, predetermined answer options force participants to limit themselves to a response that may not fully encapsulate their personal experience. In

such instances, these studies may be producing findings that merely confirm the researchers' own, pre-established assumptions – as expressed through the answer options they formulate and imagine to be the only answer options participants would choose – rather than allowing participants to speak for themselves. The informational interviewing process I have selected "permits an in-depth exploration of a particular topic of experience and, thus, is a useful method for interpretive inquiry" (Charmaz, 2006, p. 25). Ultimately, the collection of qualitative as opposed to quantitative data allowed me to probe more deeply into the nuanced aspects of the reflective learning process, producing findings that more accurately convey the individual experiences of my participants.

Sample

The approximately 24 members of the Emergency Medicine Peer Assessor group for the College of Physicians and Surgeons of Ontario (CPSO) were invited by email to participate in this study. Those contacted were informed in the email advertisement that they would be participating in an interview via telephone or videoconference. Permission to contact members of this Peer Assessor network was granted by the CPSO (please refer to Appendix E to review the details of these permissions). Through this process, a total of eighteen (n=18) participants were identified and interviewed. Table 1, below, outlines the general characteristics of the study participants. The majority of study participants were male; the average number of years working with the CPSO as peer assessor was 7.5 (2-19). Most participants practiced in a community hospital setting vs. an academic setting, recognizing that they did work with learners (medical students or residents) on occasion. The mix of academic certifications reflects and represents the physician members who practice emergency medicine across the province.

Table 1

Characteristics of Study Participants

Study Participant #	**Gender**	**Years in practice**	**Years as peer assessor**	**Academic vs. Community Hospital**	**Academic certification**
1	M	46	8	Community - urban	GP
2	F	26	9	Community - rural	CCFP(EM)
3	F	15	5	Community - rural	CCFP
4	M	40	2	Community - urban	CCFP
5	M	30	6	Community – urban	FRCP(EM)
6	M	27	4	Community - rural	CFPC
7	M	37	5	Academic	FRCP(EM)
8	M	15	3	Academic	CFPC(EM)
9	M	36	5	Academic	CFPC
10	M	39	6	Community – rural	GP
11	F	11	4	Academic	CFPC(EM)
12	M	34	3	Community – urban	GP
13	M	23	14	Community – urban	GP
14	F	22	4	Community - urban	CFPC
15	M	24	12	Academic	CFPC
16	M	26	10	Community - urban	GP
17	M	25	16	Community – urban	CFPC
18	M	30	19	Academic	GP

Ethics board approval was obtained from both Memorial University of Newfoundland, where the researcher is studying, and Western University, the researcher's home institution. A Letter of Information and Consent to Participate (Appendix F) were included to potential participants with the email advertisement and all who responded did so, via email to the researcher, their willingness to participate in a telephone or video-conferenced interview.

Analytical Procedure

To guide my qualitative analysis, I opted to draw upon the grounded theory approach, conceptualized by sociologists Barney Glaser and Anselm Strauss during their tenure at the School of Nursing at the University of California, San Francisco (Connelly, 2013). Prior to their development of grounded theory, qualitative data analysis procedures imposed, at least to some degree, the analyst's interpretations onto the data, rather than allowing themes to emerge from the data itself (Connelly, 2013). In order to qualify as a study based in a grounded theory approach, a researcher must conform to the following procedures: open coding conducted during the initial stages of analysis; writing and keeping memos to ensure transparency; ongoing comparative analyses across codes and data sets; re-coding at the intermediate stages of analysis; the selection of core categories; and, ultimately, theoretical saturation (Connelly, 2013).

These are the stages or phases I have followed in the present analysis, in order to explore the informal learning benefits enjoyed by peer assessors, and determine whether these fit within the paradigms of Schön's theory of Reflective Learning, Epstein's theory of Mindful Practice, or if a revised theory will emerge to account for the experiences of my participants. Each interview was recorded and transcribed verbatim. Data analysis

proceeded iteratively using a standard constructivist grounded theory methodology. First, the interview recordings were initially coded using open coding to identify broad or high-level themes. To do so, the data provided by each participant was re-framed as an action, whereby lines of transcribed interview data were summarized as actions, using gerunds as the first word for each code. Where possible, the precise language, words, or terms used by the participant was incorporated into the code, in order to preserve the original intended meaning. Memos were drafted upon completing the initial open coding for each interview. This initial "open coding" (Charmaz, 2006) for both template codes and emergent themes was performed by the researcher (C.R.) and an experienced research colleague/mentor (S.C.). This dual-coding procedure ensured intercoder reliability and agreement upon the categorization structure and content.

After the first set of interviews (roughly 5 – 10) were initially coded in this manner, the "focused" coding process began, whereby all of the open codes generated from the first set of interviews were grouped into categories and related sub-categories. The resulting categorization scheme formed my initial coding structure. This phase of the analysis concluded with the writing of a general memo to describe the categorization process and provide definitions or descriptions, complemented by several illustrative quotations demonstrating the salience of each category.

This initial coding structure that emerged from this first wave of analysis was then used to develop new prompts for the subsequent interviews described above. The interview guide was refined based on the themes and codes emerging in this initial phase, in order to obtain more relevant data and "thick" descriptions during the subsequent wave of data collection. This second round of interviews was then subjected to the same initial

open coding. Following the second wave of interviews, the coding structure was further refined, once again using an iterative process. Emerging categories were cross-compared to identify relations and core concepts using memos to ensure transparency. Interviews were conducted until saturation was achieved and no new theoretical insights were emerging (as described in Morse, 1995).

Throughout the second phase of interviews and code restructuring, a deeper analysis of each code category was also conducted. First, a one-page long memo summarizing the key points addressed in each category was drafted. Second, all of the quotations that speak to each of these key points were grouped together accordingly, while documenting the interview number to which each quotation belonged. Third, recurring patterns were sought and identified to ensure each of the key points were emerging across multiple interviews, as opposed to only a single interview or a small sample. Thus, this process ensured that our analysis remained grounded in the data, and that findings reflected broad, overarching patterns, as opposed to representing the experiences of a single individual that may be different from the majority.

Next, axial coding was conducted, involving the cross-comparison of the emerging categories. Each of the "key points" memos described above was compared, allowing us to identify themes (or key points) that were mentioned across two or more categories. For each cross-identified point, a memo was drafted that noted the significance of the relationship, and included illustrative quotations demonstrating the overlaps. As a result of this process, relations between and across categories were identified that would eventually form the basis of the theoretical description of the data.

Throughout the entire process, codes were repeatedly analysed to explore whether the emerging themes exhibited any connections to existing theories. Constant comparative techniques were also employed to develop new, additional themes from the coded data (Charmaz, 2006; Cohen, Manion, & Morrison, 2007). These on-going, iterative strategies ensured that the analysis continued to delve deeper into the rich qualitative data provided by participants; the risk of conducting a single, sweeping analysis of such data is that the coder hastily imposes his or her initial assumptions upon the data, without considering alternative or additional codes, themes, and patterns that may be emerging. By repeatedly reconsidering and reanalysing the data, the present study offers a more thorough exploration of the "thick" descriptions provided by participants.

Finally, all of the categories and subcategories that emerged during the data analysis were examined from a broader perspective in order to identify an overarching theme that links them together. This unifying phenomena constituted the central or core concept identified through the analysis – the ultimate underlying message that emerges through the grounded theory approach.

Results

A total of 5 high-level, overarching themes emerged from the interview data, through the various phases of coding described above. In line with grounded theory methodology, each theme is not only described through my own interpretive words, but is also illustrated using participants' own, original language. The incorporation of quotations and thick descriptions into my findings not only ensures that participants' original meaning is

preserved; it also allows readers to identify for themselves the aspects of the data that led to my coding and categorizing of it in this way.

Stimulus for changes that were implemented in practice

This first theme describes the ways in which peer reviewers became motivated to make alterations to their own practice habits, due to their experiences assessing their colleagues. Participants identified several avenues through which they discovered changes they wished to make to their practice.

The first subcategory related to this overarching theme involves the various motivating factors that drove practitioners to alter their *practice.* There are four related codes.

The first code in this category involved feeling accountable to the practitioner that would be going under review. Several participants commented that they felt "forced to be ahead on new information" (2) in order to provide better education to the physician they would be assessing. For example, participant 3 reported that, "as a reviewer, I want to stay a step ahead." This desire provided a stimulus to educate themselves, and stay up to date on information regarding standard, guidelines, and best practices, so that the assessors could provide the most relevant and useful feedback possible. Thus, the first code refers to pre-emptive strategies practitioners drew upon in their efforts to become more effective assessors, which, in turn, typically rendered them more effective and widely knowledgeable practitioners as well.

The second code involved identifying new practices and approaches during the assessment itself. Several participants noted that they became willing to try new strategies in their own practice upon observing that their colleague had identified a more efficient or

effective approach. For example, participant 5 reported that the most valuable part of the review process was "learning different ways to do things we're already doing." This was particularly true among those assessors who witnessed the practitioner under review successfully implement the unfamiliar technique. Under these circumstances, the assessed practitioner's success visibly demonstrated to the assessor the usefulness of this alternative approach, thereby not only introducing the assessor to a new technique, but providing validation and assurance of its efficacy as well. A similar, related sub-category also noted that some participants found it valuable to discuss these learning experiences with the practitioner whom they were reviewing. During these open dialogues, when approaches to care were open for discussion, assessors suggested that they felt able to explore alternatives to their normative practices, and process either new or old information in ways they had never before considered (1).

