Developing a Relevant Taxonomy to Assess Dental School Clinic Patient Complaints

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Abstract: The aims of this study were to categorize and analyze the most frequent patient complaints at the Rutgers School of Dental Medicine (RSDM) clinic in an effort to identify areas in need of improvement. A retrospective review of patient complaints reported to the RSDM Office for Clinical Affairs from July 1, 2011 to June 30, 2015 was conducted. A total of 148 unduplicated patients were selected for evaluation because they made at least one official complaint. In total, 193 patient complaints were made during this period. A published complaint taxonomy was used to categorize RSDM patient complaints into domains, categories, and subcategories, highlighting frequent issues of complaint. Of the 193 complaints made, 256 issues were identified. The results showed that the most frequent domain of complaint was Management, followed by Clinical, then Relationships. Institutional Issues and Quality were the most recurring categories coded. Of the 26 subcategories, nearly 70% of the complaints were coded into one of four: Finance and Billing, Delays, Patient Journey, and Quality of Care. While the results were effective in identifying broad areas of improvement, there were limitations to using the traditional taxonomy in the dental school setting. Based on these data, the RSDM Patient Complaint Taxonomy, specific to the needs of a dental school environment, was created in an effort to gain increased specificity and further enhance quality improvement measures. It is the hope of the research team that this tool will be used across dental schools, opening the door for future collaborations and ultimately improving patient care.

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As health care models shift toward patient-centered care, there has been a greater emphasis on understanding how patient involvement influences satisfaction, compliance, and outcomes.[1] Playing a more active role in the treatment process, patients have become self-advocates and are more apt to voice concerns when needed.[2] Patients complain for a myriad of reasons including, but not limited to, accessibility and availability, treatment costs, communication breakdown, unanticipated outcomes, and general dissatisfaction.[3-7] While specific concerns are examined and resolved on an individual basis, patient complaints analyzed collectively offer an opportunity for change in operations, attitudes, and policies pertaining to patient care.[3,6]

There is inherent value in the study of patient complaints because they offer a unique glimpse into the patient care experience. Oftentimes, these complaints are used as barometers to assess the quality of care received.[8,9] Many researchers have addressed this topic in an effort to understand and improve the patient care experience. Some studies have focused on organization-specific issues and outcomes,[10] while others have addressed complaint management as an integral part of complaint mitigation.[6,9,11,12]

More concentrated efforts have been made to standardize the practice of organizing, managing, and analyzing patient complaints.[3,8] Most recently, a systematic review of the literature across multiple health care disciplines was published by Reader et al. in May 2014.[3] As a result of patient complaint data analysis, Reader et al. developed a three-level Patient Complaint Taxonomy "to provide a standardized and comprehensive system for aiding researchers and practitioners to identify, code, and interpret the issues raised within a letter of complaint." In this taxonomy, three general complaint domains were established as the rubric's top tier: Clinical, Management, and Relationships. Each domain was divided into categories and then further divided into subcategories, totaling seven categories and 26 subcategories. To clarify the coding system, Reader et al. provided brief definitions of each subcategory. By creating a universal coding taxonomy, they attempted to bring standardization to this arena and further delineate areas for quality improvement measures.

Despite this widespread research, few studies have addressed patient complaints in the realm of dentistry. In fact, only one of the 59 articles reviewed by Reader et al. related to the dental profession.[3] Over the past 40 years, however, dental-specific studies have focused on increasing patient satisfaction through information gathered from patient satisfaction surveys rather than actual patient complaints.[5,8,13-16] Butters and Willis found that there were intrinsic limitations to the use of these surveys when solely offered to current patients because patients actively engaged in treatment were less likely to be critical when completing satisfaction surveys.[8] On the other hand, patient complaints offer spontaneous, unsolicited accounts of perceived problems associated with patient care and hold the utmost importance in assessing patients' satisfaction with their oral health care.

