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The Struggling Infectious Diseases Fellow: Remediation Challenges and Opportunities

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Remediation of struggling learners is a challenge faced by all educators. In recognition of this reality, and in light of contemporary challenges facing infectious diseases (ID) fellowship program directors, the Infectious Diseases Society of America Training Program Directors' Committee focused the 2018 National Fellowship Program Directors' Meeting at IDWeek on "Remediation of the Struggling Fellow." Small group discussions addressed 7 core topics, including feedback and evaluations, performance management and remediation, knowledge deficits, fellow well-being, efficiency and time management, teaching skills, and career development. This manuscript synthesizes those discussions around a competency-based framework to provide program directors and other educators with a roadmap for addressing common contemporary remediation challenges.

Keywords. program director; remediation; struggling fellow.

Remediation of struggling learners is a complex topic with which few infectious diseases (ID) fellowship training program directors (PDs) have extensive experience or expertise before assuming program leadership. Because the annual IDWeek fellowship training PD meeting provides a forum for PDs to exchange ideas, and given emerging contemporary issues in fellow education and remediation, members of the Infectious Diseases Society of America (IDSA) Training Program Directors' Committee (PDC) selected "Remediation of the Struggling Fellow" as the theme of the annual program directors' meeting at IDWeek 2018.

Before the meeting, PDC members identified via consensus discussion 7 remediation-related topics of greatest relevance and most broadly applicable across programs: feedback and evaluations, performance management and remediation, knowledge deficits, fellow well-being, efficiency and time management, teaching skills, and career development. During the in-person meeting, PD and associate PD (APD) attendees participated in small group discussions centered on 1 of these 7 topics. Members of the PDC moderated these discussions and reported to the full meeting consensus discussion points, common remediation challenges, and specific action items PDs could employ when confronted with relevant remediation issues.

Following this meeting, members of the PDC generated summary outlines from meeting notes that served as the foundation for this manuscript. Attendees of the IDWeek program directors' meeting who were not members of the PDC were invited to participate in the generation of this manuscript via announcement during the in-person meeting and via 3 subsequent broadcast messages posted to the Program Directors' Community on MyIDSA. PDC members and PD and APD volunteers then collaborated to draft individual sections of the

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following manuscript. The complete manuscript was reviewed and approved by all co-authors.

The 7 topic-focused discussions were synthesized around a competency-based framework accessible to all educators, beginning with defining the problem(s), the importance of probing for mental health concerns, fully understanding the problem(s) and proposing possible remediation strategies, distinguishing formal and informal remediation processes, and understanding ways in which similar concepts can be applied to fellows struggling with teaching skills and career development.

Defining the Problem(s) Through Assessment, Feedback, and Evaluations

Accurate identification and definition of area(s) of deficiency are essential to effective remediation. Only once this is accomplished can an individualized plan for improvement be developed. Table 1 provides examples of potential shortcomings within each of the Accreditation Council for Graduate Medical Education (ACGME) milestone-based competencies [1].

Strategies that can help define problem(s) include direct observation, case simulations, chart review, and knowledge-based assessments. Deficiencies in clinical reasoning, for example, may span problem representation and illness script generation; real or simulated case discussions can help identify these issues [2]. An objective structured clinical examination using *standardized patient cases* for ID fellows can be a useful resource for PDs in helping to define areas of concern [3]. Problems of interpersonal communication skills and/or professionalism identified in the context of communicating recommendations to patients or consulting services can be examined through role playing or direct observation. Specific evaluation tools designed to assess communication skills can be a helpful resource. For example, the communication skill scoring rubric and mini-CEX tool in the IDSA's Core Antimicrobial Stewardship Curriculum for Fellows can be used to assess a fellow's ability to effectively structure antibiotic decision-making conversations with consulting teams through role play or direct observation during clinical practice. Given the many potential sources of inefficiency, direct observation of the way in which a fellow spends their time is critical to understanding problems of time management.

Defining shortcomings is not a unilateral process; self-assessment and input provided by the fellow during feedback conversations are essential. Much has been written about feedback, and there are many excellent resources that can help PDs educate faculty and fellows about effective feedback techniques [4-7].

Feedback is information about observed performance provided to a fellow with the intent of maintaining or improving performance [5]. Setting the expectation at the beginning of fellowship training that frequent formative feedback will be provided in order to help fellows learn, improve, and achieve their career goals may help them be more receptive to feedback

conversations. Effective feedback begins with inviting the fellow to engage in a bidirectional dialogue, providing the fellow with lead time to reflect upon strengths and opportunities for improvement. The feedback conversation should take place in a safe and quiet space, where undivided attention can be provided. As the discussion begins, the fellow should first be asked to share a performance self-assessment, including at least 1 specific behavior or skill they wish to maintain and reinforce and at least 1 specific area for improvement. When a fellow is not performing at the expected level, the fellow's insights can help further define the suspected problems. A fellow who appreciates that their communications with consulting services are ineffective and who asks for help in remedying this shortcoming, for example, has different problems than a fellow with similar shortcomings who feels as if their communication is exemplary.