A third code, which was closely categorized with the second, involved identifying discrepancies between one's own practice habits, and those of the practitioner under review. Participants commented that when they identified such a discrepancy in their own practice compared to that of the assessed physician, they would not only highlight the alternatives available to the reviewee – i.e., the strategy used by the assessor – but they would also reflect upon their own techniques and strategies (2). Many viewed this experience an enlightenment that prompted them to seek more information on the issue, and delve more deeply into related research in an effort to uncover related best practices or existing debates on the discrepancy at hand (2). For example, participant 3 indicated, "while I'm doing a review, it will raise questions for me and I'll be on my UpToDate or whatever and looking it up." The review process itself thus stimulated these participants

to seek new information and attempt to answer questions they had heretofore failed to consider.

A related subcategory involved identifying complete gaps in one's own knowledge and practice habits. When the assessed practitioner would raise an issue or exhibit a strategy that the assessor had yet to encounter, the assessor reported feeling as though he or she had stumbled upon a gap in his or her own practice. In turn, the assessor would become motivated to "look things up" and come to a deeper understanding of the issue at hand (2, 3). Thus, when assessors came up against the challenge of practice variability, they became driven to conduct reviews of the literature (11, 12).

The fourth code in this category arose from those interviews conducted with peer assessors with comparatively less experience. These individuals tended to report that the assessment process was, in fact, more of a learning opportunity for them than a chance to provide feedback to the colleagues who were under review. For example, a more junior peer assessor (11) who practiced in a community hospital setting noted that she used the evaluation process to learn "little pearls" from the more senior physicians she was assessing. Others felt motivated and encouraged to try alternative strategies following their involvement in the assessment process. Specifically, they were more willing to weave new approaches into their own practice after observing the successful implementation of this new approach during a peer review. For example, participant 11 also indicated "I was much more willing now to use some of the newer agents and less fearful of them, and more open to changing that particular aspect of my patient management."

The second subcategory that arose was with regards to the driving factors that motivated practitioners to make alterations to their own *documentation* habits. There were four codes related to this category.

To fully grasp the significance of these codes and their related supplementary quotations, some background information is required on the standard charting practices and habits of practitioners. The CPSO mandates that there be a standard minimum quantity of information on a chart; that it documents certain aspects of the practice moment; and that it be understandable by a third party. Namely, a chart should "tell a story" to its reader: it should include the patient's medical history, medications, and allergies; outline the practitioner's findings; document what the investigations revealed; outline the various possibilities the physician considered as the patient's issue; note what the practitioners was entertaining as a diagnosis; and conclude with a review of the prescribed treatment and management plan. A chart must also include information regarding the patient's present complaints, the associated symptoms he or she is experiencing, and a brief history of related issues. Emergency care providers must also detail the findings uncovered during a physical exam – which includes checking vital signs and relevant body systems – and the relevant results of any other investigations, such as lab tests, imaging, etc. A chart must include the treatments or pain management strategies that were administered while the patient was being cared for. Finally, practitioners must make note of whether the patient was referred to another care provider as an outpatient, instructed to follow up with his or her regular family doctor, told to return to the emergency department, or provided with a means through which to manage their issues independently at home. Documentation that is legible, organized, and

complete (i.e., rich in the relevant information just outlined) helps to identify a physician's thought processes, thereby making it clearer to the reader the patient visit he or she is describing. However, the charting process typically becomes challenging in the Emergency care department, as practitioners are under tight timelines and intense pressure to see as many patients as possible within a short timeline.

The first code in this category was therefore the recognition of these time pressures. Most of the physician peer assessors participating in the present study recognized and explicitly stated that they understood that their colleagues were subjected to these intense demands. Many reported that their peers were expected to provide the highest quality of patient care while ensuring that patients continue to flow quickly through a busy Emergency Department, yet simultaneously provide the high quality documentation required by the CPSO. Participants in the present study therefore tended to preface their concerns with their colleagues' charting habits by admitting that they were caught between conflicting demands. For example, participant 1 indicated, "it takes time to write a good chart so there's always the time pressure." Similarly, participant 18 confirmed: "Documentation is a time crunch and it's very time-consuming."

Nevertheless, peer assessors raised several concerns with the charts they reviewed. Participant 11 encapsulates the two following codes by noting, "The Emerg Physician's documentation is, in many cases, it's pathetic." Similarly, participant 18 summarized: "Some of the practices that have really horrendous documentation, not a whole lot that you learn from those practices."

The first code related to such concerns involved the legibility of the charts that the assessor was reviewing. For example, participant 1 reported that several of the younger,

newer physicians he reviewed charted quite well, while more experienced practitioners had grown "very sloppy" with their charts over time. The latter group "scribble and you can't understand, you can't read a thing they're writing," participant 1 indicated in his interview. The frustration participant 1 and other participants voiced with regards to their colleagues' charts would serve as a stimulus that encouraged more attentive consideration of their own charts. For instance, participant 20 reported that after reviewing so many poor charts, he was forced to reflect on his own, and those of the practitioners in his own department. He indicated, "I think we were basically getting a little bit complacent" with charting practices, highlighting that he never would have recognized that "complacency" unless he had observed it among the other practitioners he was evaluating.

The second code related to poor charting practices involved the problems associated with providing limited information. Specifically, when a practitioner under review charted only a few words, assessors would express their inability to legitimately evaluate their work. For example, participant 7 noted, "as a peer assessor, one problem that I often have is that people's charts are so poor that you can't really tell if the person is practicing quality medicine or not because, if they just add two words, that the person may do a great job." With as little as "two words" to base his assessment upon, participant 7 could not adequately gauge how well the practitioner under review was performing. Similarly, participant 17 said:

> …as you can imagine, I've seen the full spectrum from doctors who just write two words, apple tree-style and see 300 patients a week working 20 hours and you can't read what they've written. - and you get them in and say 'can you explain this to me' and they don't even remember the patient or what they've written. Sometimes they can't even read their writing. - To people that are just crackerjack.

Overall, these two codes related to the quality of charts – specifically, their legibility and their lack of information – forced some peer assessors to recognize that their colleagues were "getting a little bit complacent" about charting. They were also exposed to some of the "pitfalls" associated with these poor charting habits; being placed in the shoes of the individual attempting to read and comprehend these poorly written charts, the peer assessors came to grasp fully the frustration of the experience and the uselessness of improper documentation. These frustrations served to motivate the assessing practitioners to ensure their own charts were legible, well-organized, detailed, and comprehensible to a third party.

The final code related to this subcategory describes the exact opposite experience: namely, the review of exceptionally well-kept charts. Participants reported "being humbled by good charting," which would serve as a stimulus for them to reflect on their own documentation habits (5). For example, participant 11 noted that "I'm perhaps even a little more careful about my charting than I was before," after the review process showed her how well her peers were recording their care. Similarly, participant 17 indicated: "Some of the new grads of family practice residents or family practice graduates are just really good; they're really connected with the EMR and IT stuff. They're really up on everything and it just blows me away how good some of them are." These impressive practitioners who were under review inspired and motivated many assessors to improve their own documentation habits.

Practice changes that were successfully implemented

While the previous category explored the aspects of the review process that stimulated practitioners to become *interested* in making changes to their own care

provision and documentation habits, the present high-level theme explores the ways in which peer assessors actually went about implementing those changes.

a. The first subcategory involves the changes peer assessors made to their practice habits. While many physicians struggled to recall specific changes that they made to their practice, most noted that they usually learned "something." This first code category thus encapsulated the broad, less specific comments the majority of my participants made indicating that they felt they had improved in some general way. Among these less specific comments, participant 3 recalled that she found herself "Learning little different things and improving in little ways" throughout the assessment process and in its aftermath. Similarly, participant 17 reported: "So in terms of what I've brought to my own practice, and that's also another also another reason why I keep doing these, because I learn stuff out there and I bring it back and use it in my own office." Thus, assessors appear to be aware that they are indeed learning during the review procedure, but that this information and these skills are being acquired subconsciously. They are not learning in the direct, intentional ways outlined above, but rather, through the more natural, intuitive reflective learning process. It also suggests that the more detailed aspects of practice risk being lost amidst the vast amount of information that emergency physicians are expected to know and remain up to date with.

The second code category incorporated comments from those participants who indicated that they would "transplant" certain techniques or processes they observed during an evaluation, bringing these practices back to their own departments. For example, participant 17 recalled:

> "if I saw people using really good forms for following diabetes or good assessments along with you know, I say can I get a copy of this, I could use it in my practice? And copy it and bring and bring it back and just start implementing. So whenever I saw neat or innovative things, I'd bring them back and start using them myself. So it's a tool for me to improve my practice and always has been."

For this group of participants, peer assessments constituted opportunities to obtain new resources and incorporate "innovative" solutions into their own practices.

The third code category involved practitioners who would tweak their existing practice habits to include new approaches or styles they observed during their evaluations of other practitioners. For example, participant 17 experienced a shift in the ways he performed certain procedures thanks to the evaluation process, learning an entirely new technique during one of his three-day assessments. He reported that he was the only GP in his region who performed hip injections, meaning there were few other practitioners he could learn new techniques and strategies from. However, upon evaluating one American graduate who was becoming licensed in Canada, participant 17 explained:

> I just use an anterior approach to feel for the femoral artery and go about an inch lateral and in inch down and that usually gets you onto the femoral neck that's continuous with the joint capsule. And I mean I have really good success injecting joints that way. And he said, well you know I always go laterally. And I thought well, alright. And so he showed me how to do it laterally and you just go above the greater trochanter and just slightly angle forward and down and same thing, you get to the neck that way. I thought oh good, and a few times I've used that because sometimes you get somebody with a big pannus and you're trying to landmark and you move the belly out of the way and all the skin and everything shifts, right. But you roll them on the side and things don't move. A greater troch is usually quite palpable even on the biggest people so that's a little tidbit that I picked up recently.