A dental school environment is an ideal setting in which to study patient complaints and patient satisfaction due to its large patient population and the wide array of practitioners with varied degrees of experience. The Rutgers School of Dental Medicine (RSDM) has specific policies and protocols in place to adjudicate patient complaints objectively and without bias. The RSDM Standard Operating Procedures for Patient Complaints state that "all patient complaints are taken seriously, and the goal is to address them expeditiously with fairness to both the patient and the institution."[17] At RSDM, patient grievances, reported either in person or by telephone, email, or postal mail, are recorded and stored in the Office for Clinical Affairs. Complaints are collected from patients treated in the predoctoral and postdoctoral clinics that operate throughout the year and provide various aspects of oral health care. All reported complaints are logged in to include date of complaint, patient name and chart number, nature of complaint, and subsequent course of action. The senior associate dean of the Office for Clinical Affairs or the director of clinics acts as arbitrator and works with the patient toward resolution.

The aims of this study were to categorize and analyze the most frequent patient complaints at the RSDM clinics in an effort to identify areas in need of improvement. Using Reader's standardized complaint log system, complaints were categorized in an organized and systematic fashion, highlighting patterns in patient grievances. During this process, however, it became apparent that Reader's tool lacked specificity to dentistry and a modified taxonomy would be more appropriate for use in a dental school setting. Subsequently, we created a dental-specific taxonomy. By using a standardized system to log complaints, dental educators and dentists have the opportunity to transform negative comments into positive outcomes.[4]

Methods

This study was approved by the Rutgers Institutional Review Board (Rutgers IRB Pro20150002046). RSDM patient complaints recorded by the director of clinics in the Office for Clinical Affairs from July 1, 2011 through June 30, 2015 were included. Four complete fiscal years of data were assessed starting with July 1, 2011, as this date marked the shift from a written log to an electronic recording system. These RSDM patient grievances were collected, reviewed, and then coded using Reader's Patient Complaint Taxonomy.[3]

Prior to coding the RSDM complaint data, three faculty members were calibrated to understand the nature of the domains, categories, and subcategories and use of a data collection form. Several sample complaints were assessed together by the research team in order to standardize the reliability of the coders. During this process, it became clear that Reader's descriptors were more medical in nature and did not fully correlate with the dental school complaints, perhaps because only one of the studies reviewed by Reader et al. related to dentistry. Thus, the study team used relevant dental terminology to further define the subcategories and enable more effective coding. For example, treatment in the dental school is based on a student-driven, comprehensive care model and typically extends over a series of outpatient visits.[5] Therefore, Reader's Discharge subcategory, pertaining to early, late, or unplanned discharge from the hospital, was redefined to include issues with dental recall and re-care, representing the continual follow-up offered at the end of active dental treatment. The Staff Attitudes subcategory was also broadened to include interactions with students and faculty, as they are most involved in the coordination of patient care. Similarly, the Patient Journey subcategory was expanded from Reader's definition of "problems in the coordination of treatment in different services by clinical staff" to also include general dissatisfaction with treatment.[3]

After calibration, we evaluated each instance of complaint to determine whether it represented a single issue or multiple issues. Each evaluator

then classified the complaints using the published taxonomy with dental definitions and recorded this information on the data collection form, along with date of birth, gender, and clinic assignment. In the event a complaint was coded differently among the coders, the majority prevailed. If all three raters disagreed, the complaint was removed from the data set. Collected data were entered into an Excel document and maintained electronically. Data were quantified and analyzed to determine the frequency of each complaint domain, category, and subcategory.

Results

Part I: Categorization of Complaints

From July 1, 2011 through June 30, 2015, a total of 148 unduplicated patients (71 male and 77 female) made at least one official complaint. As several patients aired grievances on more than one occasion, a total of 193 complaints were recorded: 122 instances related to the predoctoral clinic, 69 concerned the postdoctoral clinic, and two occurrences involved both. After we evaluated each instance of complaint for a single issue or multiple issues, a total of 256 specific concerns were identified and then coded using Reader's multi-level organizational tool with dental-specific definitions (Figure 1). All complaints included in the log were coded, and no complaints were removed from the data set due to rater disagreement during the coding process.