Soliciting input from the fellow may also uncover concern for the common but under-recognized problems of burnout and mental health disorders [8]. PDs and faculty must be mindful of this possibility when working with a struggling fellow, and appropriate care should be facilitated and prioritized.

Burnout, Mental Health Concerns, and Fellow Well-being

Burnout, defined as a lack of engagement in daily activities driven by the loss of fulfillment and satisfaction with one's work, negatively affects performance and is common among trainees and faculty alike [9-11]. The ACGME requires institutions to monitor and support well-being, and roadmaps exist to help guide efforts for both maintenance of well-being and mitigation of burnout [12-14]. Depression and depressive symptoms are also remarkably common among trainees, with prevalence rates ranging from 21% to 43% among residents depending on the assessment instrument used [15]. Given the prevalence of these problems and the many demands and stresses of fellowship training, PDs and faculty must be aware of the issues potentially underlying performance deficits, and they must be aware of local resources.

When concern for mental health problems arises, PDs should openly, honestly, and sensitively broach such concerns with the fellow. Provision of support, confidential and comprehensive health screenings, and optimization of the practice environment are critical components of addressing these concerns. Some fellows may benefit from approaches including coaching, counseling, or peer support [16]. When considering these needs, PDs are encouraged to reflect on data indicating that few trainees who feel they would benefit from formal mental health services actually seek care, owing to concerns for lack of time, confidentiality, cost, and perceptions of others [17]. Sensitivity of the program and individual faculty members to these additional potential stressors is key to the success of proposed interventions. In some instances, time away from training may be required. In that circumstance, programs should provide a pathway for return to fellowship when possible [18].

Table 1. Key Notable Problems and Remediation Strategies by Competency

Competency	Deficits	Strategies
Medical knowledge	<ul style="list-style-type: none"> • Cannot accurately answer ID knowledge-based questions • Poor in-training exam scores 	<ul style="list-style-type: none"> • Identify knowledge goals and requirements • Identify learning methods that have previously been effective for the fellow • Consider symptom-based reading • Create running list of items to look up • Directed reading about patient cases • Encourage self-reflection • Provide accommodation when necessary
Clinical skills	<ul style="list-style-type: none"> • Physical exams are incomplete or inaccurate • Lack of understanding of implications of exam findings 	<ul style="list-style-type: none"> • Identify skills gaps • Assign videos on physical exam skills • Videos of performance of specific skills; review and give feedback • Repetition and practice
Clinical reasoning	<ul style="list-style-type: none"> • Extraneous information in write-ups • Unable to focus history, exam, testing • Difficulty prioritizing differential diagnoses and applying protocols/guidelines to individual patients • Medical decision-making not appropriate 	<ul style="list-style-type: none"> • Provide a framework for clinical reasoning • Practice creating differential diagnoses—analyze each diagnosis, compare and contrast • Review diagnostic options • Create a list of clinical questions to look up • Reflect on consequences of choices made
Time management	<ul style="list-style-type: none"> • Unprepared • Disorganized presentations, notes, thought process • Frequently running behind, keeps others waiting 	<ul style="list-style-type: none"> • Review expectations • Construct a data organization system • Model preroading and encourage use of same model with each patient • Identify and prioritize tasks • Identify appropriate time allotment for each task • Observe peers' strategies • Identify strategies for stress management
Interpersonal skills and communication	<ul style="list-style-type: none"> • Unable to function well on a team • Frequent conflicts • May transfer blame • Cannot read social cues • Awkward, unprofessional, or inappropriate behaviors with peers, nurses, other staff members • Excessive use of medical jargon with patients • Difficulty formulating and asking questions • Poor or incomplete documentation 	<ul style="list-style-type: none"> • Discuss importance of good interpersonal skills and communication • Address conflicts confidentially • Encourage self-reflection • Have learner give examples of positive interactions • Practice oral presentation and summarizing complex cases • Review and practice specific skill sets, eg, giving bad news, asking sensitive questions
Professionalism	<ul style="list-style-type: none"> • Strained patient–doctor relationships • Lack of respect • Late, absent, unreliable • Dishonest • Inappropriately delegates work to peers 	<ul style="list-style-type: none"> • Review importance of being professional and consequences of being perceived as unprofessional • Set expectations • Review specific examples of learner's unprofessional behaviors • Emphasize accountability • Encourage self-reflection • Official warning or probation, as appropriate
Practice-based learning	<ul style="list-style-type: none"> • Lack of self-directed learning • Lack of personal learning goals • Lack of literature review • Does not seek feedback or help when needed • Defensive with receiving feedback 	<ul style="list-style-type: none"> • Have learner identify strengths and weaknesses • Assign a literature review for a specific case and ask the learner to explain how the data impact clinical decision-making • Have learner reflect on feedback they have received and its purpose • Complete quality improvement projects, then reflect on own practice
Systems-based practice	<ul style="list-style-type: none"> • Does not value interprofessional input • Does not utilize health care resources • Does not consider cost- and risk-benefit analyses • Does not advocate for patients • Neglects care transitions 	<ul style="list-style-type: none"> • Explore the benefits of interprofessional input and collaboration • Teach learner to advocate for patients by seeking resources and performing effective transitions of care

