Changing Morning Report: An Educational Intervention to Address Curricular Needs

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Morning report is a case-based teaching session common to many residency programs with varying purposes and focuses. At our institution, physicians and residents felt our Internal Medicine morning report had lost its educational focus. The purpose of this project was to improve morning report using a well-known curriculum development framework for medical education. We conducted a focus group of residents to develop and implement changes to morning report. Themes from our focus group led us to split morning report with the first 30 minutes for postgraduate year 3 (PGY-3) residents to give handover, to receive feedback on diagnosis and management, and to either discuss an interesting case or receive teaching aimed at their final certification examination. The second 30 minutes involved PGY-3 residents leading PGY-1 residents in case-based discussions with an attending physician providing feedback on the content and process of teaching. We measured success based on a follow-up survey and comments from resident evaluations before and after the change. Overall, the changes were well received by both faculty and residents; however comments revealed that the success of morning report is preceptor dependent. In summary, we have successfully implemented a split morning report model to enhance resident education with positive feedback.

1. Introduction

Morning Report is a case-based teaching session that occurs in residency programs across North America [1, 2], Europe [3, 4], and Asia [5, 6]. Though there is evidence that discussing patients at morning report can improve patient outcomes such as length of stay [7], the primary purpose of morning report across centers has been education [2, 8]. In the last ten years since the detailed review by Amin and colleagues, much research has focused on various methods and innovations to enhance the educational value of morning report [9–17], but few articles describe explicit links to residency curriculum objectives [18–20]. At the University of Alberta Hospital, a tertiary care facility, evaluations of the Internal Medicine rotation, and discussions in our General Internal Medicine divisional meetings indicated that both residents and attending physicians felt that our one-hour morning report was not aligned with our curriculum and had lost its educational focus, with the majority of time spent on the handover of patients admitted overnight. The purpose of this project was to restore the educational focus of morning report and to align it with the goals of our curriculum.

2. Materials and Methods

We used the curriculum development framework for medical education by Kern and colleagues [21] to analyze our situation and guide an intervention. The six steps of the framework are (1) problem identification and general needs assessment, (2) targeted needs assessment, (3) goals and objectives, (4) educational strategies, (5) implementation, and (6) evaluation and feedback. Our first step was to survey the literature for an ideal approach to morning report. Next, we discussed the literature review as part of a focus group with our primary audience, postgraduate year 3 (PGY-3) Internal Medicine residents. This group was chosen because they are the primary participants in morning report where they hand over the newly admitted patients they saw overnight. The focus group questions were as follows. (1) "What do you like
about morning report?" (2) "What do you dislike?" (3) "What
should be the goals of morning report?" (4) "What should we
change to achieve these goals?" (5) "Here are some ideas from
the literature; do any of these work?"

We performed a thematic analysis and this was used to
propose changes to morning report, which were presented
to another group of PGY-3 residents along with the themes
for verification. We then presented the changes to our
faculty for discussion. Once approved, the changes were
implemented to morning report. We collected residents' comments pertaining to morning report from a year’s worth
of rotation evaluations before and after the changes. We
also surveyed our faculty and residents who participated in
both the old and new morning report format after a year
to assess the new model. The survey involved respondents rating their agreement with the statement “I think the
following are important additions to morning report” and
then being presented with the various changes that were
implemented. SPSS [22] was used for Wilcoxon signed-ranks
tests to compare responders’ ratings to the neutral score
to assess agreement with these statements and for Mann-
Whitney U tests to assess differences between responses from residents and attending physicians. The respondents were
also asked to select which change still needs the most ongoing
improvement and Fisher's exact test was used to compare
differences between residents and attending physicians.

3. Results

3.1. Step 1: Problem Identification and General Needs Assess-
ment. We performed a review of the literature surrounding
morning report to look for a general current state and if
possible an ideal state for morning report. As previously
mentioned, there are a variety of different purposes and
formats [9–20] but none with one clearly superior strategy,
so we turned to the available literature reviews. The review
by Amin and colleagues [2] discussed the current state of
morning report; historically, it was created to ensure the
health and safety of patients but has now evolved into
primarily an educational venue with case-based presentations and
discussions being the most often used format. Both this
review and a more recent one by McNeill and colleagues [8]
concluded that there was insufficient evidence to make firm
recommendations for an ideal structure/configuration for
morning report but did comment that each program should
tailor morning report to fit their needs.

