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Fourth Meeting of the Clinical Center Research Hospital Board

April 28, 2017

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Executive Summary

The fourth meeting of the Clinical Center Research Hospital Board (CCRHB) of the National Institutes of Health (NIH) took place on April 28, 2017, on the main campus of NIH. The meeting was open to the public and was webcast live. The CCRHB members had an opportunity to tour the Clinical Center before the meeting was called to order.

Laura Forese, M.D., Executive Vice President and Chief Operating Officer, NewYork-Presbyterian, and Chair, CCRHB, called the meeting to order at 10:09 a.m. and welcomed all those in attendance. She mentioned that Stewart Simonson, J.D., has joined the CCRHB, although he was unable to attend this meeting.

Francis S. Collins, M.D., Ph.D., NIH Director, observed that major progress has been made toward implementing the recommendations of the Red Team, thanks to the involvement of staff all across the Clinical Center. Having access to the CCRHB members' diverse and extensive experience has been essential. James Gilman, M.D., the new Clinical Center chief executive officer (CEO), already has overseen a remarkable set of advances.

James Gilman, M.D., highlighted some accomplishments of his first 110 days as CEO of the NIH Clinical Center. The Clinical Center's mission statement and guiding principles are being rewritten. Dr. Gilman spoke about the status of the hiring freeze and its effects on staffing in the

Clinical Center and explained actions for improving patient safety and clinical quality while enhancing clinical research in the Clinical Center. Among these is the formation of a Patient Safety, Clinical Practice, and Quality Committee (PSCPQC) and a proposal for reorganizing clinical research support. He described plans for the Center for Cellular Engineering and for the adoption of a more business-like approach to budgeting for the Clinical Center.

Stephen I. Katz, M.D., Ph.D., Director, National Institute of Arthritis and Musculoskeletal and Skin Diseases, and Chair, Clinical Center Governing Board (CCGB), explained the history, organization, and role of the CCGB. He discussed the budget process for the Clinical Center.

The morning ended with a closed session.

The afternoon session began with three NIH leaders presenting results of a root cause analysis (RCA) of a reporting deficiency that occurred in the context of an intramural National Cancer Institute (NCI) trial. Michael Gottesman, M.D., Deputy Director for Intramural Research, Office of Intramural Research; Andrew Griffith, M.D., Ph.D., Deputy Director for Intramural Clinical Research, Office of Intramural Research, and Scientific Director, National Institute on Deafness and Other Communication Disorders; and Valerie Bonham, J.D., Deputy Director, Office of Research Support and Compliance, explained how the RCA was conducted, the systems failures that contributed to the delayed reporting of serious adverse events, and actions being taken to remedy those failures.

Realignment of support for NIH clinical trials was the topic of a presentation by Dr. Gilman. The goal is to make it easier to do the right thing by reducing gaps in clinical research support between large and small Institutes and Centers and by simultaneously improving patient safety and enhancing clinical quality. The proposed reorganization would largely rely on a primary nursing model for providing patient care while managing some protocol duties; more centralized support for research will be provided by a central office.

Alfred Johnson, Ph.D., Acting Deputy Director for Management, NIH, spoke about the systems and response teams for monitoring violence and threats of violence on the NIH campus and in the Clinical Center complex in particular. He presented data on incidents occurring in 2016 and 2017. The most prevalent crime is larceny.

Dr. Forese and Dr. Collins thanked the board members for their insights. Dr. Forese adjourned the meeting at 2:46 p.m.

The next face-to-face CCRHB meeting is scheduled for July 14, 2017.

Meeting Summary
Friday, April 28, 2017

Clinical Center Tour

The National Institutes of Health (NIH) Clinical Center Research Hospital Board (CCHRB) members had an opportunity to visit the Clinical Center prior to the meeting.