Adapted from Guerrasio, 2013 [1], with permission.

Abbreviation: ID, infectious diseases.

Strategies to enhance wellness and address burnout require an understanding of the training environment; proposed wellness programs may contribute to mixed messaging when the environment is not consistently supportive [19]. There are many drivers of burnout; recognizing and addressing system issues is an important first step. Threats to ID fellow well-being include fellows' perceived lack of control; working with complex, often seriously ill patients;

feeling used or dismissed by faculty and/or consulting teams; feeling that efficiency in seeing patients supersedes education; and receiving inappropriate, repetitive, or unnecessary pages. However, the largest contributor is likely workload. As noted later in this document, some workload demands reflect efficiency issues that can be mitigated with training and practice; others are related to unrealistic work expectations as clinical demands exceed capacity.

Although there is no universal solution, programs have identified a variety of systems-level changes to help address this workload problem. One program has enlisted upper-level fellows in a rotating back-up system triggered by high consult census. Some programs have hired advanced practice providers to help offload consults, whereas others have added support for non-physician-specific tasks, such as administrative assistants and scribes [20].

The most commonly implemented solution, however, is shifting part of the fellow workload to faculty. Increasingly, attending physicians are tasked with carrying the service pager at key times: during fellows' clinics, didactics, and even overnight. Anecdotally, programs implementing overnight faculty coverage have found that the number of overnight pages is reduced, as consulting teams are typically more judicious about calling attending physicians. Other programs have faculty hold the new consult pager or take responsibility for outpatient calls and quick questions that do not require full consultation. Consult or note caps are another potential solution to manage fellow workload, with on-service faculty writing notes or seeing consults above a predetermined limit. Alternatively, programs increasingly rely on faculty-only services to preemptively decrease fellow workload. Because faculty are also susceptible to burnout, any such structural changes must be carefully managed to avoid undue faculty burden [16, 21].

Potential Deficits in Competencies

After or in conjunction with evaluation and management of mental health, burnout, and wellness issues, strategies for remedying competency deficiencies can be undertaken. Although a comprehensive discussion of all deficiencies spanning the competencies is not feasible here, we will focus on a few with the goal of providing actionable steps (Table 1), mindful that deficits may be detected in 1 or more competencies [22].

Medical Knowledge

Although the prevalence of knowledge deficits among ID fellows has not been reported, such deficits occurred in nearly 40% of postresidency learners referred to a remediation program [23]. Fellows who exhibit deficits on the annual IDSA Fellows' In-Training Examination or, based upon input from the program's Clinical Competency Committee (CCC), in the context of clinical care, may benefit from guidance regarding sources of information that may best help them fill gaps. Using easy-to-digest, evidence-based strategies in the science of successful learning may be particularly helpful [24]. Web-based technology and innovative applications can also be harnessed to facilitate learning. For instance, @WuidQ is a free Twitter-based platform that provides boards-style, ID-focused multiple-choice questions and discussions. Qstream is a mobile application that allows programs to quiz fellows and track each trainee's progress. Such mobile platforms can be used to supplement the

primary literature, practice guidelines, and more traditional textbook, online, and board-review resources. Additional considerations include underlying learning disabilities, for which psychoeducational and neuropsychological testing may be warranted [25]. Cultural and language differences among trainees with an international background may also impact learning and obfuscate knowledge assessment [26].

Patient Care—Clinical Skills

In addition to input from the CCC, direct observation of the fellow's performance of the physical examination is essential to understanding deficits. Remediation strategies can include role modeling by a master clinician or supervising faculty. Online tutorials contain numerous examples of physical examination components fundamental to the clinical practice of an ID clinician, including lymph node examination techniques, evaluation of different rashes, and examination of the spleen [27]. These tutorials include a checklist of essential examination components that can be used by faculty during subsequent directly observed physical examinations.