Thus, one of participant 17's procedures was considerably altered after his involvement in the assessment process.

Finally, participant 16 shared a similar sentiment:

> Participant 16: I remember I did one lady and in her assessment of the seniors she made a point of asking about falls and vision. So she had a nice little group of questions that she would always ask her seniors, which I thought was really nice.
>
> Researcher: And you incorporated that, then, into your own practice?
> Participant 16: I have tried to, yeah.
>
> Again, participant 16 was able to adjust the strategies she currently used to assess older adult patients in order to incorporate strategies she observed to be effective during her assessments of other practitioners.

b. The second subcategory involves the changes peer assessors made to their documentation processes. Many participants reported that they had noticed changes in their own documentation habits as a result of serving as a peer assessor. For example, participant 3 indicated: "I am a way better documenter since I've been here. In a number of ways, just completeness, thoroughness, documenting every discussion, that kind of thing. I'm way better at that." Participant 3 continued: "two things I did really improve on in Emerg were writing my discussion about medication side effects and my follow-up plan." As a result of assessing the charts of others, participant 3 came to change his own documentation habits for the better. Participant 1 had a similar experience, directly attributing his improved charting habits to his involvement in the peer assessment process: "My charting is better than it was six or seven years ago, as a result of reviewing."

The second code related to the changes that peer assessors had successfully implemented into their own practice involved emulating the charts of the practitioners who they had reviewed. For example, participant 1 stated: "there are some physicians

who really write very good charts. And it's kind of interesting to see how nicely organized they are. So, mine are somewhat better organized than they used to be." As a result of reviewing effectively organized charts, participant 1 was able to understand the importance of this aspect of documentation, and incorporate it into his own practice.

Third, several participants noted that the review process had caused them to become more conscientious about documentation in general. For example, participant 18 noted: "you become more obsessive in making sure that your documentation is all there… I think our documentation is quite extensive…perhaps due to the fact that we know how important it is to document everything." Only by examining others' charts as a removed third party could participant 18 fully comprehend the "importance" of preparing comprehensive, detailed charts.

Others reported that they felt responsible to put into practice the criticisms they would be voicing to their colleagues. For example, participant 1 explained that he felt his role as peer assessor encouraged him to refine his own charting habits: "Because I knew that I was the guy who was going to be picking on some of the poor charters. So, I felt that my charts needed to be good." He went on to explain that the illegibility of certain practitioners' charts was what prompted his department to implement the peer assessor process in the first place. Participant 7 similarly noted that the peer review process held him accountable to his own charting habits: "It's an incentive to make sure that, if you're going to ask people to do something you want to do it yourself."

A fifth code involved the realization that documentation not only serves a practitioners' own needs, but will also likely eventually be used and deciphered by others. For example, participant 18 said: "I think a lot of doctors, their impression is the notes are

for their own use but certainly becoming a peer assessor, you realise yeah, the notes are for your own use however other people need to know the story of the patient so the documentation becomes more extensive." Similarly, participant 1 explained that the experience of attempting to decipher a sloppy chart led him to improve his own: "I try to make my charts legible because I'm thinking somebody else is going to read this. I'm not writing it for me. I'm writing it for somebody else who's going to look at this chart."

Changes Implemented at the System Level

This overarching theme describes changes made to practitioners' practices or documentation habits that they decided to implement at a higher level. In other words, they opted not only to alter their personal charting habits, or utilize a new technique on their own patients, for example; rather, they developed new systems for managing the documentation process as a whole, or implemented a comparable new system for their departments.

For example, participant 1 reported that he had implemented an entirely new system into his departments, and attributed these changes to his involvement in peer assessments:

> I have become much better at my charting and better at assessing other people's charting. And we've actually used the CPSO assessment process to do an assessment of how one charts in the Emergency Department. I'm chair of a little group in our Emergency Department, looking at ways in which we can improve the quality of our charting. So, we set up a system using this similar kind of form where physicians can self-assess their own charts. Now we're moving on to the next stage where there'd be a peer assessment of emergency charts. I couldn't have done that if I wasn't a peer assessor.

Participant 1 thus explained that his experience as a peer assessor provided him with the knowledge of assessment processes needed to implement this new self-review system. Not only did his role as an assessor contribute to altering his own charting habits; it also encouraged him to implement broader changes at the departmental level.

Another example of this code was from participant 18, whose experience as an assessor drove her to quicken her department's transition from one documentation style to another:

> But certainly there's one practice that I went to and it was during the time that I was going through transition from paper records to EMR and this practice that I went to was fully EMR. And it basically motivated me to speed up my process into becoming fully EMR and we did that. And since we've become fully EMR, it was painful at the beginning but now it's wonderful.

As a result of participant 18's role in reviewing this practice, she implemented a department-wide change in documentation standards.

Evaluation of the changes made to one's own practice

This theme refers to processes of reflection upon the alterations practitioners had made to their practice or documentation habits due to their involvement in the peer assessment process. The majority of evaluators indicated that they did not consciously make an effort to assess the changes they had implemented, aside from their participation in the present research. More often, they indicated engaging in informal discussions with peers in the same practice group, where they would collectively determine which approaches, techniques, and strategies they believed to be useful and effective. For example, participant 2 indicated that she would "run ideas by peers," while participant 5 reported participating in "discussions with colleagues," and finally, participant 8 said he

would "ask colleagues for feedback." Finally, participant 15 stated: "Oh, I learn something every time. It's really hard to think of a specific one. I'm sure there are a couple."

More specifically, participant 16 indicated: "You get an idea and you kind of bring it back but to evaluate how well you've done that idea from their office, I really haven't evaluated it. It's just this is a nice idea, so you kind of pick, in a fluid moment, what makes sense, what you could work into your practice." He went on to explain: "I think as physicians we don't tend to formally evaluate the things that we do ourselves… you incorporate things and say I want to make that change. I'm going to try to make that change. You make the change and you're happy enough with it that you don't go back to the way you did things." From this perspective, conducting a formal evaluation of a new practice or documentation habit was unnecessary; practitioners could gauge the success or failure of these new strategies almost intuitively.

Reasons for being an assessor

The fifth and final theme that emerged from my qualitative analysis involved the reasons practitioners chose to become peer assessors for the CPSO. There were 4 commonly cited reasons for this decision, or four codes underlying this theme.

The first code indicated that certain participants enjoyed teaching, and sought to inspire other physicians to improve their practices. For example, participant 4 stated: "I still feel like it's a really good teaching experience when I go out and I am a teacher at heart, and it's very exciting to be able to work with a physician." Thus, the participants whose comments fell under this code felt that they had useful knowledge to impart, and genuinely enjoyed helping their peers improve their practice and documentation habits.

The second code describes those participants who wanted to become more involved in the medical community, and contribute to improving the profession as a whole. For example, participant 12 indicated that she believed she could make an impact on the medical community by filling the role of peer assessor: "I wanted to impact medical care overall and the practice of medical care. I wanted to impact the quality of medical care, the quality of peer assessments, and I also felt that I could bring a fair perspective to peer assessments." Participant 4 expressed a similar sentiment, explaining "I wanted to be a bit more involved with the college and with the whole idea that I could contribute to improvements, just in general." Thus, although the first and second code underlying this theme are similar, in that the practitioners who indicated these interests sought primarily to affect change through their role as a peer assessor, the first code indicates a desire to help the individuals under assessment, while the second indicates a desire to exert a more widespread impact on the medical community as a whole.

The third and final code that emerged under this theme was an interest to learn how others practice and document, or to utilize other physicians and departments as references through which to improve their own practices. For example, participant 14 explained his desire to become a peer assessor by noting:

> It's so easy to just get lazy and do the same thing over and over again and I wanted to sort of force myself to at least be aware of what's going on out there. And I realized that, by being a peer assessor, from assessing someone else, I have to be assessing myself at the same time and vice versa. I'm going to learn something with every assessment I go to do because either they're going to teach me something or I'm going to have to look something up because they're asking me a question about one thing or another.

Participant 13 expressed similar desires, explaining that he wanted to stay up-to-date on how his colleagues were practicing: “I thought it would get me out seeing what other people do, and it would give me a reference, and it would be what other docs in town do.”

This final category reflects the central assertion of the present research: that the peer assessment process not only improves practice and documentation habits among the practitioners undergoing review; it also influences the practice and documentation strategies of those performing the assessments. These implications are discussed in greater detail below.

Discussion

The present study investigated whether the medical peer assessment process exerted effects on practice beyond those enjoyed by the practitioner under review. Namely, through semi-structured interviews with peer reviewers in Ontario, I aimed to learn whether the assessor him- or herself experienced any reflective learning that could potentially alter the ways in which he or she practiced. The results of my qualitative data analysis suggest that peer reviewers do indeed become *motivated* to change both their practice and documentation strategies, but they also report actually *making* such changes to their habits, unlike in the aftermath of a more intentional learning experience.