Welcome and Board Chair's Overview

Laura Forese, M.D., Executive Vice President and Chief Operating Officer, NewYork-Presbyterian, and Chair, CCRHB

The fourth meeting of the CCRHB took place on April 28, 2017, on the NIH main campus. The meeting was open to the public and was webcast live. Dr. Forese called the meeting to order at 10:09 a.m.

Dr. Forese mentioned that Stewart Simonson, J.D., has joined the CCRHB, although he could not be present for this meeting.

She noted that the day's meeting agenda included presentations on several challenges and highlights of the tremendous progress observed over the past year, enhancing what has always been a strong base for excellent clinical research at NIH.

NIH Director's Remarks

Francis S. Collins, M.D., Ph.D., Director, NIH

Dr. Collins said that he tendered his letter of resignation in January, but it has not been accepted, so he has the privilege of continuing as NIH Director for now.

Dr. Collins acknowledged the guidance and hard work of Lawrence A. Tabak, D.D.S., Ph.D., Principal Deputy Director, NIH, and Executive Director, CCRHB, over the past year since the release of the Red Team's report. Breathtaking progress has been made with the involvement of staff all across the Clinical Center. Having access to the CCRHB members' diverse and extensive experience has been essential. James Gilman, M.D., the new Clinical Center chief executive officer (CEO), has just completed his 110th day as CEO, having already overseen a remarkable set of advances.

Thanks to all these efforts, the Clinical Center is solidifying its reputation as a beacon of excellent clinical research and a place where patient safety and quality are paramount.

Dr. Collins announced that Discovery Channel has created a six-hour documentary series called *First in Human*. It will start running on August 27. It is a high-quality production that weaves together multiple stories of patients who came to the Clinical Center for investigational treatments, having run out of treatment options. Emmy winner John Hoffman (*The Alzheimer's Project*) directed the "docuseries," which was narrated by Jim Parsons, star of television's *The Big Bang Theory*. A shortened format will be premiered during the week of May 1. The CCRHB viewed a clip from the series.

NIH Clinical Center CEO: First 100 Days

James Gilman, M.D., CEO, Clinical Center

Dr. Gilman thanked the CCRHB for the time they put into planning the future of the Clinical Center. He showcased several areas of progress.

Mission Statement and Guiding Principles

An important due-out item is the rewriting of the Clinical Center's mission statement and guiding principles. Dr. Gilman presented the draft version, which is subject to further revision: "We do clinical research." The first guiding principle is: "Patient safety and high reliability in health care are critical enablers of our mission." The idea is to have a very short mission statement, no longer than four or five words. Dr. Gilman will distribute the mission statement to the CCRHB when it is approved.

Staffing at NIH

Dr. Gilman spoke about the hiring freeze. Some job series (e.g., nurses at the GS-7 level, physicians) were exempted from the hiring freeze. Dr. Tabak has been in discussions with personnel at the Department of Health and Human Services (HHS) for some months, and NIH leaders have been speaking with clerks with the Senate Committee on Appropriations. As a result, NIH is now able to hire nurses at all GS levels as needed to care for patients and carry out research.

Other positions, mostly administrative, cannot be filled—the chief operating officer (COO) position, for example. The required skill set calls for a person with an administrative background and some experience with clinical research operations. Dr. Gilman remains hopeful about hiring such a person. The chief nursing officer (CNO) position is being advertised.

Another hiring announcement is being issued for a new chief of radiology and imaging services, the first clinical/scientific position that could "bend the curve" at the Clinical Center. The CCRHB's assistance will likely be needed when the announcement about the required skills and experience for this position goes out.

Priority Area 1: Practice Patient Safety and Clinical Quality

Dr. Gilman explained that the Red Team had recommended setting up a clinical practice committee. Instead, NIH leaders proposed the formation of a Patient Safety, Clinical Practice, and Quality Committee (PSCPQC). The name makes it clear that safety and quality are top priorities at NIH. The Medical Executive Committee (MEC) is connected to the PSCPQC, but there is a direct line from the PSCPQC to the CEO, ensuring that unfiltered information about safety and clinical quality goes directly to the CEO.