Patient Care—Clinical Reasoning

For fellows who struggle with clinical reasoning, deconstructing the steps in the process from the patient's story to the diagnosis can help identify problem areas [2, 25]. Talking through cases in real time and discussion and review of simulated cases can help fellows hone problem representation skills and enhance illness script generation. A number of internal medicine-based, clinical reasoning-focused podcasts, including *The Curbsiders* (<https://thecurbsiders.com/>) and *The Clinical Problem Solvers* (<https://clinicalproblemsolving.com/>), have recently emerged and are excellent resources.

Time Management

Effective time management is essential to being a successful and competent physician and has the potential to improve work satisfaction, work-home life integration, and personal well-being [28, 29]. Although a critical skill, effective time management is not routinely taught in medical school or residency training. ID fellows may therefore manifest shortcomings in efficiency that impact clinical care (lack of timely note writing or preparedness for rounds), research (not meeting deadlines or completing projects), and/or administrative obligations (not completing evaluations or other Graduate Medical Education [GME] requirements on time).

PDs should strive to determine whether inadequate time management underlies a struggling fellow's performance. If so, PDs should define the active time management problem(s) based upon input from supervising faculty and the fellow. Is a fellow behind on clinical documentation, for example, due to difficulty prioritizing daily tasks or because they are inefficient in gathering pertinent information from a patient's

chart? Direct observation of a fellow performing tasks such as prerounding, taking a history, or reviewing the medical record may help determine where bottlenecks occur. Once identified, strategies to address deficits can be tailored to the fellow and the specific time management issue; motivational interviewing is 1 strategy that can be used with the fellow to help change behavior [30]. Challenges with time management during research-focused portions of training can be mitigated with regular, scheduled meetings with the fellow's mentor or team of mentors; providing clear deliverables before and after these meetings can help ensure that all parties fulfill expectations and responsibilities. In Table 2, we have compiled additional suggestions for improving fellows' time management collected during the IDSA 2018 Training Program Directors' Meeting.

Interpersonal and Communication Skills

Problems within this competency may come to attention when communicating recommendations to patients or to consulting services, or when responding to questions by phone. Causes of deficiencies may span knowledge, attitude, and/or skills deficits [25]. As with other deficiencies, direct observation of conversations with patients, family members, and health care

professionals is fundamental to understanding these shortcomings; standardized patient assessments or video-recorded patient interactions, if available, may also assist. Input from the fellow is also essential to understanding the nature of these challenges.

Although remediating these deficiencies can feel daunting to PDs, resources exist to help. A feedback-oriented framework for understanding deficiencies and identifying strategies for improvement has been proposed [25]. A structured clinical observation and its accompanying skills checklist (Supplementary Appendix 1) can help facilitate specific feedback on actionable items based upon direct observation. The Academy of Communication in Healthcare (<https://www.achonline.org/>) also provides extensive online resources to improve relationship-centered communication in health care, including articles and videos. The videos include communications skills demonstrations and guidance on teaching learners how to communicate with empathy.

Professionalism

Deficiencies in professionalism are among the most daunting challenges addressed by PDs, and some studies have identified

Table 2. Suggestions for Improving Fellows' Time Management and Efficiency

General
Review Steven Covey's time management matrix [31]: http://www.planetofsuccess.com/blog/2015/stephen-coveys-time-management-matrix-explained/
Avoid multitasking, as it is associated with reduced efficiency
Advise them to reflect upon their most productive time of day and complete their most important work then
Schedule protected time for important tasks without a deadline (eg, manuscript writing)
Reduce or eliminate low-value work
Leverage technology to improve organization and efficiency
Clinical Care
Have clear expectations for how much work a fellow is required to do
Identify rounding/prerounding best practices from efficient fellows and attendings
Improve information gathering and preparation: Review patient data systematically, use a note template, set up the EMR to be as efficient as possible
Adjust personal workflows to those of the health care system (eg, call surgeons in the morning before they are in the OR)
Schedule the most efficient attendings on service early in the academic year to provide modeling for good time management skills
Shadow efficient attendings on nonteaching services
Ask July attendings to carry the pager for 1–2 weeks to give fellows a chance to acclimate
Cap the number of new patient consults or follow-up notes per day
Suggest dictating rather than typing notes
Administrative responsibilities
Encourage fellows to undertake weekly and monthly schedule reviews to anticipate deadlines
Review effective email management strategies with fellows
Provide dedicated time to complete paperwork at a monthly fellows' administrative meeting
Suggest use of online systems or apps to complete evaluations during downtime
Provide a quarterly "report card" to each fellow describing progress in completing GME responsibilities (duty hour reporting, evaluations)
Research
Prompt fellows and mentors to set regularly scheduled meetings with one another
Instruct fellows to (1) send an agenda at least 2 days in advance of each meeting and (2) send minutes and action items with deadlines after each meeting
Facilitate early completion of required online institutional trainings and prioritize early IRB protocol submission
Complete an annual research/career development plan with goals and expectations; periodically review and update with mentor(s) and PD
Present at a work-in-progress meeting annually