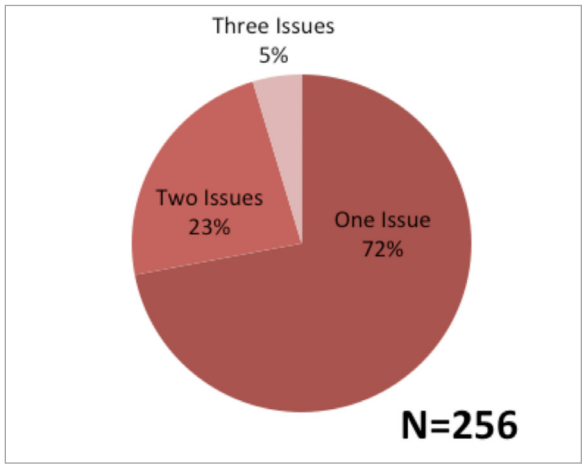

Figure 1. Distribution of patient complaints by number of issues

Table 1 shows the RSDM patient complaint data as categorized using Reader's taxonomy. The most frequent domain of complaint was Management (53.5%), followed by Clinical (33.2%), and finally Relationships (13.3%). Institutional Issues (34.8%) from the Management domain, Quality (31.6%) from the Clinical domain, and Timing and Access (18.8%) from the Management domain made up the top three categories in which complaints were coded. The Institutional Issues category contained the Finance and Billing subcategory, accounting for over 26% of the overall complaints logged. Similarly, combining the Patient Journey and Quality of Care subcategories within the Quality category accounted for another 26% of the overall complaints logged. The Delays subcategory in the Timing and Access category contained almost 17% of the overall complaints logged. As such, these four subcategories encompassed more than 70% of the complaints. In contrast, 5.5% of complaints made were scattered into one of ten subcategories, and five subcategories were not used at all. The remaining 25% of complaints were distributed among the remaining seven subcategories.

Part II: RSDM Patient Complaint Taxonomy

While the study outcomes served to identify several broad categories in need of review, the underutilization of many subcategories and the lack of dental specificity suggested significant limitations in using Reader's taxonomy in a dental school environment. This recognition provided the impetus for development of a taxonomy specific to the needs of a dental school, the RSDM Patient Complaint Taxonomy (RSDM-PCT) (Table 2). We again coded the same 256 specific concerns, this time using the RSDM-PCT, following the methods previously described.

Table 3 shows the RSDM patient complaint data as categorized using the two-domain RSDM-PCT. The majority of patient complaints were coded into the Clinical domain (59.8%) with the remaining complaints coded into the Operations domain (40.2%). The data suggested even distribution among the six new categories: Patient Journey (15.6%), Perception (13.3%), Quality of Care (14.1%), Relationships (16.8%), Finance (24.6%), and Institution (15.6%).

Table 1. Patient complaint data and analysis using Reader's taxonomy

Domain	Domain N	Domain Overall %	Category N	Category Overall %	Subcategory N	Subcategory Overall %
Clinical	85	33.2%				
Quality			81	31.6%		
Examinations					1	0.4%
Patient journey					35	13.7%
Quality of care					31	12.1%
Treatment					14	5.5%
Safety			4	1.6%		
Errors in diagnostic					0	0
Medication errors					1	0.4%
Safety incidents					2	0.8%
Skills and conduct					1	0.4%
Management	137	53.5%				
Institutional issues			89	34.8%		
Bureaucracy					19	7.4%
Environment					0	0
Finance and billing					68	26.5%
Service issues					2	0.8%
Staffing and resources					0	0
Timing and access			48	18.8%		
Access and admission					2	0.8%
Delays					43	16.8%
Discharge					2	0.8%
Referrals					1	0.4%
Relationships	34	13.3%				
Communication			24	9.4%		
Communication breakdown					6	2.3%
Incorrect information					8	3.1%
Patient-staff dialogue					10	3.9%
Humaneness/caring			8	3.1%		
Respect, dignity, caring					5	1.9%
Staff attitudes					3	1.2%
Patient rights			2	0.8%		
Abuse					1	0.4%
Confidentiality					0	0
Consent					0	0
Discrimination					1	0.4%
Total	256	100%	256	100%	256	100%