There are two limitations to the present study, both of which render my findings potentially ungeneralizable. First, the sample size upon which these findings was based is relatively small, with only 18 participants. The experiences and learning opportunities

voiced by these individuals are not necessarily shared across the entire practicing population. Second, my entire sample consisted of Emergency Medicine Physician Peer Assessors in Ontario. Reviewers trained by a different organization, or those who are practicing outside of Ontario, may have an entirely different experience with the peer assessment process. Thus, my findings must be considered within the context of peer reviewers who are practicing within the unique setting of Ontario, and whose focus is upon emergency care provision. In theory, however, the peer review process is predicated upon the same needs, medical standards, and practice requirements in all areas of Canada and beyond, providing us with good reason to assume that at least some of the findings of the present research will hold true in a variety of contexts.

A handful of participants explicitly initiated a discussion during their interview regarding intentional versus reflective learning. Participant 14, for example, was quite aware of these different learning habits, and the difficulties associated with actively seeking out new information or approaches:

> …the truth is, you must know it by now, you go to a conference, you get taught something new, you go back, you do exactly the same thing you did before. It hardly ever changes a physician's habits. That's what I've noticed. And I think that one of the things about doing peer assessments that has changed a few of my habits isn't doing just the one or two peer assessments. It's doing them repeatedly over and over again, that eventually you realize I keep telling people that they should be doing this but I should be doing it myself.

The value of participant 14's remarks lie in his explicit acknowledgment that activities meant to impart new knowledge and modes of practicing – such as "conferences" – often fail to accomplish their goals. Attendees of such conferences are rarely provided with the opportunity to engage in experiential (or "hands-on") learning

moments; rather, they are expected to absorb new information and practice tips during lecture-style conferences, return to their individual practices, test these new strategies, and assess whether or not they are effective for themselves. As many of my participants explained, however, the value of serving as a peer assessor was that these new techniques or strategies would be implemented before their very eyes, allowing the on-looking reviewer to see for him or herself whether the unfamiliar technique was effective or not. Thus, these explicit acknowledgments of the limitations of intentional, conference- or lecture-style learning buttress the broader findings of the present study, demonstrating that some practitioners must have the opportunity to observe new practice strategies in play before willingly attempting them themselves.

The debate regarding the relative efficacy of intentional versus experiential or reflective learning has been underway since the mid-1960s (Lam, 2011, p. 305). The present research has provided empirical evidence, grounded in a qualitative analysis of the thick descriptions provided by peer assessors, of the reflective learning process. Namely, although peer reviews were initially implemented with the intention of reinforcing best practices and holding those practitioners under review to the highest standards of medical practice, the present study confirms prior hypotheses insisting that the experience of reviewing one's peers must exert a substantial influence on one's own practice habits.

Specifically, acting as a peer reviewer serves as a major stimulus for reflecting on one's own practice, which fits in the context of Schön's theory of the reflective practitioner. The concerns noted by study participants around documentation legibility and quality caused them to reflect on their own documentation, and motivated them to

ensure their own charts were legible, well-organized, detailed and comprehensible to a third party. Additionally, the study participants demonstrated that they were able to reflect on different approaches to medical care taken by the peers they were assessing, to think about whether it would be something they would want to incorporate into their own practice, and then decide how to act on that information. Schön comments "Through reflection, he can surface and criticize the tacit understandings that have grown up around the repetitive experiences of a specialized practice, and can make new sense of the situations of uncertainty or uniqueness which he may allow himself to experience" (Schön, 1983, p. 61).

Indeed, the findings that emerged from a grounded theory analysis of the qualitative data gathered through the present interview process revealed that the peer review process motivates reviewers to reconsider the ways they presently execute their own patient care. In addition to pushing these reviewers into the contemplation phase, the assessment experience also drove them to actually implement certain changes, altering the ways they performed certain procedures, providing them with new techniques, or motivating them to improve their charting processes. In fact, the peer review process was so widely believed to be a valuable learning experience for peer reviewers themselves, the majority of my participants indicated at some point in their interview that they actively sought an assessor position with the hopes that they would acquire some form of new information, skills, resources, or learning opportunity. Thus, even practitioners themselves intuitively recognize the value of serving as a reviewer, not only for their peers and for the medical community as a whole, but for their own practices.

The ongoing work of Sargeant et al. suggests that the use of their R2C2 Facilitated Feedback Model, and its four phases of building rapport, exploring reactions to feedback, exploring physician understanding of content, and coaching for performance change, allows peer reviewers to effectively coach physicians in selecting learning goals and developing action plans for identified knowledge gaps (Sargeant et al., 2015). Indeed, many of the participants in the study indicated they became peer assessors knowing they would take on the role of teacher or coach. The current CPSO peer review system does not involve training facilitators on how, specifically, to coach the physician they are reviewing, on selecting learning goals and developing plans. Rather, the physician undergoing review is asked, in their pre-questionnaire, if they have any specific learning goals they would like addressed. The research by Sargeant et al. (2015) demonstrates the value of a training facilitators to use a facilitated feedback model, and this study demonstrates the desire of peer reviewers to be educators or coaches for the peer physician they are assessing.

This study overall demonstrates the significant learning benefits for Emergency Medicine Peer Assessors. The themes emerging from the interviews included both personal changes with improvements to documentation habits, medical procedures/skills, and also broader changes at a departmental level. Interestingly, physician peer assessors rarely engaged in formal review of the practice changes they incorporated, but rather continued to reflect through continued success or informal discussion with colleagues.

While it is clear that the majority of physicians maintain reasonable documentation and practice habits, there is always room for improvement. This study demonstrates that Emergency Physician Peer Assessors improve both their documentation

and add to their medical knowledge and skills through the process of reviewing their peers, however there are less than 30 assessors in the entire province of Ontario. Imagine the benefit to Emergency Medicine physicians (and to the patients they serve) if small peer groups could be formed within hospitals or, perhaps further reaching, within LHINS (Local Health Integration Networks). This study looked at Emergency Medicine Peer Assessors; by nature, this practice encompasses the initial evaluation, diagnosis and management of any patient with any presenting complaint including medical, surgical or mental health concerns. Because the practice of emergency medicine is broad based, this study may be generalizable to Peer Assessors in General Internal Medicine and Family Medicine, with the caveat that these specialties would provide care and have records for patients over time rather than providing episodic care.

This is the first study, to my knowledge, exploring the learning benefits for practicing physicians as peer assessors. These findings make a sizeable contribution to the existing literature, where the efficacy of a variety of reflective learning opportunities have been explored to the exclusion of the peer review process. The present study confirms that, much like maintaining a learning journal, compiling a teaching portfolio, or documenting teaching moments in a practice log, the experience of conducting a peer review encourages reflection upon one's own practice. My data therefore suggests, that in addition to its intended purpose of quality assurance and education for the physician being assessed by holding those practitioners under review accountable to safe medical standards, peer assessments also give reviewers pause to reflect upon the very practice and documentation strategies they are reviewing, encouraging them to consider whether they should be applying their own recommendations to their own practices.

Further research in this area could include practice observation in addition to chart review within a smaller physician peer group, exploring changes in observed physical examination and communication skills before and after acting as peer assessor. Going broader, further research may explore peer assessors in other specialties to determine if what learning benefits, if any, are found.

Conclusion

By way of conclusion, the semi-structured nature of my interviews allowed participants to digress to a certain degree, providing them with the opportunity to ask questions regarding the nature of the study in which they were participating, and for the researcher to probe them regarding their thoughts on my hypotheses. Through these less formal sections of my interviews, I learned that many of my participants appeared to be well aware of the debate surrounding intentional versus reflective learning habits. Several indicated that they felt the most substantial changes they had made to their practice and documentation habits through the review process occurred subconsciously. The majority indicated that they could not quite specify how their experience as a peer assessor had changed their habits – but they emphasized that it had, in some way, substantially shaped their practice. This was evident in the many vague comments made by the majority of participants indicating that they had learned "something" through the process.

In sum, the present study sought to investigate the ways in which the peer assessment process influences reviewers' own practice and documentation habits. A sample of Emergency Medicine Physician Peer Assessors in Ontario were individually

interviewed, and the resulting qualitative data was coded and thematically organized using a grounded theory methodology. Results showed that in addition to benefiting the practitioner under review, and ensuring medical standards were upheld, the review process subjected the assessor him- or herself to a range of informal, often unintended learning experiences and benefits. Primarily, reviewing physicians became motivated to make tangible changes to their practice and documentation habits as a direct result of their role as an assessor

References

Arnold, L., Shue, C., Kritt, B., Ginsburg, S., & Stern, D.T. (2005). Medical students' views on peer assessment of professionalism. Journal of General Internal Medicine, 20(9), 819-824.

Bashook, P.G., Gelula, M.H., Joshi, M., Sandlow, L.J. (2008). Impact of student reflective e-portfolio on medical student advisors. Teaching and Learning in Medicine, 20(1), 26-30.

Beecher, A., Lindemann, J.C., Morzinski, J.A., Simpson, D.E. (1997). Use of the educator's portfolio to stimulate reflective practice among medical educators. Teaching and Learning in Medicine, 9(1), 56-59.

Branch, W.T. (2010). The road to professionalism: Reflective practice and reflective learning. Patient Education and Counselling, 80(3), 327-332.

Bernard, A.W., Gorgas, D., Greenberger, S., Jacques, A., & Khandelwal, S. (2012). The use of reflection in emergency medicine education. Academic Emergency Medicine, 19(7), 978-982.

CFPC. (1998). Pearls – An evidence-based practice reflection exercise (First edition). Retrieved June 6, 2016, from http://www.cfpc.ca/uploadedFiles/CPD/Revised%20Pearls%20Handbook%202009_ENG.pdf.

Charmaz, K. (2006). *Constructing grounded theory. A practical guide through qualitative analysis.* London, UK: Sage Publications Ltd.