Abbreviations: EMR, electronic medical record; GME, Graduate Medical Education; IRB, institutional review board; OR, operating room; PD, program director.

deficiencies in professionalism as predicting probationary status and poor overall academic outcomes [23]. Some examples of challenges are included in Table 1. Although direct observation by the PD is helpful when feasible, this may not be practical. The PD should strive to understand the issues from the perspectives of all affected parties; as with all deficiencies, engagement in a feedback dialogue is important to understand the learner's perspective to permit delivery of specific, actionable feedback. As with any deficit, persistent and unaddressed problems may be grounds for formal remediation, as will be discussed in the next section.

PDs may consider remediation strategies grounded within a framework of professional identity formation [25]. Building on this concept, a practical, multilevel professionalism framework to try to understand the factors driving unprofessional behavior and identify appropriate remediation approaches has recently been proposed [32].

Practice-Based Learning

When present, deficiencies within practice-based learning are commonly identified within the context of observed patient care; clinical case simulations are also helpful. Fellows who do not know how to self-identify areas of limited proficiency when caring for patients may benefit from facilitated discussions of ways in which shortcomings can be overcome, such as through self-directed learning (with appropriate role modeling by the PD and faculty). Difficulty in applying information from the primary literature into practice can be remedied through discussion of application of primary literature to specific patient care scenarios, through conferences such as journal clubs and management conferences, and, as relevant, through formal training on understanding scientific literature. Fellows should also be prompted to contribute to practice-based improvement through scholarly work, including the training and experience in quality improvement processes required by the ACGME. Our specialty provides ample opportunity for engagement in activities such as antimicrobial stewardship, infection prevention and control activities, and promotion of vaccination.

Systems-Based Practice

The interdisciplinary nature of ID clinical practice lends itself to rich opportunities, as well as identification of possible shortcomings, within this competency. Potential deficiencies abound, including not working well with other health care professionals intimately involved in patient care, such as ID pharmacists, nurses, and consulting physicians. Coordinating interprofessional care within the realm of outpatient parenteral antibiotic therapy (OPAT) is fundamental to the interface of inpatient and outpatient clinical practice; fellows may require remediation in understanding these complexities. Indeed, the topic of OPAT itself is especially germane to systems-based practice when considering the cost- and risk-benefit

considerations inherent to antibiotic decision-making. Fellows may require further training and may need prompting to pursue self-directed learning to help overcome deficiencies within this competency. Potential resources for further training include case-based modules on antibiotic decision-making and the interprofessional collaborations necessary for the practice of antimicrobial stewardship such as those found in the IDSA's Core Antimicrobial Stewardship Curriculum for Fellows. Other resources include antimicrobial stewardship *simulation* and *program-building modules* specifically designed to help fellows understand the contributions, collaborations, and roles of other health care professionals in improving antimicrobial prescribing [33, 34].

Performance Management and Remediation

Once deficits are identified, the remediation process may begin. Remediation is defined as the provision of any additional training, supervision, or assistance beyond what is typical for training [35]. Remediation is a common component of medical training, with some estimates indicating that up to 25% of learners will require some form of remediation [23]. Training programs should proactively develop a vision and structure for remediation, recruit and train faculty to assist in the process, set expectations for success, and maintain documentation of all steps in the process [36]. Programs should also collaborate with their GME Office and Designated Institutional Official (DIO) to develop cohesive policies, identify available resources, and maintain open lines of communication.

At the outset, PDs should distinguish between informal and formal remediation. Informal remediation, directed at improving performance and accepted as a normal part of education for a subset of learners, is generally managed by the training program and typically is not reported in future trainee performance reports. Informal remediation may be appropriate when a fellow falls below expectations in 1 of the competencies and is otherwise meeting expectations. Such remediation typically involves the fellow, PD, and perhaps an additional faculty member or senior fellow. Formal remediation ensues when a program determines that a fellow's performance consistently does not meet program expectations, often following failed attempts at informal remediation [35]. Formal remediation may span 1 or more competencies; remediation goals should be competency-focused. As noted below, formal remediation should include key institutional stakeholders in addition to the fellow and PD. A remediation coach who is in communication with, but separate from, the summative judgment process may also be valuable [23, 36]. Importantly, all effective remediation, whether informal or formal, requires extensive time commitments from faculty and administrative staff.

