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Perspective



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Investment analysts are a growing presence at the Annual Meeting of the American Society of Hematology (ASH), and financial professionals frequently contact ASH members for information and perspective on drugs, devices, and scientific developments. Recent incidents have raised concerns about consulting relation-

ships between physicians and the investment industry; the appropriate role of medical societies in influencing these relationships is unclear. In this essay, I summarize the current situation, discuss potential risks and benefits from interactions between physicians and investment analysts, and outline issues that all individuals involved in investment industry consulting should consider. I also propose changes in ASH policy that may help safeguard public trust as well as preserve the access of clinicians and scientists to clinically relevant data presented at the Annual Meeting. (Blood. 2008;112:29-33)

Introduction

Poster halls at major medical meetings can be as cavernous and soulless as de Gaulle airport, and are comparably depressing places to spend a long time alone. I vividly remember the first large scientific conference I ever attended—chiefly because, in my naiveté, I stood dutifully at attention by my poster board for the full 90 minutes allotted for its session, despite a conspicuous lack of traffic or interest. Among more than 10 000 meeting attendees, only a single person gave my work more than a fleeting glance: my old department chair, who feigned interest but was obviously just being polite. I offered to fetch him a drink just to keep him around for a moment, but he did not take the bait. When the distant overhead lights finally flickered, signaling the session's end and my release from lonely sentry duty, the poster I had been so proud of just 2 hours earlier went straight into the trash.

Given this inauspicious start to my scientific career, it should be easy for readers to imagine my delight when a poster I presented many years later—at the 2007 American Society of Hematology (ASH) Annual Meeting—was mobbed by visitors. Several people lingered for more than an hour, peppering me with questions. Unfortunately, none of this flattering attention led to the engaging exchange of clinical and scientific information that I had hoped for. Instead, I found myself surrounded by more than a dozen investment analysts, who were looking for my (gratis) perspective to help them pick which biotechnology and pharmaceutical stocks would move on Wall Street in the days to come.

The specific details of my poster are unimportant for this discussion, beyond the fact that it was the first presentation of results from a multicenter clinical trial in an area of hematology where 2 similar drugs compete for market share. I later learned that an influential investment advising service had recommended abstracts about the study drug and its competitor as key data to watch at the ASH Annual Meeting. Indeed, when public trading opened on the New York exchanges on Monday morning, the trial's sponsor was one of the market's most active shares—though the fact that a foreign company made a takeover bid likely trumped any specific data from the ASH conference.

Who are the investment analysts who interact with physicians?

In my case, I was able to identify the "poster paparazzi" as investment analysts (disturbingly, none of them volunteered this information) because of the types of questions they asked, as well as certain features of their appearance. Most of their questions were transparently market-related—not so much about the study itself as how I thought the results and other meeting presentations might affect doctors' use of the study drug and its competitor. The questioners' non-ASH member meeting registration badges mentioned no institution, and most read "New York, NY" or "Boston, MA"—major US financial centers. Several visitors had removed the name inserts from their badges once they passed the security checkpoint at the poster hall entrance, presumably to gather information incognito. I also noted a trend toward more expensive watches, better-tailored suits, and trendier hairstyles on these visitors than are found on the typical academic hematologist, but because so few members of the "control group" were able to break through the crowd of analysts to talk with me, statistical significance was not reached.

There are several different species of financial professionals who are likely to have contact with ASH members at the Annual Meeting and elsewhere.^{2,3} Some represent venture capital firms, hunting promising new drugs and devices to support, or tracking the development of technologies already backed. Other analysts work on behalf of banks or traditional brokerages, hoping to gain insight into the clinical potential and limitations of new therapies so investment portfolios can be adjusted accordingly. A few are independent brokers or money managers or freelance analysts. Individuals engaged in this type of work may move between several different roles over the course of a career.

One of the largest groups of analysts attending medical meetings are those who advise hedge funds—large, private, aggressively managed capital accumulations that generally favor risker or more complex investment strategies with potential for higher yield. Few accurate statistics exist on hedge funds, because

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they are not yet required to register with the Securities and Exchange Commission (SEC), but the size and influence of these investment vehicles is clearly growing. Hedge funds are believed to have more than \$2.6 trillion US under management,⁴ and collectively account for approximately 30% of fixed-income security transactions and a similar portion of equity trades.⁵ These funds frequently focus on a single market sector such as biotechnology, restricting participation to accredited investors such as institutions or wealthier individuals (some physicians might qualify—current requirements include a net worth exceeding \$1 million, or an individual income of more than \$200 000 per year for more than 2 years with comparable future prospects⁶).