Discussion

With a positive association between patient satisfaction and treatment compliance, the study of consumer satisfaction in health care has gained momentum.[18] As patient satisfaction has become an important measure in assessing quality of care, institutions utilize surveys to elicit patient feedback.[8] Patient complaints, however, go beyond the anonymous comments on a satisfaction survey. These real-time, patient-specific issues can expose areas of weakness in policy and practice and be used as an indicator of quality, safety, and satisfaction.[19]

By sorting and thematically grouping complaint categories, researchers can use patient grievance data as a vehicle to drive change in both policy and treatment, enhancing the patient care experience.

Table 2. Rutgers School of Dental Medicine patient complaint taxonomy

Domain	Category	Subcategory
Clinical	(A) Patient journey	(1) Treatment coordination: referrals, medical consults, and re-care (2) Treatment delays: at fault of student, resident, staff, or faculty (3) Treatment plan: unrealistic expectations, lack of shared decision making
	(B) Perception	(1) Expectations: anticipated outcome varies from standard dental treatment (2) Patient responsibility: issue resulting from the patient's own actions (3) Preexisting condition: treatment not initiated at point of complaint (4) Recognition of normal complications: treatment outcome within normal limits
	(C) Quality of care	(1) Defective treatment: failed treatment, unsuccessful outcome, lab error (2) Infection control: inadequate or inappropriate (3) Treatment error: wrong treatment rendered or misdiagnosis
	(D) Relationships	(1) General dissatisfaction with student, resident, faculty: clinical activity (2) Informed consent: failure to explain/disclose all aspects of procedure/care (3) Patient rights: breaches of confidentiality, discrimination, and abuse
Operations	(A) Finance	(1) Cost of treatment: related to recommended/alternative treatment (2) Fee schedule: general cost, lack of charity care (3) Policy: associated with insurance and payment
	(B) Institution	(1) Access: phone support, initial appointment, and specialized services (2) Bureaucracy: policies/procedures related to the dental school setting (3) Dissatisfaction with staff: personnel supporting operations (4) Environment: cleanliness, waiting area, parking

Through the use of Reader's taxonomy, the study team at RSDM hoped to highlight areas in need of improvement and ultimately create relevant action plans. The results showed that the complaints were heavily concentrated in four of the 26 subcategories. Additionally, many of the subcategories were either minimally utilized or not utilized at all.

The RSDM-PCT was created to standardize the method in which patient grievances are recorded at the school. This new taxonomy follows the general format of Reader's; however, the domains, categories, and subcategories are more representative of the patient experience at a dental school and mimic the organizational structure of our institution. Reader et al. used a bottom-up approach to create their taxonomy, initially designating subcategories, followed by categories, then domains.[3] In contrast, the RSDM-PCT was created in a top-down fashion, driven by data and institutional structure, first establishing domains, then categories, and finally subcategories. Based on our findings, underutilized domains, categories, and subcategories from Reader's taxonomy were combined, and more commonly used ones were divided. In addition, original groups were added when necessary.