Effective remediation procedures should facilitate early problem identification, establishment of an individualized remediation plan, and ongoing feedback to monitor progress.

Early recognition of a struggling fellow, coupled with directed intervention, is key to mitigating more serious negative consequences in the future. A lack of established processes can inadvertently result in “kicking the can” down the medical education continuum, creating more consequential damage later [25].

Such processes should involve frequent, real-time delivery of feedback, open lines of communication between supervising faculty around detected deficiencies, and assessment of progress by a program’s Clinical Competency Committee (CCC). Each step of the process (eg, formative feedback, meeting minutes, emails) should be documented in real time.

The feedback provided to the fellow should build on the effective feedback techniques referred to earlier. Once the faculty member has solicited and understands the fellow’s perspectives, the faculty member’s observations can be shared, keeping in mind a goal ratio of 4 reinforcing feedback comments for every 1 corrective comment [37]. Describing feedback as reinforcing (rather than “positive”) or corrective (rather than “negative”) is preferred to avoid associating a value judgment with the feedback. In addition to being nonjudgmental, feedback should be timely, specific, actionable, and highlight the gap between intended and actual results [5]. Following the feedback exchange, the fellow should be asked to further reflect, and the 2 parties should agree upon subsequent goals, whether short or long term. The timing of a follow-up discussion should be established, and the cycle should repeat. Although all of these components should be included, feedback need not be elaborate or time-consuming. Targeted feedback can be concise.

Considering a hypothetical example, after spending a morning directly observing a fellow who is frequently noted to be unprepared for rounds (an observation shared by the fellow), you might provide the following feedback:

- The fellow is extremely conscientious in their review of vital signs and laboratory data.
- The fellow provides thoughtful recommendations for each curbside consultation received.
- The fellow elicits an informative history of the present illness from new patients.
- The fellow performs physical examinations with appropriate focus on areas of concern.
- The fellow could structure their time much more efficiently. Encourage the fellow to try to engage in each task only once each morning. For example, extract information from the medical record once per patient. Once the fellow begins to elicit a history from a patient, do not interrupt that history to leave the room and return pages, only to have to return to the patient again later. Highlight the ways in which returning to the same task more than once leads to increased time consumption and inefficiencies that prevent the fellow from being able to spend time organizing their thoughts in advance of afternoon rounds.

- Agree upon the time frame within which these issues will be readdressed (eg, 1–2 weeks).
- At the next meeting, introduce the next inefficiency that you observe most significantly contributing to the fellows’ lack of readiness for rounds, such as obtaining comprehensive social and family histories in circumstances when doing so will not impact clinical decision-making.

Ongoing, frequent feedback delivered in person and in writing during supervised practice is critical, with reassessment to determine whether remediation has been successful [38]. The nature of the deficit and the rate of improvement should help determine the frequency of feedback; feedback may initially be weekly, with greater intervals if there is improvement. Providing faculty with a copy of rotation goals and objectives before the start of their time on service can help provide a useful foundation upon which the faculty member can anchor feedback. Smartphone note-taking programs or individual index cards can provide faculty with a way to quickly make reminder notes for upcoming feedback.

These approaches to feedback in the setting of remediation highlight the way in which feedback is formative and intended to guide the fellow’s professional growth and development. This purpose stands in contrast to evaluation, which is a summative process by which fellows are compared against rotation and program goals and objectives [12]. The purpose of fellow evaluation is ultimately to determine whether fellows are prepared for independent practice as infectious diseases clinicians.

Formal remediation should include the DIO, follow institutional procedures for due process, and be documented in detail. Fellows should be given notice of deficiencies, have an opportunity to review the evidence, and be given a chance to advocate for themselves. Formal remediation may have to be reported on future reference letters for a trainee, even when completed successfully. If attempts at formal remediation are not successful, further remediation, nonpromotion, probation, and even dismissal may result. During these latter stages, collaboration among the fellow, program director, CCC, DIO, human resources, and legal counsel is necessary [35].

Figure 1 summarizes approaches to performance management across the continuum from feedback to remediation.

Additional Topics: Teaching Skills and Career Development

Two additional topics identified by the IDSA Training Program Directors’ Committee as areas in which fellows may struggle and therefore benefit from remediation or guidance are teaching skills and career development.