Having only five or six people responsible for patient safety and clinical quality is not sufficient, in Dr. Gilman's view. This new structure respects the staff who had carried the effort before this reorganization. The MEC has approved the organizational structure. Janice Lee, D.D.S., M.D., M.S., the Clinical Director of the National Institute of Dental and Craniofacial Research leads the PSCPQC.

Dr. Gilman highlighted several accomplishments in the area of patient safety and clinical quality:

- Patient Safety Week was recognized in mid-March.

- The Clinical Center quarterly medical morbidity and mortality conference was attended by an overflow crowd in the Lipsett Auditorium on March 16. A "kinder, gentler" format was applied in order to focus on the four systems issues implicated in the event. This was not a typical "shaming, naming, blaming" morbidity and mortality session. Putting this event together required about 250 hours of preparation. Going forward, the goal is to make these conferences a more manageable effort so that they can be presented more frequently.
- Peter Pronovost, M.D., Ph.D., presented on Working Toward High Reliability and Dr. Gilman gave a presentation on macro medical errors and the just culture at the Clinical Center Grand Rounds on March 22. Masur Auditorium was filled to capacity.
- The 30-year-old Occurrence Reporting System has been retired in favor of the new Patient Safety Tracking and Reporting System (STARS). STARS offers enhanced data management capacity, an improved user interface, and robust data analytics. The system collects data on errors, near misses, and service excellence.
- However, the most significant development is the initiation by John Gallin, M.D., of the daily patient safety huddle. The daily huddles were established to bring together hospital leaders and staff representing direct care providers to provide awareness and understanding about potential or existing safety, quality, and service issues. The huddle follows patient safety rounds each week in one patient care area. The group reports on concerns from the previous 24 hours and discusses any potential safety or quality issues expected in the next 24 hours.

Follow-Up Item:
- The CCRHB requested a presentation on STARS at its next meeting.

Priority Area 2: Improve Support for Clinical Research in the Clinical Center
This topic was covered in detail during a subsequent presentation.

Priority Area 3: Understand Our Business
Billing is a forcing function for cost consciousness, but the Clinical Center does not have a billing function. Nevertheless, members need to have some business sense and be good stewards of their resources.

Dr. Gilman reported that he received several one-off requests asking for support for unanticipated and therefore unfinanced requirements. During the budget build for fiscal year (FY) 2018, occasional requests for large increases were submitted with little supporting justification. Clearly, the Clinical Center needs more business tools and processes.
Dr. Gilman said that the mid-year sweep is providing an opportunity to begin the process of understanding our business. A system is being set up to examine unfinanced requests, and quarterly business meetings will be convened. The first one will be in July to evaluate workload metrics and budget execution data in an open forum. NIH has some accomplished fiscal planners and managers who can provide expert advice.

Dr. Gilman presented statistics on the Clinical Center's average daily census. The figures for 2017 were somewhat below 2016 levels and the three-year average for 2013–2015. A working group led by Stephen I. Katz, M.D., Ph.D., Director, National Institute of Arthritis and

Musculoskeletal and Skin Diseases, and Chair, Clinical Center Governing Board (CCGB), is focusing on the low census problem. One short-term recommendation was to increase the availability of the operating room; efforts are underway to hire additional staff.

Priority Area 4: Develop a Concept for the Center for Cellular Engineering
The working group led by Dr. Katz also issued a mid-term recommendation to increase capacity to produced engineered cellular products in order to meet the increasing demand for such products.

Protocols will be prioritized through processes overseen by Dr. Gallin. The Department of Transfusion Medicine will oversee operations of the Center for Cellular Engineering. Aseptic, state-of-the-art cell-processing modules (i.e., "trailers") are mini-versions of a large, sterile-product manufacturing facility. Trailer 1, the viral vector unit, is located near the ambulance entrance on the west side of the hospital. It will be devoted to the immunotherapy program at the National Cancer Institute (NCI). Three other trailers are on order.