A two-domain system was chosen to mirror the organizational framework of the RSDM program. The Clinical domain was created to represent the clinical aspects of the dental school, led by the senior associate dean for clinical affairs, encompassing patient care and clinical service issues. The Operations domain was developed to include issues of finance, access, and environment, all managed by the chief operating officer and her team. Reader's Relationship domain was divided and repurposed in the RSDM-PCT, as dental school patients have distinctive relationships with the students, faculty, and staff involved in their care. As compared to hospital practice, the patient-provider experience in a dental school clinic is more constant with less ancillary staff involvement. In the RSDM predoctoral clinics, students manage their patients' comprehensive care plans and play a significant role in the patient journey. The students are the voice of RSDM and are charged with a myriad of activities that influence the patient experience including scheduling, providing care, and directing necessary referrals. Proper student-patient relationships and effective communication are essential for ensuring quality care, met expectations, and overall patient satisfaction.[7] In this setting, administrative staff members have intermittent exchanges with patients, either in person or over the phone, regarding issues of initial access, finance, and billing. Therefore, in recogniz-

Table 3. Patient complaint data and analysis using Rutgers School of Dental Medicine patient complaint taxonomy

	Domain		Category		Subcategory	
Domain	N	Overall %	N	Overall %	N	Overall %
Clinical	153	59.8%				
Patient journey			40	15.6%		
Treatment coordination					6	2.3%
Treatment delays					26	10.2%
Treatment plan					8	3.1%
Perception			34	13.3%		
Expectations					10	3.9%
Patient responsibility					9	3.5%
Preexisting condition					5	1.9%
Recognition of normal complications					10	3.9%
Quality of care			36	14.1%		
Defective treatment					32	12.5%
Infection control					2	0.8%
Treatment error					2	0.8%
Relationships			43	16.8%		
General dissatisfaction with student, resident, faculty					32	12.5%
Informed consent					9	3.5%
Patient rights					2	0.8%
Operations	103	40.2%				
Finance			63	24.6%		
Cost of treatment					1	0.4%
Fee schedule					6	2.3%
Policy					56	21.9%
Institution			40	15.6%		
Access					13	5.1%
Bureaucracy					22	8.6%
Dissatisfaction with staff					5	1.9%
Environment					0	0
Total	256	100%	256	100%	256	99.9%*

*Based on rounding to the nearest tenth

ing this distinction, Reader's Relationship domain was divided, designated a category of the Clinical domain and a subcategory in the Operations domain.

To further meet the needs of the dental school, each domain was divided into relevant categories. In the Clinical domain, four fundamental aspects of clinical care were chosen. Because Patient Journey and Quality of Care were heavily utilized subcategories in Reader's taxonomy, they were designated categories in the RSDM-PCT, and new subcategories were created. The complaint subcategories under Patient Journey relate to the coordination of treatment, whereas those in the Quality of Care category represent issues related to treatment sequelae. Furthermore, the new Perception category was created to encompass complaints stemming from the patient's own understanding of dental procedures and oral health. Since the chasm between perceived ideal treatment verses actual treatment outcomes oftentimes leads to dissatisfaction,[20] this category was divided into four subcategories, defined to address various sources of misconception. The final category developed was Relationships, with subcategories highlighting issues concerning personal interactions between patients and treatment providers.

Our findings support the creation of only two categories in the Operations domain, Finance and Institution. With financial barriers to care resulting

in less frequent visits and less favorable oral health outcomes,[21] it was no surprise that over a quarter of all complaints addressed in the Office for Clinical Affairs were related to finance and billing. As such, it was apparent that Reader's original subcategory needed to become a prominent category in the RSDM-PCT. The Finance category contains three new subcategories: Cost of treatment, Fee schedule, and Policy. With these revisions, data collected and categorized using the RSDM-PCT can provide a detailed assessment of problematic areas in the realm of finance, leading to more specific action plans. Conversely, the Institution category remains most similar to Reader's original Institutional Issues category. The Bureaucracy and Environment subcategories remained relatively unchanged, but the Staffing and Resources subcategory was changed to Dissatisfaction with Staff to encompass the relationships patients have with staff at the dental school. Finally, Access and Admission was changed solely to Access as procedures at the dental school are predominantly outpatient in nature.