Investment analysts who focus on healthcare and biologic sciences gather information to assist their decision-making in several ways. In addition to following pharmaceutical press releases, reading published papers, and attending medical conferences, most analysts interview panels of physicians on a fee-forservice basis, especially targeting doctors who may have internal knowledge of ongoing clinical trials.^{7,8} Medical conferences where new clinical trial data are presented are considered particularly important. At least one study has shown increased volatility in the financial markets' healthcare and biotechnology sectors during major medical meetings and during the fourth quarter of the fiscal year, when the volume of meeting-related press releases is heaviest. 9,10 In 2001, a website technical problem inadvertently gave some investors early access to ASH Annual Meeting abstracts; this goof was blamed by Wall Street analysts for heavier than expected trading of certain pharmaceutical stocks.¹⁰

Investment analysts who focus on drugs or medical devices currently have less visibility in Europe and Asia than in the United States. Presumably, this is because the number of state-controlled health care systems in those regions means that profit incentives are lower. Yet the presence of investment analysts at medical meetings overseas is growing, especially when drugs or devices discussed at foreign conferences may affect US markets.

Analysts come from many different backgrounds. Some have had exclusively economics or business training, and have learned medicine and biology "on the fly." Other analysts have graduate degrees in a variety of biologic, chemical, or pharmacologic disciplines. A growing number of analysts are medical doctors, drawn to this line of work for diverse personal and professional reasons, including both interest in financial markets and disillusionment or perceived lack of opportunity in clinical medicine. For instance, a recent restructuring of graduate medical education in the United Kingdom severely restricted the number of training positions for United Kingdom medical graduates, and several landmark court decisions then made these positions equally accessible to nongraduates. 11,12 Together, those administrative changes drove many junior doctors in Britain out of clinical medicine and into the financial sectors in London and elsewhere. 11,12

Like many ASH members, I struggle to keep pace with the competing demands of clinical work, teaching, research, and administrative microtasking. So I can see the appeal of a life that rewards staying abreast of the exciting developments in biology and medicine, but requires no night call, lecture preparation, grant toil, or battle with insurers. Yet physicians who have chosen careers in finance are shackled to their Blackberries or cell phones in the same manner that the rest of us are servants to hospital pagers, academic calendars, or National Institutes of Health (NIH) deadlines, with the added pressure that they must stay abreast of developments in the perpetually evolving capital markets. Analysts who manage to be as skilled at interpreting the signals from Buffett

and Bernanke as the jagged curves of Kaplan and Meier can be extremely successful financially. However, several physician friends who work in finance and investing have shared with me that they sometimes miss the less tangible, but deep, rewards that come from caring for needy fellow humans or generating new knowledge.

Benefits from the activity of investment analysts

What are the potential positive results from interactions between medical and financial professionals? Although most attention has focused on the personal monetary rewards for the individuals involved (see "Interactions with physicians"), certain types of analyst activity may also have societal benefits, because a proportion of capital investment in publicly traded corporations is invested in research and development. Furthermore, finance theory holds that widespread dissemination of accurate information contributes to an efficient market—a level playing field, where all buyers and sellers have access to similar data, so prices for traded assets accurately reflect investments' future prospects. 13 Efficient markets hold the promise of broad-based fairness and equitability. However, in the real world, clever investors have much to gain from inefficient markets, and difficult-to-obtain information can prove highly lucrative for small groups. Therefore, general societal benefits from analysts' interactions with physicians may be limited.