Other Areas of Focus
Dr. Gilman met personally with every Institute and Center (IC) Director that subscribes to the Clinical Center. He also made two trips to Capitol Hill: one for a social event and another to speak about the Clinical Center. Dr. Gilman met in a group with the Secretary of Health and Human Services, and he met via teleconference with staffers for the Senate Committee on Health, Education, Labor, and Pensions. He also met with the clerk of the Senate Committee on Appropriations and the staff director of the Subcommittee on Labor, Health and Human Services, Education, and Related Agencies.

The findings from the Clinical Center focus groups were presented during the April town hall meeting. These popular meetings will continue on a quarterly basis.

What's Next?
Dr. Gilman said that work is continuing on the FY 2018 budget and on developing the plan for the Center for Cellular Engineering. A decision about the Clinical Center Office of Research Support and Compliance is pending.
IC Directors have come up with several intriguing ideas for the three- to five-year plan:

- National Institute on Drug Abuse (NIDA): Phase 1 trials of medications to combat opiate addiction
- National Institute on Aging: dementia
- National Human Genome Research Institute: whole genome sequencing for all Clinical Center patients

Discussion
Dr. Pronovost said that the Center for Cellular Engineering sounds like it is an important thing for the NIH Clinical Center, but the facilities visited during the tour appeared quite old. Dr. Gilman said that the 2J facility will be used for the foreseeable future, but that the 12E facility is undergoing a complete renovation that will come online in two or three years. In the interim, the modular facilities will be used. The interim Intravenous Admixture Unit (IVAU) complies with

Good Manufacturing Practices (GMP). NIH leaders are taking a close look at the 3T facility, which does some cell processing. Dr. Gilman also noted that some cell products are minimally manipulated, whereas others must undergo significant manipulations. Minimal processing is done in 3T. More sophisticated cell processing might not be right for 3T.

Paul O'Neill, M.P.A., expressed surprise that the NIH Clinical Center was not exempted from the hiring freeze, because of the potential risk of harm to research participants. Dr. Tabak said that the freeze applied across the entire government; exemptions were limited to positions that involve hands-on patient contact. Discussions with HHS are under way. Dr. Collins said that the government transition takes some time, and decisions about human resources have been slow. NIH and HHS are engaged in a frequent and ongoing dialogue about this issue.

Beatrice Bowie spoke of the hiring freeze and asked whether nurses hired at the GS-7 level would have the opportunity for step and grade increases in the future. Dr. Gilman said that it would be impossible to hire nurses with the requisite experience at the GS-7 level. Highly specialized skills are needed to care for stem cell transplant patients, for example. The critical shortages in the Clinical Center are in pediatrics and chemotherapy. These practice areas are the lifeblood of the Clinical Center.

Reed Tuckson, M.D., thought that perhaps not everyone has bought into the "kinder, gentler" approach for the morbidity and mortality conference. He asked if there are concerns about getting staff buy-in and why attendance is voluntary. Dr. Gilman responded that change is hard and cultural change is the hardest. It will take time to get everyone on board, but he thought that no additional control mechanisms were warranted.

Carolyn Clancy, M.D., said that morbidity and mortality conferences are very important. Some entities award continuing education credits to encourage attendance. She also asked about the role of philanthropy in supporting the Clinical Center. Could the Foundation for the National Institutes of Health (FNIH) support some functions? Another CCRHB member suggested having a "donate" button on the NIH website. Dr. Collins said that there are some examples of people donating to particular research groups at NIH. The idea of putting flyers at the nursing stations to encourage donations was discussed, but staff were uneasy about that notion, because research participants are already donating their time to NIH. There is no systematic way of collecting donations. Dr. Tabak said that NIH has the authority to accept gifts from the public and foundations, but solicitation of donations is not allowed. Gifts must be spontaneous.

