Infectious Diseases Consultative Recommendations: If Heard, They Can Be Listened To

Marvin J. Tenenbaum

Clinical Affairs Committee, Infectious Diseases Society of America, Alexandria, Virginia; and North Shore Infectious Diseases Consultants, Port Washington, New York

(See the article by Lo et al. on pages 1212-8)

When the members of the Clinical Affairs Committee (CAC) of the Infectious Diseases Society of America (IDSA) first met to discuss writing an article about the value of an infectious diseases (ID) specialist [1], even with the disparate types of practices represented and their diverse geographic distribution, we brought nearly identical reports about how our referring physicians truly valued our services. Their statements ranged from how ID specialists were the best clinicians, to how they were the most skilled diagnosticians, to how they were the best qualified to analyze and clarify the most complicated clinical cases, and to how they were then able to organize these data into a cogent, logical consultation note with directed and thorough recommendations. However, we rapidly recognized that there was a paucity of published studies to substantiate these claims and even found literature questioning the cost effectiveness of subspecialty care [2, 3].

We did find studies that supported the

Accepted 21 January 2004; electronically published 14 April 2004.

Reprints or correspondence: Dr. Marvin J. Tenenbaum, North Shore Infectious Diseases Consultants, 44 S. Bayles Ave., Port Washington, NY 11050 (mstenenbaum@yahoo. com).

Clinical Infectious Diseases 2004; 38:1219-21

rights reserved. 1058-4838/2004/3809-0004\$15.00

© 2004 by the Infectious Diseases Society of America. All

favorable impact of ID consultative care for patients with Staphylococcus aureus bacteremia [4], patients with HIV infection [5], bone salvage in patients with osteomyelitis at a public hospital [6], and appropriate management of antimicrobial therapy in bacteremic patients [7-9]. The caveat in many of these studies was that the benefit of ID consultations was only realized if the recommendations were followed. For example, in the study by Fowler et al. [4], only 46% of the pieces of "management advice" were followedeven when there was discussion of the recommendations with the treating physician—for patients with S. aureus bacteremia. None of the studies carefully assessed what factors favored adherence to the recommendations.

Therefore, I was most interested in reading the article in this issue by Lo et al. [10], which showed an 80% overall compliance rate with recommendations made in 465 consecutive ID consultations, which were performed in 2, large, academic, tertiary care centers in Chicago, Illinois. One institution was private, and the other was public.

By use of multivariate analysis, Lo et al. [10] also found that adherence to ID consultation suggestions was higher when these recommendations involved therapy and/or isolation, compared with diagnostic recommendations; when they were related to a specific clinical question; when they were deemed to be "crucial" by the ID consultant; when the requesting service was the Department of Medicine; and when the consultation note was both organized and legible. It is noteworthy that neither consultative physician-related factors nor direct communication with the requesting service favorably impacted adherence to recommendations, although, at the private hospital, direct physician communication improved adherence, but not to statistical significance.

With the recognition that there are no other published resources available to discuss the findings of this valuable study, I must, in great part, depend on my anecdotal experience to do so. In turn, I would like to briefly review my clinical experience with you. I am 1 of 2 founding partners of a now 7-physician, strictly consultative ID practice in Nassau County, New York. We are the only ID service available at 2 hospitals, one of which is a community hospital, and the other of which is a cardiac specialty institution; neither has a housestaff program. We are also the private practice alternative to the full-time ID divisions at 2 large, tertiary care teaching hospitals, both of which are private, although one facility has a sizable public patient population. In the calendar year 2003, we performed 3858 hospital consultations and 32,020 follow-up visits at these 4 institutions. The 2003 data reflect a continued 8%–18% annual increase in hospital care my practice has provided over its 20-year existence. Therefore, I feel well qualified to discuss adherence to ID consultative recommendations.

Lo et al. [10] recognized their experience may not be "generalizable" to other settings, and they specifically commented on the absence of a nonteaching hospital as a site of investigation. Two earlier pieces of correspondence reported greater use of consultative ID care in the private practice setting than an at academic institutions [11, 12]. This is clearly the case at the cardiac care hospital at which we practice. In 2003, we performed 1716 consultations at this hospital, representing 9.2% of all their admissions for this year. Nearly all of the requests for consultations give us order-writing privileges. This authority was earned by >20 years of close interaction and communication with the referring physicians and by our constant effort to never abuse our colleagues' trust. We constantly seek their expertise, details about their procedural findings, and the long-term patient goals in formulating our recommendations, and we often know the physicians' concerns even before we see the patient. Similarly, we are repeatedly told that our involvement is sought in all of the most complex patients' care, even if no obvious infection is present, because of our thoroughness, excellent clinical and diagnostic skills, detailed notes, and close follow-up. Consequently, we essentially see all of the bacteremic patients at this hospital, as well as anyone else who could benefit from consultative care. Unlike Lo et al. [10], we have found that there is no question that direct, personal communication between the referring attending physician and our practice, demanded by the absence of housestaff, has dramatically improved adherence to our recommendations. It has also served as the best method for the referrer and the consultant to get to know one another, both on a professional and personal level; this allows

for trust, understanding, and cooperation to be developed.