After development of the RSDM-PCT, it was necessary to recode the 256 issues in the new taxonomy to assess its accuracy and effectiveness as a useful tool. The framework of the RSDM-PCT was more relevant to a dental school environment as evidenced by the even distribution of complaints in domains and categories (Figure 2). Furthermore, the data suggested that the subcategory breakdown was more specific to potential areas of complaint in a dental school clinic as 19 of the 20 subcategories were used in this data set. Though no complaints were coded into the Environment subcategory, it remains an appropriate measure for potential use in the future. Anecdotally, the study team found that, by using the RSDM-PCT, complaints were easier to code in time and readability and resulted in fewer coding discussions among the members.

There were several limitations to this study that had a potential impact on outcomes. The data set was limited, as it extended over only a four-year period. Future studies should include complaints from additional fiscal years. Another limitation stems from the similarity in the professional backgrounds of the three raters, who all work in the Office for Clinical Affairs. A staff member from operations may offer a different perspective and be useful as a rater in future studies.

While the RSDM-PCT is most representative of a single institution, future research can focus on collaboration with other dental schools. Doing so would increase the sample size and allow for rigorous validity testing, which is essential to validate this instrument and prove its effectiveness. Moreover, a data set comprised of complaints from multiple schools may reveal additional categories of complaint not present in the RSDM data. As such, additional data would

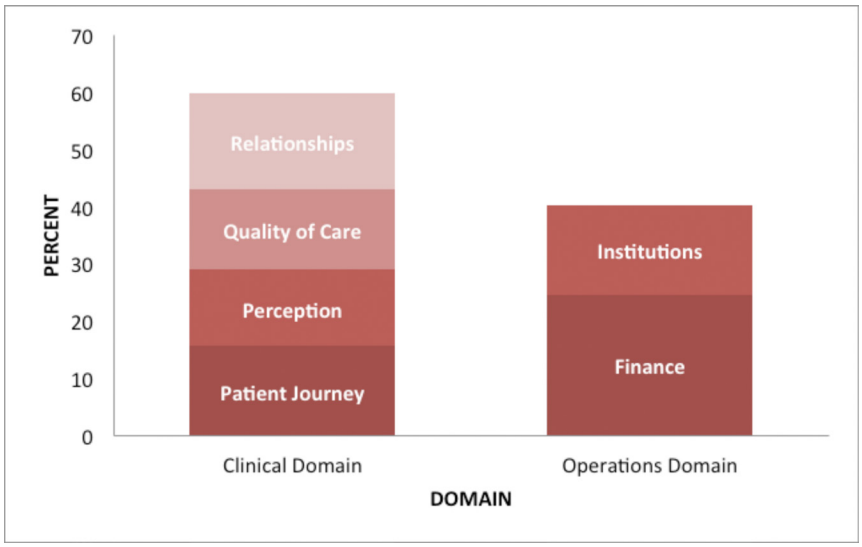

Figure 2. Distribution of patient complaints by domain and category using Rutgers School of Dental Medicine patient complaint taxonomy

not only be useful in validating the RSDM-PCT, but also would help to further develop and refine the tool. It is the hope of the research team that other dental schools will find value in and use this taxonomy to collect patient complaint data. As more institutions adopt this standardized method to log and analyze patient complaints, universal trends can be identified and ultimately transform negative experiences into positive outcomes for patients seeking care in dental school clinics.

Conclusion

Based on the results of this study, the RSDM-PCT appeared to be a more effective tool than Reader's taxonomy to categorize patient complaints in our dental school clinic. The level of specificity provided with this taxonomy better highlighted areas in need of improvement than Reader's taxonomy, which focuses on hospital and medical practice; the new tools thus allowed for more appropriate action plans to be developed. By utilizing the RSDM-PCT, we were better able to identify areas in need of review and to develop improvements in quality, patient satisfaction, and the overall patient care experience.

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