More likely to be societally advantageous are those connections that develop between investors and inventors of novel technologies requiring venture capital to move beyond the embryonic stage. Recognizing the distinct nature of such relationships, when my employer recently moved to prohibit staff physicians from speaking with investment analysts, an exception was retained for consulting with venture capital firms; several other academic institutions have similar policies. The late Wallace Henry Coulter, who received the first ASH Award for Lifetime Achievement in Hematology at the 2007 ASH Annual Meeting, provides a good example of how the process of technology development has changed since ASH was founded 50 years ago, illustrating how critical venture capital has become. In 1953, when Coulter and his brother Joseph first patented the "Coulter Counter Model A"-an automated hemocytometer designed in their basement workshop—the Coulters were assisted in their device's subsequent commercial development by a federal grant.¹⁴ But by the 1990s, when Wallace Coulter funded development of the B1 lymphocyte antibody that eventually became tositumomab, his company required an investment of millions from InterWest Partners in Menlo Park, California.¹⁴

Admittedly, the distinction between venture capital and other types of investing is to some extent artificial. Many publicly traded start-up biotechnology and pharmaceutical companies have relatively large research and development budgets, while investors who can provide venture capital also typically have broad investment portfolios that include holdings in diverse publicly traded corporations. But venture capital activity provides a clear illustration that investment activities are not just about personal profit, and indicates why investors should not be demonized. The free movement of capital is necessary to accomplish objectives, like advancing research developments, that all observers value.

Interactions with physicians

The number of physicians who interact with investment analysts is unknown, but is likely to be substantial. In 2005, one report estimated that more than 70 000 doctors had signed contracts making them available for consultation by the investment industry—approximately 10% of all licensed US physicians.^{7,8} A number of "matchmaking" companies exist for the sole reason of linking up physicians and other consultants who have particular expertise with analysts or corporations seeking such an expert. Some information brokers boast access to large numbers of physicians, with a few firms claiming links to tens of thousands of doctors. One large matchmaking company, Gerson Lehrman Group, divides their 49 000 healthcare industry experts into cohorts called "study groups." These groups carry both traditional specialty designations (eg, more than 1800 oncologists, 750 hematologists, and 650 "oncologists who treat hematologic malignancies") as well as classifications of particular use to clients (eg, 152 "hematologists who treat myelodysplastic syndromes" and 76 "Vidaza prescribers").15

Many ASH members have likely experienced a call from an investment analyst seeking insight into previously presented data, ongoing clinical trials, or general trends in their field. These consultations usually take the form of 30- to 60-minute interviews in exchange for several hundred dollars' compensation, with the specific rate varying based on the physician's requested fee and how eager the analysts are to speak with a particular individual.

Physicians who choose to participate in such interviews need to recognize that there is an art to speaking with analysts—a delicate balance between giving useful information and fair perspective, while making sure that the beans are not spilled about insider information (ie, nonpublic material about a publicly traded corporation), especially information protected by a signed confidentiality agreement with a study sponsor. Even in the absence of insider data, however, skilled analysts can piece together tidbits of information gleaned from a wide range of physician interviews, generating an uncannily accurate picture of how a clinical trial is going in order to guide investment decisions.^{7,16}

Benefits and risks for physicians consulting for the investment industry

Speaking directly with analysts may have several benefits to physicians, other than the obvious financial rewards. For example, some analysts will share with interviewees what they have learned from other interview sessions, which may be informative. Analysts may conduct interviews with more than one physician at a time; on multiparty conference calls, it can be interesting and enlightening to hear the frank views of a respected colleague. In addition, some physicians enjoy being categorized as an "opinion leader" in a given area and being paid to give their unvarnished perspective.

Despite these rewards, some observers feel it is a questionable practice for doctors to be speaking with investment analysts or fund managers. The issue can be as much about perception as genuine conflict of interest. In 2005, prominent cardiologist and Merck critic Eric Topol stepped down from a hedge fund advisory board after questions arose regarding that fund's short-selling of Merck stock just before the withdrawal of rofecoxib (Vioxx; Merck, Whitehouse Station, NJ) from the market. Even though there was no evidence of wrongdoing, Topol expressed concern about how

events could be construed by the public. Topol and a colleague went on to write a detailed critique of physicians' interaction with the investment industry, which was published in *JAMA* later that year.⁸ Shortly thereafter, a number of newspapers explored the implications of analyst-physician interactions^{7,16} and scrutiny of such relationships transiently increased,⁹ but relatively little has been written about these issues since 2005.