3.2. Step 2: Targeted Needs Assessment. Seven out of 21
PGY-3 Internal Medicine residents participated in the focus
group regarding their likes and dislikes of morning report
and to discuss the review of the literature to elicit desired
to discuss changes to morning report. Content analysis revealed
the following themes: (1) too much focus on handover with
residents sharing the entire case story, not just the summary;
(2) minimal and ineffective feedback to the PGY-3 resident
presenting handover in terms of diagnosis and management;
(3) unclear expectations and poor learning environment with
PGY-3 residents feeling embarrassed in front of PGY-1 resi-
dents; (4) minimal teaching directed at the PGY-3 residents’
level, in particular residents requesting more physical exam
teaching and more experience with the oral examination
format used in the Royal College of Physicians and Surgeons
of Canada certification examination in Internal Medicine; (5)
in terms of an educational strategy, the residents preferring
the traditional case-based approach over other published
methods.

3.3. Step 3: Goals and Objectives. We developed the following
goals for morning report: (1) to teach efficient handover
strategies and case presentation skills; (2) to allow discussion
of interesting cases; (3) to orient PGY-3 residents to the
oral examination format used in the Canadian certification
examination in Internal Medicine; (4) to enhance physical
examination skills; (5) to allow PGY-3 residents protected
time to teach PGY-1 residents and receive feedback regarding
their teaching. Because our morning report is limited to one
hour, we acknowledged to faculty and learners that not all
of these goals would be met every day, but over a four-week
period, we would touch upon all of them.

Based on these goals, the following educational objectives
were implemented for morning report. (1) Residents will be
able to present a concise case summary highlighting the key
features that support the suspected diagnosis and then lay
out the management plan pertaining to the most critical
issues. (2) Residents will engage in reflective practice by
reviewing difficult cases seen overnight and will use other
PGY-3 residents and attending physicians as consultants in
the process. (3) Residents will develop an approach to the
structured oral examination. (4) Residents will enhance their
skills in physical examination. (5) Residents will demonstrate
skills in teaching by leading case-based discussions after
which they will receive formative feedback from attending
physicians on content and process of teaching.

3.4. Step 4: Educational Strategies. The sixty minutes allo-
cated to morning report were divided into two thirty-minute
sessions; the first session was for the PGY-3 residents on
their General Internal Medicine senior rotation and began
with handover (targeting 10 minutes for on average 6–8
patients). In this section, we focused feedback on how the case
summary was presented (e.g., missing elements or too much
information) or on how each case was managed overnight.
Then the residents decided if they had an interesting case
to discuss. If they did, the educational focus was on clinical
reasoning (assessing factors that supported the diagnosis or
discussing common cognitive errors that may have led to a
misdiagnosis) and/or clinical decision-making (discussion of
ideal management in a given case). If the PGY-3 residents did
not have a case in mind, the attending physician conducted a
practice oral or physical examination scenario. The attending
physician gave feedback on the PGY-3 resident’s approach to
the oral examination or physical examination.

During the second thirty minutes, the PGY-1 residents
on their Internal Medicine ward rotation joined the PGY-3
residents and attending physician for a case-based discussion
Table 1: Educational strategies in morning report.

| Objective       | Morning report stage                                  | Time   | Focus of feedback                                      |
|-----------------|-------------------------------------------------------|--------|--------------------------------------------------------|
| (1) Handover    | Handover of patients admitted overnight               | 10 minutes | (i) Communication skills/handover (ii) Diagnosis and management of each case |
| (2) Reflective practice | Discussion of interesting case                          | 20 minutes | Clinical reasoning and clinical decision-making (iii) Approach to oral examination |
| (3) Oral examination | Practice oral examination                               |        | Approach to oral examination                          |
| (4) Physical exam | Physical examination teaching                          |        |                                                        |
| (5) Teaching    | PGY-3 residents teaching PGY-1 residents using case-based discussion | 30 minutes | (i) Content of teaching (ii) Process of teaching (e.g., interactivity) |

led by a PGY-3 resident. At the end of this session, the attending physician gave the PGY-3 residents feedback on their teaching, both in terms of content taught and in terms of process of teaching. See Table 1 for an overview.