Clarke, N.M. (2014). A Person-Centered Inquiry into the Teaching and Learning Experiences of Reflection and Reflective Practice – Part One. Nurse Education Today, 34(9), 1219-1224.

Cohen, L., Manion, L., & Morrison, K. (2007). Research methods in education (6th ed., pp. 491-500). Oxon, USA: Routledge.

Connelly, L.M. (2013). Grounded Theory. Medsurg Nursing, 22(2), 124-127.

CPSO. (2009). How to use and interpret the practice assessment report: Emergency medicine. In CPSO (Ed.). Toronto.

CPSO. (n.d. –a). Self-regulation and the practice of medicine. Retrieved March 1, 2016, from http://www.cpso.on.ca/About-Us

CPSO. (n.d.-b). Assessor - bring your skills to the table. Retrieved Sept 4, 2012, from http://www.cpso.on.ca/members/engagement/default.aspx?id=3264&terms=Peer+Assessment+Program+has+been+in+existence+since+the+early+1980s

CPSO. (n.d.-c). Selection for assessment. Retrieved Sept 4, 2012, from http://www.cpso.on.ca/members/peerassessment/default.aspx?id=1946

CPSO. (n.d.-d). What is a peer? Retrieved Sept 4, 2012, from http://www.cpso.on.ca/CPSO-Members/Peer-Assessment/What-is-a-Peer

Davis, D.A., Mazmanian, P.E., Fordis, M., Van Harrison, R., Thorpe, K.E., & Perrier, L., (2006). Accuracy of physician self-assessment compared with observed measures of competence. A systematic review. JAMA, 296(9), 1094-1102.

Davis, D., Thomson O'Brien, M.A., Freemantle, N., Wolf, F.M., Mazmanian, P., Taylor-Vaisy, A. (1999). Impact of formal continuing medical education. Do conferences, workshops, rounds, and other traditional continuing education activities change physician behaviour or health care outcomes? JAMA, 282(9), 867-874.

Donnon, T., Al Ansarai, A., Al Alawi, S., & Violato, C. (2014). The reliability, validity, and feasibility of multisource feedback physician assessment: A systematic review. Academic Medicine, 89(3), 511-516.

Dunn, L., & Musolino, G.M. (2011). Assessing Reflective Thinking and Approaches to Learning. Journal of Allied Health, 40(3), 128.

Edwards, M.T., (2013). Minimizing bias in clinical peer review. Retrieved April 20, 2016 from https://qatoqi.com/wp_bias.htm

Embo, M.P.C., Driessen, E., Valcke, M., & Van Der Vleuten, C.P.M. (2014). Scaffolding Reflective Learning in Clinical Practice: A Comparison of Two Types of Reflective Activities. Medical Teacher, 36(7), 602-607.

Epstein, R.M. (1999). Mindful practice. JAMA, 282(9), 833-838.

Fidler, H., Lockyer, J.M., Toews, J., & Violato, C. (1999). Chanting physicians' practices: The effect of individual feedback. Academic Medicine, 74(6), 702-714.

Fine, D.L. (2004). The Medical Peer Review Privilege in Massachusetts: A Necessary Quality Control Measure, or an Ineffective Obstruction of Equitable Redress? Suffolk University Law Review, 38(4), 811.

Goulet, F., Jacques, A., Gagnon, R., Bourbeau, D., Laberge, D., Melanson, J., . . . Rivest, R. (2002). Performance assessment. Family physicians in Montreal meet the mark! Canadian Family Physician, 48, 1337-1344.

Goulet, F., Jacques, A., Gagnon, R., Racette, P., & Sieber, W. (2007). Assessment of family physicians' performance using patient charts. Evaluation and the Health Professions, 30(4), 376-392.

Grant, A., Kinnersley, P., Metcalf, E., Pill, R., & Houston, H. (2006). Students' views of reflective learning techniques: an efficacy study at a UK medical school. Medical Education, 40(4), 379-388.

Grant, J. (2002). Learning needs assessment: assessing the need. BMJ, 324(7330), 156-159.

Hall, W., Violato, C., Lewkonia, R., Lockyer, J., Fidler, H., Toews, J., . . . Moores, D. (1999). Assessment of physician performance in Alberta: the physician achievement review. CMAJ, 161, 52-57.

Hastie, C., Fahy, K., & Parratt, J. (2014.) The development of a rubric for peer assessment of individual teamwork skills in undergraduate midwifery students. Women and Birth, 27(3), 220-226.

Hay, J.A. (1997). An investigation of a tutor evaluation scale for formative purposes in a problem-based learning curriculum. The American Journal of Occupational Therapy, 51(2), 140-143.

Hulsman, R.L., Peters, J.F., Fabriek, M. (2013) Peer-assessment of medical communication skills: The impact of student's personality, academic and social reputation on behavioural assessment. Patient Education and Counseling, 92(3), 346-354.

Koh, Y.H., Wong, M.L., & Lee, J.J.M. (2014). Medical Students' Reflective Writing About a Task-Based Learning Experience on Public Health Communication. Medical Teacher, 36(2), 121-129.

Kolb, A.Y., & Kolb, D.A. (2005) Learning styles and learning spaces: Enhancing experiential learning in higher education. Academy of Management Learning & Education, 4(2), 193-212.

Lam, C.M. (2011). Experiential and reflective learning approaches for the train-the-trainers program of Project P.A.T.H.S. International Journal of Adolescent Medicine and Health, 23(4), 305-310.

Leung, K.H., Pierre, P., Grad, R., & Weston, C., (2010). A reflective learning framework to evaluate CME effects on practice reflection. The Journal of Continuing Education in the Health Professions, 30(20), 78-88.

Lockyer, J.M., Fidler, H., Hogan, D.B., Pereles, L., Lebeuf, C., & Wright, B. (2002). Dual Track CME: Accuracy and outcome. Academic Medicine, 77(10), s61-63.

Lockyer, J.M. & Violato, C., An examination of the appropriateness of using a common peer assessment instrument to assess physician skills across specialties. Academic Medicine., 79(10), s5-8.

Loughran, J. (2002). Effective Reflective Practice: In Search of Meaning in Learning about Teaching. Journal of Teacher Education, 53(1), 33-43.

Mazmanian, P.E., & Davis, D.A. (2002). Continuing medical education and the physician as a learner. Guide to the evidence. JAMA, 288(9), 1057-1060.

McAuley, R. G., Paul, W. M., Morrison, G. H., Beckett, R. F., & Goldsmith, C. H. (1990). Five-year results of the peer assessment program of the college of physicians and surgeons of Ontario. Canadian Medical Association Journal, 143(11), 1193-1199.

McCambridge, J., Witton, J., & Elbourne, D.R. (2014). Systemic review of the Hawthorne effect: New concepts are needed to study participation effects. Journal of Clinical Epidemiology, 67, 267-277.

McMahon, G.T., Monaghan, C., Falchuk, K., Gordon, J.A., & Alexander, E.K. (2005). A Simulator-Based Curriculum to Promote Comparative and Reflective Analysis in an Internal Medicine Clerkship. Academic medicine: Journal of the Association of American Medical Colleges, 80(1), 84-89.

Merriam, S.B., Caffarella, R.S., & Baumgartner, L.M. (2007). Learning in adulthood. A comprehensive guide (3rd ed.). San Francisco, CA: John-Wiley & Sons, Inc.

Mettiainen, S., & Vahamaa, K. (2013). Does Reflective Web-Based Discussion Strengthen Nursing Students' Learning Experiences During Clinical Training? Nursing Education in Practice, 13(5), 344.

Millenson, M.L., (2002). Pushing the profession: How the news media turned patient safety into a priority. Quality & Safety in Health Care, 11, 57-63.

Miller, A. (2010). Impact of workplace based assessment on doctor's education and performance: a systematic review. BMJ, 2010, 341. Doi: 10.1136/bmj.c5064.

Morse, J. M. (1995, May). The significance of saturation. *Qualitative Health Research*, *5*, 147-149. Retrieved from http://qhr.sagepub.com.proxy1.lib.uwo.ca/content/5/2/147.full.pdf+html

Newman, L.R., Lown, B.A., Jones, R.N., Johansson, A., Schwartzstein, R.M. (2009). Developing a peer assessment of lecturing instrument: Lessons learned. Academic Medicine, 84(8), 1104-1110.

Nofziger, A.C., Naumburg, E.H., Davis, B.J., Mooney, C.J., Epstein, R.M. (2010). Impact of peer assessment on the professional development of medical students: A qualitative study. Academic Medicine, 85(1), 140-147.

Norcini, J.J. (2003). Peer assessment of competence. The Metric of Medical Education, 37, 539-543.

Norman, G.R., Shannon, S.I., & Marrin, M.I. (2004). The need for needs assessment in continuing medical education. BMJ, 328, 999-1001.

Norton, P.G., Dunn, E.V., Beckett, R., Faulkner, D. (1998). Long-term follow-up in the peer assessment program for nonspecialist physicians in Ontario, Canada. The Joint Commission Journal on Quality Improvement, 24(6), 334-341.

O'Shea, C. & Spike, N. (2005), Learning needs analysis. Developing a new tool for general practice training. Australian Family Physician. 34(12), Dec, 41-43.

Ottolini, M.C., Cuzzi, S., Tender, J., Coddington, D.A., Focht, C., Patel, K.M. (2007). Decreasing Variability in Faculty Ratings of Student Case Presentations: A Faculty Development Intervention Focusing on Reflective Practice. Teaching and Learning in Medicine, 19(3), 239-243.