By comparison, our experience at the 2 teaching hospitals is remarkably similar to that described by Lo et al. [10]. The major difference may be the long-term, still sacrosanct referral patterns we've established. This has allowed us to work with attendings who we have known for 2 decades, which, again, translates to their better understanding of our clinical approaches and recommendations and to our recognition of what their needs and questions are likely to be. This may lead to a rate of adherence to our recommendations of >80%, but, as occurred in the study by Lo et al. [10], our therapeutic recommendations are more closely followed than our diagnostic suggestions, and recommendations to start new antimicrobial regimens are more likely to be adhered to than are requests to discontinue antibiotic use.

However, I would like to discuss the particular services in which we have the most difficulty with adherence to our recommendations, because these problems were not only shared by Lo et al. [10], but by many ID consultants as well (personal communication at CAC meetings). This also identifies an issue that may have a greater adverse impact on ID physicians than does adherence to our recommendations. At one of the teaching hospitals, there is an open surgical intensive care unit (ICU), but the surgical housestaff, who have sole prescribing authority for patients in the ICU, are under the direct supervision of surgical intensivists. As a consequence, despite use of data-based recommendations, we have little impact in altering inappropriate antimicrobial use in this ICU. At the second teaching hospital, the surgical ICUs are closed, and neither the full-time division nor our practice have any meaningful access to these critically ill patients. Because only 9% of the ID consultations studied by Lo et al. [10] involved patients in the general surgery unit (4%) and the surgical ICU (5%), I strongly suspect that these units are also significantly closed to consultative ID input, as surgical consultations constitute 20%–35% of our total consultation service at the 4 hospitals we serve.

ID clinicians and the IDSA must fight to prevent patients who could benefit from our expertise from being denied access to it. We have begun the struggle to gain the same ability both to see patients and to have our recommendations followed at the units described at the 2 large tertiary centers, as my practice already has at the cardiac care hospital. We are using data showing significant rates of suboptimal antimicrobial use in patients before they are seen by ID consultants [4, 7–9, 13, 14], the increasing antibiotic resistance patterns in organisms that are initially isolated from patients in these units and that are then seen throughout the hospital, and medical legal concerns (a significant issue in Nassau County) as our weapons, and the problem is slowly being acknowledged by appropriate departmental chiefs.

I believe Lo et al. [10] have provided a vital initial effort in critically looking at the factors that impact adherence to ID consultative recommendations. I fully support their statement that future studies will be necessary to better identify those factors that allow for maximum adherence to our recommendations. Clearly, I believe that a nonteaching hospital must be included in these investigations to make the data more global and pertinent and to identify the "best practice" solutions to the issue of adherence. As Sexton stated, "ID physicians in academia may not be fully aware of the need for and the role of ID specialists in private practice if they base their judgments on their consultative experiences in academic centers" [11, p. 527]. Finally, while we struggle to improve adherence to our recommendations, ID physicians and the IDSA must vigorously fight against an even more unacceptable practice: the growing trend of denial of access to patients who need and would benefit from our expert care.

References

- Petrak RM, Sexton DJ, Butera ML, et al. The value of an infectious diseases specialist. Clin Infect Dis 2003; 36:1013–7.
- Greenfield S, Nelson EC, Zubkoff M, et al. Variations in resource utilization among medical specialties and systems of care: results from the medical outcome study. JAMA 1992; 267:1624–30.
- Classen DC, Burke JP, Wenzel RP. Infectious diseases consultation: impact on outcomes for hospitalized patients and results of preliminary study. Clin Infect Dis 1997; 24:468–70.
- Fowler VG, Sanders LL, Sexton DJ, et al. Outcome of *Staphylococcus aureus* bacteremia according to compliance with recommendations of infectious diseases specialists: experience with 244 patients. Clin Infect Dis 1998; 27: 478–86.
- 5. Kitahata MM, Koepsell TD, Deyo RA. Phy-

- sician's experience with the acquired immunodeficiency syndrome as a factor in patients' survival. N Engl J Med **1996**; 334:701–6.
- Lobati F, Herndon B, Bamberger D. Osteomyelitis: etiology, diagnosis, treatment and outcome in a public versus private institution. Infection 2001; 29:93–6.
- Byl B, Clevenbergh P, Jacobs F, et al. Impact of infectious diseases specialists and microbiological data on the appropriateness of antimicrobial therapy for bacteremia. Clin Infect Dis 1999; 29:60–6.
- Fluckiger U, Zimmerli W, Sax H, et al. Clinical impact of an infectious disease service on the management of blood stream infection. Eur J Clin Microbiol Infect Dis 2000; 19:493–500.
- Nathwani D, Davey P, France AJ, et al. Impact of an infection consultation service for bacteraemia on clinical management and use of resources. QJM 1996; 89:789–97.
- 10. Lo E, Rezai K, Evans AT, et al. Why don't they

- listen? Adherence to recommendations of infectious disease consultations. Clin Infect Dis **2004**; 38:1212–8 (in this issue).
- Sexton DJ. Rates of infectious disease consultations in hospitals of different sizes and types, 1986–1987. Rev Infect Dis 1991; 13:527.
- 12. Pien FD. Frequency of infectious disease consultations in the setting of a community group practice. Clin Infect Dis **1992**; 14:618.
- Wilkins EGL, Hickey MM, Khoo S, et al. Northwick Park infection consultation service. II. Contribution of the service to patient management: an analysis of results between September 1987 and July 1990. J Infect 1991; 23: 57–63
- Gomez J, Conde Cavero SJ, Hernandez Cardona JL, et al. The influence of the opinion of an infectious disease consultant on the appropriateness of antibiotic treatment in a general hospital. J Antimicrob Chemother 1996; 38:309–14.