3.5. Step 5: Implementation. The proposed changes were brought before our Internal Medicine Residency Program Committee who voted in favor of these changes. Then these were brought before the Division of General Internal Medicine, first for discussion and approval of the proposed changes and second for faculty development to ensure that faculty understood their role in morning report. The changes were implemented in the middle of the academic year with one of the authors present most days for the first few months to ensure ongoing adherence to and understanding of the new format.

3.6. Step 6: Evaluation and Feedback. One year after the changes to morning report, the 12 PGY-3 residents and 12 attending physicians who experienced morning report before and after the changes were invited to complete a survey. Ten residents and nine attending physicians responded to the survey asking about their opinion of the following changes to morning report: (1) feedback on diagnosis and management; (2) feedback on teaching ability; (3) physical exam teaching; (4) practice oral cases; (5) PGY-3 resident-specific teaching without PGY-1 residents present; (6) conciseness of handover. When asked to rate their agreement on a scale of 1 to 5 (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree) with the statement “I think the following are important additions to morning report,” respondents agreed that all the above changes were important ($P < 0.05$ Wilcoxon signed-ranks test compared to the neutral score of 3 on the Likert scale). There were no differences between residents’ and attending physicians’ responses (Mann-Whitney $U$ test, $P$ range from 0.18 to 0.78). See Figure 1. When asked “what do you feel needs the most improvement?” 40% of residents chose “conciseness of handover” and 40% chose “feedback on diagnosis and management” compared with 67% and 11% of attending physicians, respectively. These differences were not statistically significant based on Fisher’s exact test. See Figure 2.

When we reviewed the comments section for the rotation evaluations for the year prior to the changes, we found 12 comments referencing morning report, 10 of which were negative and all of which were related to the themes identified in our focus group. For the year after the changes, there were 14 comments about morning report with 9 being positive and 5 being negative. The positive comments were mainly about residents enjoying the new format and the opportunity to practice oral examination skills. The negative comments focused on how the success of morning report was highly dependent on which attending physicians were present.

4. Discussion

We successfully implemented a split morning report, a format we have not seen in the literature. The changes are favorable, but the success appears to be preceptor dependent. We are continuing to work on faculty development to keep morning report a consistent educational experience and have incorporated tips for the residents on how to present a concise handover into our rotation orientation.

This project is not without limitations. It was done at one hospital site in one Internal Medicine program with a small sample size. Another limitation is the postintervention design as well as the use of subjective self-report data. So far we have only evaluated resident and attending physician satisfaction with the morning report changes. It would be informative to assess whether we are meeting the remaining objectives as outlined above, with respect to improving the PGY-3 residents’ case summarization skills, approach to the oral examination, and/or teaching abilities. Future research may include audio or video recordings of morning report during the first and last week of several rotations, which would allow us to evaluate if we are meeting these objectives. Future work could also involve a quasi-experimental design comparing multiple programs (some as intervention sites and some as controls), which would also increase sample size.
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Figure 1: Important additions to morning report. Mann-Whitney U tests did not reveal differences (P range is from 0.18 to 0.78) between residents and attending physicians and so results reported are combined residents and attending physician responses. P < 0.05 for differences between all six items and the neutral score using Wilcoxon signed-ranks test.

Figure 2: Still needs the most improvement. No difference between resident and attending physician responses with Fisher’s exact test.
5. Conclusion

Morning report is a case-based teaching session used across North America and around the world with many variations. We have successfully implemented a split morning report with a formative focus on our PGY-3 residents with positive responses from both residents and faculty. However, faculty development is an ongoing issue to maintain a consistently high quality morning report.

Ethical Approval

Ethical approval for this project was sought from the Research Ethics Board at the University of Alberta; however, this project was deemed exempt due to its program evaluation focus.

Conflict of Interests

The authors declare that no conflict of interests, financial or other, exists.

Authors’ Contribution

Vijay Daniels conceived the original idea for the project and worked on the initial design with the input of Cheryl Goldstein. Vijay Daniels conducted the focus groups and created and administered the surveys. Vijay Daniels drafted the first version and subsequent revisions of the paper; Cheryl Goldstein reviewed and edited the various versions of the paper. Both authors approved the final draft.

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