Paukert, J. L., Chumley-Jones, H. S., & Littlefield, J. H. (2003). Do peer chart audits improve residents' performance in providing preventive care? Academic medicine: journal of the Association of American Medical Colleges, 78(10 Suppl.), s39-41.

Ramsey, P.G., Carline, J. D., Blank, L. L., & Wenrich, M. D. (1996). Feasibility of hospital-based use of peer ratings to evaluate the performances of practicing physicians. Academic Medicine, 71(4), 364-370.

Rethans, J., Martin, E., & Metsemakers, J. (1994). To what extent do clinical notes by general practitioners reflect actual medical performance? A study using simulated patients. British Journal of General Practice, 44, 153-156.

Royal College of Physicians and Surgeons of Canada. (n.d.). CanMEDS: Better standards, better physicians, better care. Retrieved April 20, 2016 from http://www.royalcollege.ca/portal/page/portal/rc/canmeds/framework

Saddawi-Konefka, D., Schumacher, D., Baker, K.H., Charnin, J.E., & Gollwitzer, P.M. (2016). Changing physician behaviour with implementation intentions: Closing the gap between intentions and actions. Academic Medicine, March, eprint.

Sargeant, J., Lockyer, J., Mann, K., Holmboe, E., Silver, I., Armson, H., Driessen, E., MacLeod, T., Yen, W., Ross, K., & Power, M. (2015). Facilitate reflective performance feedback: Developing an evidence- and theory-based model that builds relationship, explores reactions and content, and coaches for performance change (R2C2). Academic Medicine, 90(12), 1698-1706.

Schön, D.A. (1983). The reflective practitioner. How professionals think in action. USA: Basic Books Inc.

Schönrock-Adema, J., Heijne-Penninga, M., van Duijn, M.A., Geertsma, J., & Cohen-Schotanus, J. (2007). Assessment of professional behaviour in undergraduate medical education: Peer assessment enhances performance. Medical Education, 41(9), 836-842.

Silver, I., Campbell, C., Marlow, B., & Sargeant., J. (2008). Self-assessment and continuing professional development: The Canadian perspective. The Journal of Continuing Education in the Health Professions, 28(1), 25-31.

Slotnick, H.B. (1999). How doctors learn: Physicians' self-directed learning episodes. Academic Medicine, 74(10), 1106-1117.

Staton, L. J., Kraemer, S. M., Patel, S., Talente, G. M., & Estrada, C. A. (2007). Peer chart audits: A tool to meet accreditation council on graduate medical educations (ACGME) competency in practice-based learning and improvement. Implementation Science, 2(24).

Speyer, R., Pilz, W., Van Der Kruis, J., & Brunings, J.W. (2011). Reliability and validity of student peer assessment in medical education: A systematic review. Medical Teacher, 33(11), 572-585.

Thomas, P. A., Gebo, K. A., & Hellman, D. B. (1999). A pilot study of peer review in residency training. Journal of General Internal Medicine, 14(9), 551-554.

Thomas, P.A., & Goldberg, H. (2007). Tracking Reflective Practice-Based Learning by Medical Students during an Ambulatory Clerkship. Innovations in Education, 1583-1586.

Walker, S. (1996). Reflective practice in the accident and emergency setting. Accident and Emergency Nursing, 4, 27-30.

Weingart, S.N., Mukamal, K., Davis, R. B., Davies, D. T., Palmer, R. H., Cahalan, M., . . . Iezzoni, L. I. (2001). Physician-reviewers' perceptions and judgments about quality of care. International Journal for Quality in Health Care, 13(5), 357-365.

Wenghofer, E. F., Way, D., Shaw-Moxam, R., Wu, H., Faulkner, D., & Klass, D. J. (2006). Effectiveness of an enhanced peer assessment program: Introducing education into regulatory assessment. The Journal of Continuing Education in the Health Professions, 26(3), 199-208.

Wong, A.H., Gang, M., Szyid, D., & Mahoney, H., (2016). Making an "attitude adjustment"" Using a simulation-enhanced interprofessional education strategy to improve attitudes toward teamwork and communication. Simulation in Healthcare, 11(2), 117-25.

Appendix A: CPSO Chart Audit Tool

PRACTICE ASSESSMENT REPORT EMERGENCY MEDICINE MANAGEMENT

Physician Demographic & Practice Information

Physician Name: Physician CPSO Number:

Assessment Information

Assessor Name: Assessment Date: Address of Assessment:

To be completed by the assessor upon completion of the assessment:

Assessor Signature: _____
Total time to complete case review (hr)

Total time to complete interview (hr)

Clinical Practice/Medical Records: Emergency Medicine Management

Please check the box that best reflects your opinion of the statement, considering the appropriateness of the physician's actions in both the evidence found in the records and, through your interview with the physician. If you select the box **Appropriate(ly) with Recommendations,** you are required to document the specific recommendations for those items in the box entitled **Recommendations for Practice Improvement,** located immediately following this checklist.

3. Medical history, including medications and allergies is acquired...

Appropriate(ly)

Appropriate(ly) with recommendations

Concerns

N/A

1. Records are organized, clear, legible and ...

2. The history of the presenting problem (i.e. chief complaint is clear; symptoms adequately described) is acquired ...

4. Physical examination with significant positive/ negative physical findings is conducted...

5. Laboratory tests, x-rays, and other diagnostic investigations are clinically indicated and ...

6. Management of immediate life or limb threatening problems is...

7. Signs of potentially critical illnesses (based on abnormal vitals' key signs and symptoms) are recognized and acted upon...

8. Prescribing (type, dose, duration, route) is...

9. Use of consultants is...

10. Patient reassessment (includes assessment at appropriate intervals given the presenting clinical condition) is...

11. Investigation results (i.e., ECG/X-Rays) are documented...

12. A working/provisional diagnosis is based on objective and subjective findings and is formulated...

13. Patient follow-up (i.e., consultations with family physician, etc.) is...

14. Disposition instructions (admission/transfer/ discharge) are ...

Section Recommendation

Appropriate

Appropriate with recommendations

Concerns

Emergency Medicine Management

Clinical Practice/Medical Records: Emergency Medicine Management

Recommendations for Practice Improvement

Please list below the specific recommendations to those items that you checked **Appropriate(ly) with Recommendations,** from the checklist on the previous page(s). **PLEASE ENSURE THAT YOUR COMMENTS DO NOT EXCEED THE SIZE OF THE TEXT BOX BELOW.**

Suggestions for Practice Improvement

Please list below any suggestions for practice improvement (where the baseline provision of care is satisfactory) you provided in your discussion with the physician. **PLEASE ENSURE THAT YOUR COMMENTS DO NOT EXCEED THE SIZE OF THE TEXT BOX BELOW.**

NO RECOMMENDATIONS/SUGGESTIONS

Patient Record Summary

This is the record for all patient charts reviewed. Please complete the box below for **each** chart that is reviewed, **regardless of whether or not there is a concern/recommendation**. Each record reviewed should include a patient identifier (**please refrain from using full patient names**), the date of visit, the presenting problem and your comments. If there are no concerns/ recommendations, please ensure that you have briefly given some indication as to why the care is appropriate or exemplary. **NOTE: PLEASE ENSURE THAT YOUR COMMENTS DO NOT EXCEED THE SIZE OF THE TEXT BOX.**

TOTAL NUMBER OF CHARTS REVIEWED:

Chart #1
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Chart #2
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Patient Record Summary

Chart #3
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Chart #4
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Patient Record Summary

Chart #5
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Chart #6
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Patient Record Summary

Chart #7
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Chart #8
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Patient Record Summary

Chart #9
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Chart #10
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Patient Record Summary

Chart #11
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Chart #12
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Patient Record Summary

Chart #13
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Chart #14
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Patient Record Summary

Chart #15
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Chart #16
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Patient Record Summary

Chart #17
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Chart #18
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Patient Record Summary

Chart #19
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Chart #20
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Patient Record Summary

Chart #21
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Chart #22
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Patient Record Summary

Chart #23
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Chart #24
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Patient Record Summary

Chart #25
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Chart #26
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Patient Record Summary

Chart #27
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Chart #28
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Patient Record Summary

Chart #29
Patient Identifier (Initials/Chart Number)

Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

Chart #30
Patient Identifier (Initials/Chart Number)