Teaching Skills

As with time management skills, fellows are expected to develop teaching skills to support their current and future roles as educators of students, house staff, and consulting teams,

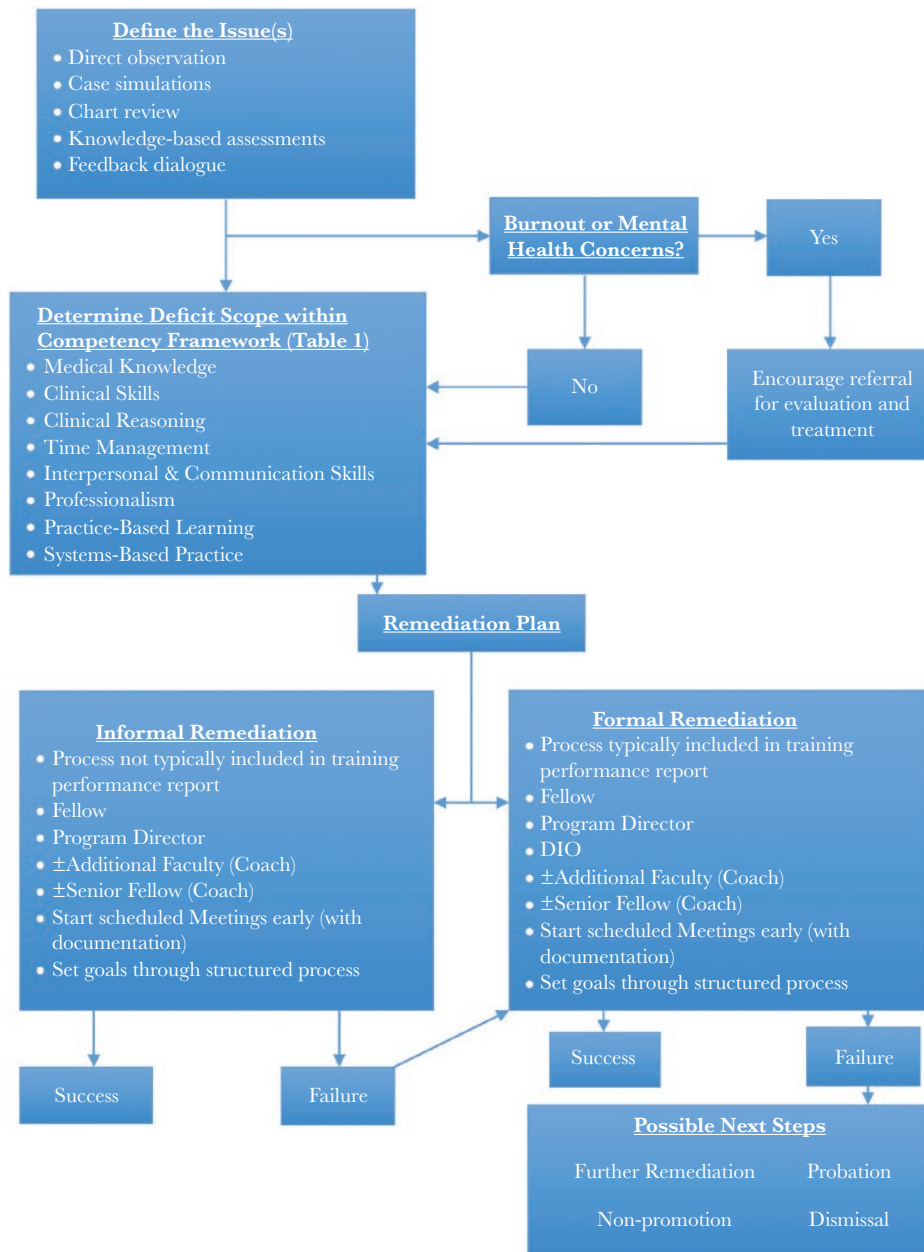


Figure 1. Summary of feedback, evaluation, performance management, and remediation strategies.

but they may not enter fellowship training with expertise in this regard. There are many reasons why fellows may not become competent teachers during fellowship training. Individual fellows' professional goals may not include teaching, and not all fellowship programs establish teaching expectations equally or among all fellows. Faculty may overlook teaching skill shortcomings for fellows who are otherwise clinically excellent, and fellows who are confident in their clinical skills may not acknowledge a need for more support in developing teaching skills. At the other end of the spectrum, teaching skills may be de-emphasized for a fellow struggling across 1 or more core competencies. Occasionally, anxiety disorders or fear of public

speaking may present challenges. Furthermore, on busy clinical services, faculty and fellows may truncate clinical teaching due to time constraints.