Dr. Clancy asked whether FNIH could collect donations to put toward a new building for the Center for Cellular Engineering, for example. Alfred C. Johnson, Ph.D., said that FNIH is independent of NIH in terms of its priorities and, therefore, might not be focusing on the same areas of concern. Dr. Katz spoke of a facility that was a gift from Baxter (a pharmaceutical company). Dr. Collins provided some background on how that situation arose.

Mr. O'Neill underscored the need for the Clinical Center to have an independent funding base to ensure operations. Running such an important institution with financial uncertainty is incredibly challenging. Dr. Tabak said that NIH leadership has articulated many times the high priority of the Clinical Center. Dr. Collins said that many members of Congress visit the Clinical Center,

which has long had bipartisan support. Congress continues to speak encouragingly about biomedical research, NIH, and the Clinical Center.

Brig Gen James Burks, M.B.A., M.M.A.O.S., praised the idea of having a simple mission statement that would resonate with everyone. He asked whether the CCRHB has a role in advocating for or communicating on behalf of the Clinical Center about what the Board sees as the requirements for a world-class facility. Dr. Tabak pointed out that, unlike many hospital boards, the CCRHB is a board to a federal agency, so it does not have any fiduciary responsibility and would not have a proactive role in advocating for the Clinical Center. If the Board decided that patient safety and clinical quality were suboptimal due to funding vagaries, then there might be an opportunity to raise these issues. Dr. Forese said that the CCRHB stands ready to support the work of NIH and its leadership. If an expression from the Board would be helpful, one could be made. But it is important that the CCRHB take its cues from NIH leaders.

Follow-Up Item:

- The CCRHB requested that Dr. Gilman provide updates at future meetings.

An Update from the Clinical Center Governing Board

Stephen I. Katz, M.D., Ph.D., Director, National Institute of Arthritis and Musculoskeletal and Skin Diseases, and Chair, CCGB

Dr. Katz delivered his presentation via the teleconference system. He first provided some background on the CCGB, which was established in FY 2011, based on the recommendation of the Scientific Management Review Board (SMRB) that, because the Clinical Center is "a valued national resource, it is critical that it be supported by a stable funding source and have the benefit of an efficient, effective governance structure."

Based on this SMRB recommendation, CCGB was established to provide policy direction and oversight of the Clinical Center to maximize the quality of research conducted, given available resources. The CCGB provides recommendations on the Clinical Center's annual budget request after considering the overall NIH budgetary environment. The membership currently includes nine IC Directors, two ex officio members (Dr. Gilman and Michael Gottesman, M.D., Deputy Director for Intramural Research), and two staff members.

Dr. Katz then described the Clinical Center budget process. The Clinical Center formulates a budget based on the precedent budget and the anticipated President's budget. Budget levels for other central services also influence the Clinical Center budget.

The pharmaceutical index based on cost and usage is used to predict costs of drugs. Dr. Forese asked about the drug pricing available to the Clinical Center. Dr. Katz said that pharmaceuticals became so expensive that the Clinical Center could not bear the cost. Starting seven or eight years ago, FNIH offered to serve as an intermediary to ask pharmaceutical companies to donate some expensive drugs. Also, a few years ago, NIH transferred the drug costs for particular studies to the IC doing the research, but some large ICs said they were prevented from doing studies because of drug costs. The idea now is to split drug costs on a 75/25 basis, thereby supporting the pharmacy to the point that cost will not hinder the procurement of these drugs.

Experimental therapies are always free, but approved drugs require a financial outlay. Dr. Gilman said that the NIH pharmacy has little, if any, leverage with pharmaceutical companies, whereas investigators may have some leverage with the companies if the research might lead to new indications. Dr. Gallin said that the pharmacy obtains drugs through a Department of Defense contract, which is a very good deal.

The Clinical Center CEO presents the budget request to the CCGB. After a great deal of back-and-forth, a budget recommendation is presented to the Steering Committee and the IC Directors which takes into account the NIH budget and the budget of the Intramural Research Program.