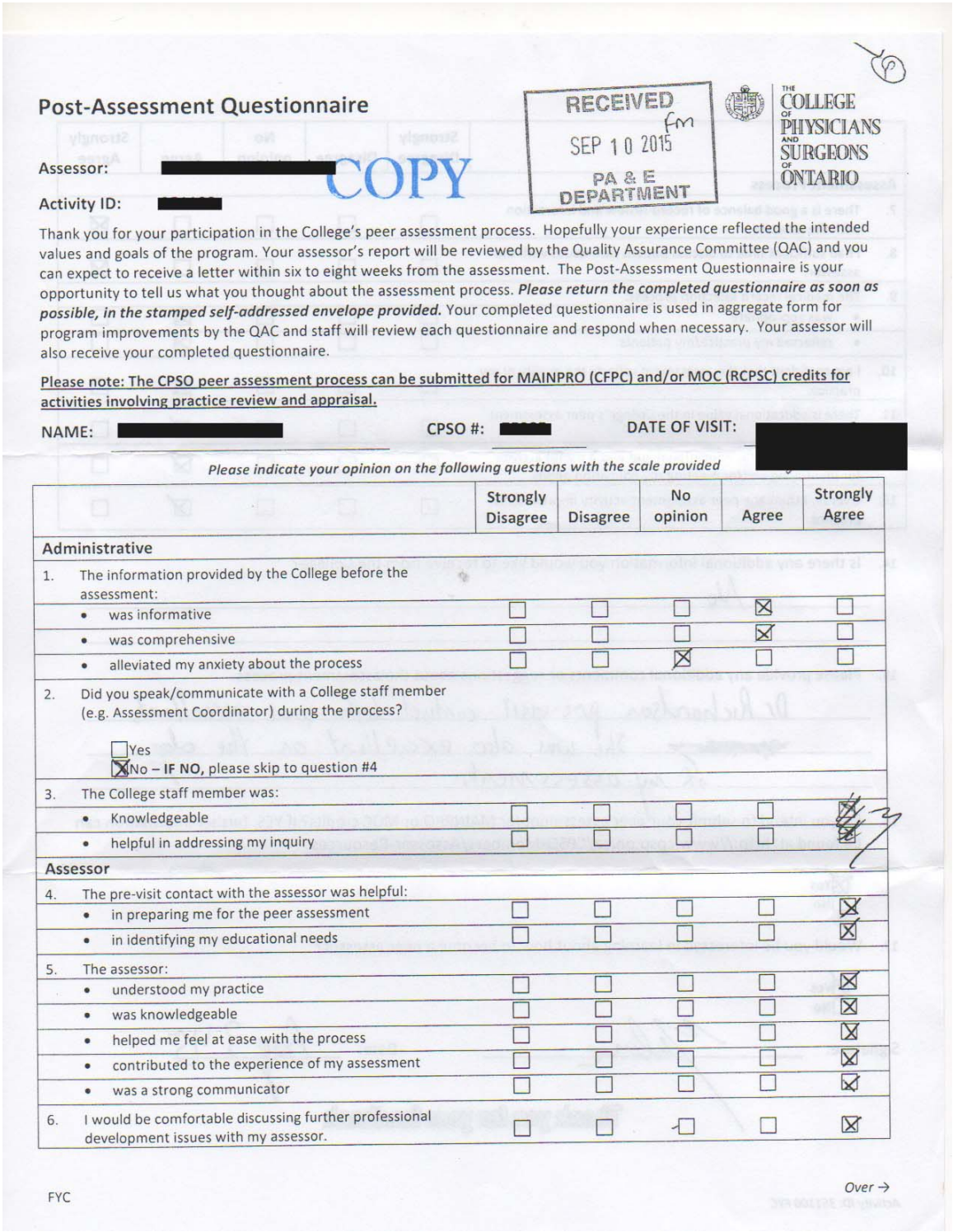
Date of Birth (dd/mm/yyyy)
Date of Visit (dd/mm/yyyy)
Presenting Problem of Patient/Clinical Issue
Comments - Concerns - Recommendations Regarding Patient Care

General Comments

Please list any additional or general comments that you have regarding this assessment. **PLEASE ENSURE THAT YOUR COMMENTS DO NOT EXCEED THE SIZE OF THE TEXT BOX BELOW.**

NO COMMENTS Updated: January 31, 2013

Appendix B: Peer Assessor Feedback from the CPSO



Post-Assessment Questionnaire

RECEIVED fm SEP 10 2015 PA & E DEPARTMENT

THE COLLEGE OF PHYSICIANS AND SURGEONS OF ONTARIO

Assessor: [redacted] COPY

Activity ID: [redacted]

Thank you for your participation in the College's peer assessment process. Hopefully your experience reflected the intended values and goals of the program. Your assessor's report will be reviewed by the Quality Assurance Committee (QAC) and you can expect to receive a letter within six to eight weeks from the assessment. The Post-Assessment Questionnaire is your opportunity to tell us what you thought about the assessment process. ***Please return the completed questionnaire as soon as possible, in the stamped self-addressed envelope provided.*** Your completed questionnaire is used in aggregate form for program improvements by the QAC and staff will review each questionnaire and respond when necessary. Your assessor will also receive your completed questionnaire.

Please note: The CPSO peer assessment process can be submitted for MAINPRO (CFPC) and/or MOC (RCPSC) credits for activities involving practice review and appraisal.

NAME: [redacted] CPSO #: [redacted] DATE OF VISIT: [redacted]

Please indicate your opinion on the following questions with the scale provided

	Strongly Disagree	Disagree	No opinion	Agree	Strongly Agree
Administrative					
1. The information provided by the College before the assessment:					
• was informative	☐	☐	☐	☒	☐
• was comprehensive	☐	☐	☐	☒	☐
• alleviated my anxiety about the process	☐	☐	☒	☐	☐
2. Did you speak/communicate with a College staff member (e.g. Assessment Coordinator) during the process? ☐ Yes ☒ No – **IF NO,** please skip to question #4					
3. The College staff member was:					
• Knowledgeable	☐	☐	☐	☐	☒
• helpful in addressing my inquiry	☐	☐	☐	☐	☒
Assessor					
4. The pre-visit contact with the assessor was helpful:					
• in preparing me for the peer assessment	☐	☐	☐	☐	☒
• in identifying my educational needs	☐	☐	☐	☐	☒
5. The assessor:					
• understood my practice	☐	☐	☐	☐	☒
• was knowledgeable	☐	☐	☐	☐	☒
• helped me feel at ease with the process	☐	☐	☐	☐	☒
• contributed to the experience of my assessment	☐	☐	☐	☐	☒
• was a strong communicator	☐	☐	☐	☐	☒
6. I would be comfortable discussing further professional development issues with my assessor.	☐	☐	☐	☐	☒

FYC

Over →

	Strongly Disagree	Disagree	No opinion	Agree	Strongly Agree
Assessment Process					
7. There is a good balance of record review and interaction with the assessor.	☐	☐	☐	☐	☒
8. I had sufficient time to discuss patient care issues with the assessor.	☐	☐	☐	☐	☒
9. The medical record selection process:					
• was appropriate	☐	☐	☐	☒	☐
• reflected my practice/my patients	☐	☐	☐	☒	☐
10. I am confident that the assessment reflects the quality of my practice.	☐	☐	☐	☒	☐
11. There is educational value in the College's peer assessment process.	☐	☐	☐	☒	☐
12. My assessment was educational and was a useful activity for identifying and/or meeting my education needs.	☐	☐	☐	☒	☐
13. Overall, I think the peer assessment activity improved my practice.	☐	☐	☐	☒	☐

14. Is there any additional information you would like to receive from the College?

No

15. Please provide any additional comments or suggestions about the assessment process.

Dr [redacted] pre-visit contact letter was excellent. She was also excellent on the day of my assessment.

16. Do you intend to submit your peer assessment for MAINPRO or MOC credits? If YES, further information can be found at: http://www.cpso.on.ca/CPSO-Members/Assessor-Resources.

☒ Yes
☐ No

17. Would you be interested in learning about how to become a peer assessor?

☒ Yes
☐ No

Signature: [redacted] Date: [redacted]

Thank you for your feedback

Activity ID: 351100 FYC

Appendix C: Peer Redesign Process (selected emails to Emergency Medicine Peer Assessor Group)

From: Rhoda Reardon [mailto:rreardon@cpso.on.ca]
Sent: April 14, 2014 12:49 PM
To:
Subject: peer redesign

Dear Emergency Medicine assessors:
Thanks for your good work during the discussion phase of the assessor conference a week ago. Since then I have heard from Eric and Jo and I better understand the task you have assigned yourself and I will be following up with Eric on the reformatting and re-naming suggestions you had. Jo also communicated to say that he thought it would be useful for you to have a copy of the EM handbook and the Walk-in group handbook as well since they have some extended topics in common with you and, where appropriate, there should be consistency – accordingly I have attached both handbooks. I like your approach (as described by Eric) of highlighting and tracking in the chart review the **"must haves"** – this is similar to what the working group spoke of in the early development day where I think they described it as **"don't miss this".**
Your engagement as a group is much appreciated – I know you'll appreciate that we need constantly to balance the need for uniformity in the peer assessment and the need for discipline uniqueness – allowing the unique ideas to emerge has resulted in some of the best ideas in peer redesign,
Rhoda Reardon
(for the CPSO peer redesign team)

Rhoda Reardon
Manager, Research and Evaluation Department
College of Physicians and Surgeons of Ontario
80 College Street, Toronto, ON M5G 2E2
Phone: (416) 967-2600 ext. 767 | Toll Free: 1-800-268-7096 | Fax: (416) 967-2605 |
Email: rreardon@cpso.on.ca
www.cpso.on.ca

From: Sidney Biondi [SBIONDI@cpso.on.ca]
Sent: April 22, 2015 3:01 PM
To:
Subject: CPSO: Emergency Medicine Assessor Orientation/Training Webinar on New Assessment Tools

Dear Emergency Medicine Assessors,

As many of you know, the College is in the process of redesigning its peer assessment program. Over the past few years, we have been working with a number of assessor working groups to refine the peer assessment tools and processes and develop discipline-specific peer assessor handbooks. A draft of the Emergency Medicine handbook has now been finalized, and we are ready to share it with you.

In order to bring you up to speed on the Peer Redesign project and orient you to the Emergency Medicine handbook, we would like to host a two-hour webinar where we will walk you through the handbook and give you an opportunity to ask questions. Following the orientation, we will send you a link to an online survey where you can provide structured feedback about the content and layout of the handbook. **At your earliest convenience, please indicate your availability for an orientation webinar using the following link:**

http://doodle.com/7m2d6u4q7gnsyri4

It is critical that all assessors receive orientation to the new tools so please make all necessary arrangements to ensure that you can attend, once a date has been set.

