Feasibility of an innovative third-year chief resident system: an internal medicine residency leadership study

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Introduction: The role of the internal medicine chief resident includes various administrative, academic, social, and educational responsibilities, fulfillment of which prepares residents for further leadership tasks. However, the chief resident position has historically only been held by a few residents. As fourth-year chief residents are becoming less common, we considered a new model for rotating third-year residents as the chief resident.

Methods: Online surveys were given to all 29 internal medicine residents in a single university-based program after implementation of a leadership curriculum and specific job description for the third-year chief resident. Chief residents evaluated themselves on various aspects of leadership. Participation was voluntary. Descriptive statistics were generated using SPSS version 21.

Results: Thirteen junior (first- or second-year) resident responses reported that the chief residents elicited input from others (mean rating 6.8), were committed to the team (6.8), resolved conflict (6.7), ensured efficiency, organization and productivity of the team (6.7), participated actively (7.0), and managed resources (6.6). Responses from senior residents averaged 1 point higher for each item; this pattern repeated itself in teaching evaluations. Chief resident self-evaluators were more comfortable running a morning report (8.4) than with being chief resident (5.8).

Conclusion: The feasibility of preparing internal medicine residents for leadership roles through a rotating PGY-3 (postgraduate year) chief residency curriculum was explored at a small internal medicine residency, and we suggest extending the study to include other programs.

Keywords: chief resident; postgraduate year; internal medicine; residents; leadership; skill evaluation; graduate medical education; physician leadership

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The role of the chief resident encompasses various administrative, academic, social, and educational responsibilities (1–3); these duties prepare such residents for further leadership undertakings (1). Increasing numbers of internal medicine programs have third-year chief residents; however, ongoing residency training may be compromised for some residents because of time constraints created by competing responsibilities of the chief position. However, fourth-year chief opportunities are becoming less common. One reason for this is due to a lack of institutional funding, and we speculate that this may be the case for many other programs. Alternatively, residents may prefer to enter practice right after graduation due to financial considerations (4). We considered a new model for rotating third-year chief residents in our program. We expected that implementing a chief month for the postgraduate year (PGY)-3 residents would affirm perceived teaching capacities and leadership ability of all third-year residents (2, 3, 5, 6).

Methods

At the end of their PGY-2 year in June 2012, 12 prospective chief residents underwent a half-day training session using a curriculum customized by program leadership called LEAD (Leadership, Education, Advocacy and Development). The training included several topics presented by two former full-year PGY-3 chief residents serving in administrative roles, as well as residency program leaders including the Chairperson, Program Directors, and core faculty. Session themes included communication, motivation, delegation, feedback, team-building, task completion, clinical teaching, running meetings and career success. In addition, based on self-identified interest or faculty evaluation, some residents were assigned additional...
roles as directors for the following boards: Conference Curriculum, Continuity Clinic, Recruitment, Community Advocacy/Esprit de Corp, and Transition to Residency. Each of these groups worked closely with faculty members to design strategies for the upcoming year. Additionally, each chief met with core faculty early in the month during which they were chief (an elective or outpatient clinic rotation, in most cases) to review the chief resident curriculum. Each third-year chief received a $500 stipend (one-twelfth of the annual department budget for chief residents). After the rotating chief and leadership curriculum was implemented, survey questionnaires were sent to all 29 internal medicine residents in the program at the end of each month to evaluate each chief resident’s performance. These questionnaires were adapted from published literature using a previously evaluated reference model (1, 5); respondents utilized a 0–10 scale for each question. Answers remained anonymous via the online survey website Survey Monkey. The rotating chief for any given month was excluded from participating in the group surveys; however, he or she was asked to participate in a separate set of surveys that evaluated his or her leadership capacities as demonstrated throughout the chief rotation. All other participating residents evaluated the rotating chief on his or her performance throughout the rotation. Participation in this study was voluntary. The University of Tennessee College of Medicine Institutional Review Board approved the study. Descriptive statistics were generated using SPSS version 21.

Results
Thirteen valid junior resident responses were obtained for the chief resident evaluation survey: eight from PGY-1 and five from PGY-2. The data from the PGY-1 respondents yielded similar means to that of the PGY-2 class, so the two classes were merged for final analysis. Junior residents reported that the chief residents elicited input from others (6.8), were committed to the team (6.8), resolved conflict (6.7), ensured efficiency, organization and productivity of the team (6.7), participated actively (7.0), and managed resources (6.6). PGY-3 (n = 16) responses provided higher averages on all the above measures (Table 1). The PGY-3 class (n = 9) also gave higher ratings of the chiefs’ teaching skills than did the junior residents (n = 7).

Self-evaluation by the chief residents (n = 5) revealed that they rated their ability in leadership low (mean 6.0, SD 1.2); they also reported low comfort with being chief resident (mean 5.8, SD 0.8). They were more comfortable running a morning report (mean 8.4, SD 1.5) or noon conference (mean 7.6, SD 1.5) than a quality improvement study (mean 6.8, SD 1.1).

Discussion
PGY-3s felt more comfortable teaching than performing other duties of a chief resident. Additionally, PGY-1 and -2 residents appeared to be more critical of the leadership and teaching skills of the third-year chief residents than were their own PGY-3 cohorts. This study is nonetheless attended by several limitations. First, the responses from the PGY-3 class were self-ratings and may have inherent bias. Second, the study was performed at a single internal medicine program, and may thus have limited generalizability to other residency programs. Hypothesis testing was not applied to this data due to a lack of power to detect a statistically significant difference.

Despite these limitations, we suggest that there may be a role for introducing a rotating PGY-3 chief curriculum in residency programs that do not have PGY-4 chief residents. It may be worthwhile to explore on a larger scale whether obtaining input from junior residents would correlate with the success of elected chief residents. Interestingly, 86% of family medicine programs utilize input from residents in the selection of chief residents (7). It may be useful to extend the study to include internal medicine residency programs that have both PGY-4 and PGY-3 chiefs, and to gather data on the selection processes of chiefs as well as quantitative ratings of the chiefs’ productivity, leadership, resident satisfaction, and other metrics that would help other programs determine how to improve selection of, and role definition for, chief residents.

Conclusion
Effective methods of preparing internal medicine residents for leadership roles are needed. The feasibility of accomplishing this through a rotating PGY-3 chief residency curriculum was explored at one small program, and larger studies are indicated.

Conflict of interest and funding
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