Physicians who elect to speak with investment analysts must be extremely cautious, especially when discussing specific drugs or devices in ongoing clinical trials where the physician is involved as an investigator or safety monitoring board member, and particularly when a confidentiality agreement is in place. In recent years, several physicians have run afoul of the SEC for divulging secrets to financial analysts. Not only was this embarrassing for the doctors involved, it is ethically problematic. Furthermore, because the line between public and confidential information is often blurry, it is easy for well-meaning physicians (especially those with limited obfuscation skills) to reveal insider information inadvertently.¹⁷ The possibility of an inadvertent breach of confidence is one of several factors that led me to discontinue one-on-one investment industry consulting personally, after a brief exploratory foray into this world.

Financial experts who speak with physicians come to the table with various degrees of sophistication, requiring physicians who choose to speak with them to have a good ear in order to adjust the level of discussion accordingly. Many interviewers who speak with physicians as part of investment industry consulting agreements are not actually analysts at all, but are clerks following a prescribed script that may be repetitive or inflexible. Some analysts have only a basic level of understanding of the field discussed, while others are remarkably well versed and can appreciate even the most complex topics. Although the adjustments physician interviewees must make are similar to those required when talking to patients or media representatives, the speculative nature of analyst discussions is distinct, offering unique challenges and potential for misunderstanding.

Given the enormous holdings of hedge funds and other investment vehicles, there is much at stake in the decisions investors make—decisions that are based in part on information shared by physicians. Biotechnology is considered a particularly promising yet volatile financial sector, offering attractions to a variety of speculators. The Academy Award—winning 1993 motion picture *The Fugitive* provides an interesting case study. In this film, the main character (a vascular surgeon, played by Harrison Ford) was framed for murder by an unscrupulous colleague, because Ford's character was about to report severe hepatotoxicity from a blockbuster drug in which the colleague had a major financial stake. The film portrayed fictional events, but the scenario is not so far removed from reality as to be unimaginable, and illustrates the tremendous weight that a single tidbit of information can carry.

Although physicians are typically reimbursed for their time and expertise when speaking with analysts—sometimes at a temptingly higher rate than for their usual clinical activities—doctors need to realize that the potential reward to financial professionals from the physician's knowledge may be much greater than the honorarium offered. Reflection on this imbalance may cause physicians discomfort; the potential for exploitation of a naive or unusually desperate physician is one of the factors that led my institution to draft a faculty policy on investment industry consulting.

Conflict-of-interest considerations

Is there a conflict of interest when physicians speak to investment analysts, even when the doctor abides by existing confidentiality agreements? This is an area of controversy. 8,18,19 Outside of venture capital relationships, few doctors have specific investment holdings, patents, or intellectual property rights that could be influenced by the actions of the analysts they advise, so direct conflicts would appear to be rare. However, just because conflicts of interest in this limited sense are uncommon does not mean that investment consulting is free of ethical concerns. In addition to the possibility of a deliberate or accidental confidentiality breach, consulting with investment analysts consumes time that could be spent in other activities that might benefit patients or trainees. It is also disturbing to contemplate that investment analysts often have more information about ongoing clinical trials than the enrolled patients who are assuming the real risks of those studies.

From a practical standpoint, although several medical societies' and journals' disclosure policies have been tightened in recent years, discussions with investment analysts are rarely included in the conflict declaration roster.²⁰ One exception is the American Society of Clinical Oncology (ASCO), which published an ethics position paper on physicians' interactions with the investment industry in 2007.¹⁷ This document stated that "physicians should not give investment interests higher priority for disclosure of trial information than the [trial] participants themselves. Accordingly, physician researchers should remain dedicated to disseminating trial data and related information through the accepted pathways for sharing such matters." ¹⁷p³³⁹ ASCO further stated that, while "[a]ny physician may discuss his or her expert opinion about a particular drug or therapy with an investment firm or interpret public trial data without issue ... ASCO strongly cautions its members against these relationships."17p339 ASCO now requires disclosure of such relationships by all ASCO activity participants and Journal of Clinical Oncology authors.

Issues with investment analysts' presence at the ASH Annual Meeting

The number of investment industry personnel who attend the ASH Annual Meeting each year is unknown. Several knowledgeable sources estimated for me that at a conference the size of the annual ASH meeting, where new clinically important data routinely debut, more than 300 financial professionals will be present. Analysts' visibility to other meeting participants varies depending on the potential fiscal impact of particular sessions attended. Analysts generally shy away from sessions where little possible profit is perceived from new developments, such as discussions of the inherited disorders of red cells, since the majority of patients suffering from these conditions live in the developing world. In contrast, sessions where initial clinical trial results are presented about potentially lucrative antineoplastic drugs are often packed with analysts. Recent examples include the first results from JAK2 inhibitor trials at the 2007 ASH Annual Meeting (more than 10 colleagues discussing this session with me independently remarked on the exceptional number of analysts present), or the early reports of imatinib's efficacy at the 1998 meeting.