If you have any questions, please let us know.

Peer Redesign Team

From: Sidney Biondi [SBIONDI@cpso.on.ca]
Sent: Jan 20, 2016 9:50 AM
To:
Subject: CPSO: Emergency Medicine Peer Redesign Update Webinar- January 27th 10-11:30am

Dear Emergency Medicine Assessors:

We are looking forward to our webinar meeting set for **next Wednesday, January 27th, 10-11:30am.** The instructions on how to join the webinar and dial in to the teleconference are located right after the agenda below in this email.

As described with the initial meeting invite, we are assembling emergency medicine assessors for two purposes:

First, we would like to bring the group together to refresh on Peer Redesign, the peer assessment handbook (attached), and the plan for training & testing the tools on simulated charts.

Second, the College was recently provided feedback from assessed physicians indicating

there was some inconsistency of expectations and recommendations from assessors during past emergency medicine peer assessments. We will provide a brief description of the criticism. The contents of the emergency medical record has been a consistent theme in the recent criticism, and a main goal of the meeting is to identify a consensus position on expectations for documentation (e.g., physician documentation of medications, test results, etc.,).

To guide the group through these two items, we'll follow the agenda below.

Emergency Medicine Meeting: Peer Redesign Meeting
Jan 27th, 10-11:30 am

Agenda
A) Welcome & Introductions (5 minutes; Will Tays)
B) Peer Redesign Refresh & Preparation for Testing New Peer Assessment Tools (40 minutes; Will Tays)
C) Recent Issues Arising during EM Peer Assessments (45 minutes; Erik Letovsky & Will Tays)
   a. Brief Description of Criticism
   b. Discussion of Expectations in EM Peer Assessments (with emphasis on content of emergency medicine records)
   c. How to deal with disagreements and criticism from assessed physicians

If you have any questions, please let us know.

Peer Redesign Team

From: Sidney Biondi [SBIONDI@cpso.on.ca]
Sent: March 17, 2016
To:
Subject: Emergency Medicine Training Session

Dear Emergency Medicine Assessors:

Thank you for completing the doodle poll. Your in-person training session is scheduled for **Friday, April 1st, from 12pm-4pm** (lunch provided) at the CPSO. Please confirm your attendance. An agenda for the day has been attached. At the session, we will be testing the new Emergency Medicine Peer Assessor Handbook using three simulated patient records (all attached; some extraneous comments were edited out of the charts and may have left some errant markings). Please review the emergency medicine scoring rubrics (page 15-23) in the handbook and familiarize yourself with the patient charts in advance of the meeting (you will be compensated up to half an hour; an SSR will be sent via email after the meeting). You may wish to make notes in the simulated patient records to remember your initial thoughts but there will be time during the meeting to

review and rate each record using the scoring rubrics. We will have copies of all the attachments for everyone at the session.

Also, please advise if you have any dietary restrictions and/or require parking at the College.

If you have any questions, please let us know.

Peer Redesign Team

Emergency Medicine Peer Redesign Assessor Training Session

April 1st 2016, 12noon - 4:00 pm – 80 College Street, Toronto

12:00 pm	Welcome & Goals for the Session
12:10 pm	Approach to Consensus Testing
12:25 pm	Chart 1 Review and Scoring
1:45 pm	Break
1:55 pm	Chart 2 Review and Scoring
2:55pm	Chart 3 Review and Scoring
3:55 pm	Next Steps

Appendix D: Interview Questions

Demographics

The following information was collected from each participant regarding his or her demographic background:

Years in practice

Gender

Certification and training stream: FRCP, CFPC, CFPC(EM) residency, CFPC(EM) practice eligible

Current practice setting: community, rural, academic

Full time emergency medicine or blended emergency medicine with something else (ex. family medicine, sports medicine, anaesthesia, ICU, other)

Years as a peer assessor

Number of peer assessments completed to date

Semi-structured interview questions

Each participant was asked the following questions:

What made you decide to become a Peer Assessor?

What were your own expectations?

Has this occurred?

Did something else happen instead (elaborate)?

I would like you to think about a specific case or physician chart you came across during a peer review and how it changed your own practice or documentation.

Have you made other changes to your practice as a result of a peer assessment?

What was the stimulus (surprise) that ignited the need for change?

What was the process (reflection-in-action) that ignited the need for change?

Was it easy to implement the change?

How have you evaluated the effectiveness of the change?

Appendix E: Permission from the CPSO

Permission from the College of Physicians and Surgeons of Ontario

From: Rhoda Reardon [rreardon@cpso.on.ca]
Sent: August-07-12 3:29 PM
To: Nanci Harris; christine.richardson@rogers.com
Cc: Bill McCauley
Subject: RE: Peer assessment

Dear Christine

I shared your email and spoke briefly with Bill McCauley last week about your proposed project with Emergency Medicine assessors. As I read your request, you are asking only for contact information regarding your fellow Emergency Medicine assessors and, since you are configured as a networking group and have agreed to share this contact information amongst yourselves, I see no problem with you proceeding to recruit participants. I would suggest that you discuss your project with the Emergency Medicine Network Lead (Nanci can remind you that is) – I'm sure that your fellow assessors will be quite interested in your findings as will we here at the College. If you would like to share your interview questions with us we'd be pleased to provide any feedback.
Rhoda

Rhoda Reardon

Manager, Research and Evaluation Department

Quality Management Division
College of Physicians and Surgeons of Ontario
80 College Street, Toronto, ON M5G 2E2
Phone: (416) 967-2600 ext. 767 | Toll Free: 1-800-268-7096 | Fax: (416) 967-2605 |
Email: rreardon@cpso.on.ca
www.cpso.on.ca

On 2013-04-10, at 7:44 PM, Rhoda Reardon <rreardon@cpso.on.ca> wrote:

Dear Christine

Thank you for sharing the interview questions you plan to use with the peer assessors in your networking group to collect information about their experience with peer assessment adding value to their own practices. We believe these are a very interesting and useful set of discussion themes and the College will be most interested to learn about your results as I'm sure will your fellow assessors.
Rhoda

Rhoda Reardon
Manager, Research and Evaluation Department
College of Physicians and Surgeons of Ontario
80 College Street, Toronto, ON M5G 2E2
Phone: (416) 967-2600 ext. 767 | Toll Free: 1-800-268-7096 | Fax: (416) 967-2605 |
Email:rreardon@cpso.on.ca
www.cpso.on.ca

Appendix F: Letter of Information and Consent to Participate

Letter of Information

Changes in Practice Patterns and Documentation as a Result of Engaging as an Emergency Medicine Peer Assessor for the College of Physicians and Surgeons of Ontario

Researcher: Dr. Christine Richardson
Division of Emergency Medicine, Schulich School of Medicine and Dentistry, University of Western Ontario
LHSC-VH, Room E1-102, 800 Commissioners Rd. E.
London, ON N6A 5W9
(519) 667-6538

Dear Potential Research Participant,

You are being invited to consider participating in a study exploring the non-formal learning benefits of your role as an Emergency Medicine Peer Assessor with the College of Physicians and Surgeons of Ontario.
This study involves a 30 minute interview in-person, via telephone or video conference to be conducted by Dr. Christine Richardson. The interview involves 8-10 questions. The interview will be audio-recorded and will be conducted at a time convenient for you. Dr. Richardson will telephone a contact number specified by you.
Each Emergency Medicine Peer Assessor has been asked to consider participating in this study. Therefore I am interested in interviewing approximately 20-25 physicians.
Participation in an interview is voluntary. You may refuse to participate in this study, may refuse to answer any or all questions during the interview, and you are free to end the telephone call at any time. Individuals wishing to withdraw their interview data, should contact Dr. Richardson within one week of the original interview.
If you are uncomfortable being audio-recorded, you should decline participation in this study.

Participant Initials _____

There are no known risks associated with participation in this study. There are no immediate benefits to participation in this study. The results of this study will illuminate non-formal learning benefits of Peer Assessors and the process by which changes are made to clinical practice and documentation as a result of your role.

All data including the transcribed audio-recording of the interview will be stored on a password protected, secured network server. Only the members of the research team will have access to the study data. Any presentation of the results obtained from the results of this study will appear in grouped format.

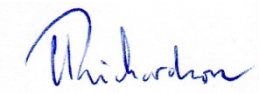
Representatives of the University of Western Ontario Health Sciences Research Ethics Boards may contact you or may require access to your study-related records to monitor the conduct of the research.

Please feel free to ask any questions that you may have regarding this study by contacting Dr. Richardson (cricha27@uwo.ca).

If you have any questions about your rights as research participant or the conduct of the study, you may contact Dr. David Hill, Scientific Director, Lawson Health Research Institute (519) 667-6649.

You will be presented with a copy of this Letter of Information for your record.

Thank you very much for your time.



Christine Richardson OD, MD, CFPC(EM)
Associate Professor, Clinical Faculty
Program Director - CFPC(EM) Residency Program
Division of Emergency Medicine,
Schulich School of Medicine and Dentistry, University of Western Ontario

Participant Initials _____

Consent to Participate in the Study: Changes in Practice Patterns and Documentation as a Result of Engaging as an Emergency Medicine Peer Assessor for the College of Physicians and Surgeons of Ontario

I have read the Letter of Information, (have had the nature of the study explained to me) and I agree to participate. All questions have been answered to my satisfaction.

Name (please print) _____

Signature _____ Date _____

I agree to have my interview be audio-recorded.

Name (please print) _____

Signature _____ Date _____

Signature of person obtaining informed consent.

Name (please print) _____

Signature _____ Date _____