When a fellow struggles as an educator, a systematic assessment should include 360-degree and direct faculty observations. Fellows who struggle giving lectures and small group didactics may have had insufficient instruction on developing audience-specific learning objectives and may have had few opportunities to practice. Those with challenges in bedside teaching may have overlooked the requirement to teach, not be prepared to cogently discuss a patient's history or physical examination, or not be skilled in presenting

Table 3. Strategies to Help Fellows Who Struggle as Educators

Identify areas for improvement through direct observation from multiple sources
Set clear and defined expectations to improve teaching skills
Assign a faculty coach to help develop skills and provide ongoing feedback
Help the fellow define clear, audience-focused learning objectives
Identify local professional development and teaching skills opportunities
Provide the fellow with online teaching skills resources
Provide additional teaching opportunities as available

focused clinical pearls. Bedside teaching may also not be modeled well by faculty.

Once a deficiency in teaching skills is identified, potential remediation strategies are summarized in Table 3. Programs should establish teaching expectations at the beginning of fellowship training. Using senior fellows and faculty to role-model teaching skills early in the academic year, and allowing junior fellows to gradually assume this role, may be helpful. If the sponsoring academic institution has faculty development programs or conducts “residents as teachers” or teaching scholars programs, fellows should be encouraged to engage in these opportunities. A fellowship program may also wish to develop a dedicated clinician–educator elective or track for interested trainees. Finally, the fellowship program curriculum could be modified to include medical education lectures and topics as a longitudinal priority.

Career Development

Although outside the spectrum of competency-based remediation, given the frequency with which PDs have been confronted with fellows who have struggled with career decisions and development, the IDSA Training Program Directors’ Committee felt that any discussion of struggling fellows should include a discussion and sharing of experiences on this topic.

When entering fellowship, not all fellows have a defined career path; even for those with a vision for their future, individualized support is critical to career definition. Factors that may affect postfellowship choices include institutional resources, such as options for specialized training, and fellow-specific considerations, including visa status, debt burden, geographic requirements, and prior experience. Given these complexities, diverse strategies are warranted to help learners succeed [39–47].

When training begins, all fellows should receive faculty rosters including job descriptions and research profiles. During the first 6 fellowship months, clinical rotations should span the different services of the training program, allowing for exposure to a spectrum of ID clinical care. Concurrent with these clinical experiences, each fellow should meet with a career development mentor or committee within the first 4 months of fellowship training. Ideally these mentors or committees should include faculty members from different domains, including traditional academic and research pathways, clinical care, and education.

Fellows should reflect on their prior experiences and current interests before meeting, and programs may consider asking fellows to complete an individual development plan in advance. Subsequent mentor or committee meetings should occur at least biannually to permit a review of progress and for additional guidance. Although each fellow should be encouraged to establish a relationship with a domain-specific mentor or team of mentors based upon their area of interest, programs may also wish to provide each fellow with an individual advisor distinct from their mentor(s) to ensure that the fellow has an independent advocate who can provide broad career guidance and navigate potential mentor–mentee conflicts. An ombudsperson can also be helpful for the latter issue. Additional resources focused on career development include the annual IDSA Clinical Fellows’ Meeting, which provides additional information and networking opportunities for fellows considering careers in ID clinical practice, and the IDSA/National Institute of Allergy and Infectious Diseases Infectious Diseases Research Careers Meeting, which provides additional information and networking opportunities for fellows considering research-oriented careers.

Fellows who are sponsored by H1b or J1 visas face unique challenges, as their career options within the United States may be limited. Ideally, programs with fellows supported by visas will establish relationships with underserved sites to provide fellows who wish to remain in the United States with exposure to potential job opportunities. These relationships can facilitate contacts with physicians and organizations in underserved regions who can provide information and support for fellows seeking waiver positions; in some cases, waiver positions in HIV clinics may help support these trainees. Training grant options are limited for fellows on visas who are interested in research careers; if feasible, hospital support can be sought for promising trainees to facilitate their research development.

CONCLUSIONS

Remediation challenges demand clear and objective data, thoughtful review and reflection, and collaboration among key stakeholders. Although addressing issues of remediation can feel daunting and is often time-consuming, resources exist to help program directors and other educators navigate these challenges in ways that are informed by data and experience. By implementing these strategies and taking advantage of the counsel of colleagues, including information contained within this document, educators can confidently and capably confront remediation opportunities and other professional challenges to the benefit of the fellow, other faculty educators, other learners, and patients.

Supplementary Data

Supplementary materials are available at *Open Forum Infectious Diseases* online. Consisting of data provided by the authors to benefit the reader, the posted materials are not copyedited and are the sole responsibility of the authors, so questions or comments should be addressed to the corresponding author.

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