Because investment analysts pay admission to the ASH Annual Meeting (indeed, some have become ASH members in order to gain legitimate early access to the Annual Meeting abstract book) and no specific Society rules restrict their presence, they have a right to attend any open session, including poster presentations. But should ASH Annual Meeting attendees who work as investment analysts be more identifiable to other meeting participants? Perhaps registrants who derive a certain portion of their income—say, 50% or more—from financial analysis and advising activities could be asked to wear a separate type of badge regardless of their ASH membership status, like the distinctly colored badges currently given to corporate exhibitors and the media. This would allow physicians and scientists to identify financial analysts more reliably and speak with appropriate care in their presence.

However, several practical limitations must be considered. If these badges become stigmatizing, registrants may enter meeting halls and then alter their badges like my poster paparazzi did, thereby skirting the rules. Furthermore, current categorization of ASH Annual Meeting attendees is only partially effective. The registration form for the 2007 Annual Meeting allowed registrants to select an institutional affiliation, including "Corporate (Biotech or Pharmaceutical)." Yet many physicians who work for biotechnology or pharmaceutical companies register for medical meetings from their home addresses with no mention of their employer, to avoid having to wear an "Exhibitor" or other distinctive badge. These physicians feel that some doctors will speak more freely with a meeting attendee perceived to be a colleague rather than a representative of a for-profit company.

When analysts crowd a poster or occupy a large block of chairs in a jam-packed hall during an exciting oral session, they may limit access of clinicians and scientists to information that might more directly benefit patients. This is of particular concern with respect to poster sessions, as the risk of a presenter being shanghaied by an eager analyst is highest in that format. (The prospect of asking a question in a crowded oral session remains daunting to all but the cheekiest investment professional.) Although fewer trial results of interest to analysts are presented in poster sessions than oral sessions, this does occur: abstract ranking is an imperfect science, and potential financial impact is not among the criteria that reviewers use to score abstracts. Financial impact clearly correlates with novelty, however, which is an important factor in abstract scoring.

Proposals and prospects for the future

Unless the economic structure of healthcare in the United States changes dramatically, investment analysts and other finance industry representatives will continue to be a feature of medical conferences such as the ASH Annual Meeting. Rather than trying to limit analysts' presence at these meetings, which is logistically problematic and probably counterproductive, ASH leadership and ASH members need to work together to ensure that public trust is maintained and that access of physicians and scientists to new data is preserved.

I suggest that individual ASH members should be especially vigilant about controlling insider information, ensuring that all observers have access to data at the same time and no one derives an unfair advantage. Clearly, principal investigators and data/safety monitoring board members should not participate in investment consulting related to the studies in which they are involved because of the risk of a breach of confidentiality. It is

also reasonable for a separate ASH Annual Meeting registration category to be available for those who work in finance and investing fields. Many registrants will make a truthful declaration, and this would help ASH keep more accurate statistics and would alert investigators to be cautious about what they say to an analyst.

In especially crowded sessions that strain meeting hall capacity, such as the 1998 Miami Beach imatinib presentations where so many attendees were standing in the aisles that a fire marshal visit was repeatedly threatened, analysts could be asked to move to rooms with video linkups. This would preserve analysts' access to real-time information and the value of their meeting registration fee, while allowing physicians the opportunity to ask the presenter a question—something that is not possible when, as currently happens, clinicians and researchers are turned away at the door because all meeting room chairs are full.

Finally, an ASH policy similar to the one ASCO recently drafted should be seriously considered. ASH needs to take a stand, not only to protect the society's own image but also to guide members considering participation in investment consulting, which can have the appearance of unseemliness even when not frankly unethical.

I hope that if I am in a position to present clinical trial results at a future ASH Annual Meeting, I will be able to talk primarily with fellow clinicians and researchers looking to apply the new information to patients, rather than those whose primary motivation for acquiring knowledge is personal profit.

Authorship

Contribution: D.P.S. wrote the paper and is ultimately responsible for its contents.

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