According to Dr. Katz, FY 2017 was an unusual year because of the response to Red Team report. The cost of implementing the recommendations came to $11.7 million. An additional $2.5 million was earmarked for the Bench-to-Bedside Program, which for 15 years has been run by Dr. Gallin, who requested sums from the ICs. Dr. Collins and others thought that the program should be a budget item that could be counted on from year to year. Overall, the recommended 2017 Clinical Center budget was 10.1% above that for FY 2016.

In response to a question from Mr. O'Neill, Dr. Katz said that the FY 2018 Clinical Center budget has not yet been formulated. The outlook for the FY 2018 budget remains uncertain. Central Services is preparing budget models that assume significant budget cuts next year. The CCGB is also working with Dr. Gilman on the Clinical Center organization and on the Center for Cellular Engineering. The CCGB is also considering the role and support of assistant clinical investigators who are future tenure-track clinical investigators. NIH needs to encourage and foster their success.

Discussion

Dr. Pronovost observed that assets were reallocated to address the Red Team report and implement its recommendations. He asked how NIH will publicly address the first anniversary of the Red Team report. Dr. Gilman spoke of ongoing efforts to address concerns raised by NIH focus groups and implement the Red Team's recommendations. However, he noted there are no plans to acknowledge the anniversary of the report. NIH leaders await the focus group report being prepared by Stewart Simonson, J.D., in order to address any issues raised in it.
Richard Shannon, M.D., said that the actions taken by the CCGB, in parallel with the structures and systems being developed by Dr. Gilman, are part of an emerging narrative of deliberate restructuring accompanied by repurposing of resources. Ultimately, it will be the results that matter.

Dr. Forese served on the Red Team. She commented that the Red Team report was the impetus behind the movement to change things for the better at the Clinical Center. Given all that has been done, it is remarkable that the Clinical Center is now leading efforts that could be replicated at other institutions. However, she noted that there are some ongoing issues that the CCRHB will want to continue to follow and track progress. Dr. Gilman underscored the importance of putting in place the PSCPQC, which will raise resource priorities. This melding of thinking about priorities of patient safety and clinical quality will persist and evolve.
Dr. Forese closed the open session at 11:48 a.m.

Closed Session

As described in 82 FR 18660, a portion of the meeting will be closed to the public in accordance with section 10(d) of the Federal Advisory Committee Act (FACA), as amended (5 U.S.C. App) and provisions set forth in section 552b(c)(6) and 55b(c)(9)(B), 5 U.S.C.

Adjournment of Closed Session

Dr. Forese adjourned the closed session at 12:25 p.m.

Delayed Reporting: A Root Cause Analysis

Michael Gottesman, M.D., Deputy Director for Intramural Research (DDIR), Office of Intramural Research

Valerie Bonham, J.D., Deputy Director, Office of Research Support and Compliance

Andrew Griffith, M.D., Ph.D., Deputy Director for Intramural Clinical Research, Office of Intramural Research, and Scientific Director, National Institute on Deafness and Other Communication Disorders

Dr. Gottesman presented a report prepared in response to a request from the CCRHB. The sentinel event that led to this report was delayed reporting of serious adverse events (SAEs) to the institutional review board (IRB) and the sponsor by an investigator with NCI. An internal review of all intramural protocols revealed that delayed reporting was more common than expected.

This is a problem with the systems in place for supporting and reporting SAEs. Every clinical investigator indicated that they lacked information technology (IT) and human support to do the best clinical research. Dr. Gottesman, in his role as DDIR, is working with Dr. Gilman on new systems. A proposal is being developed for improving the efficiency of the IRB process through centralization and networking. Currently, 12 IRBs oversee human subjects research at the Clinical Center. Investigators have been using several different IT systems, but they will all be moving to one central system (iRIS).

Ms. Bonham updated the CCRHB on the root cause analysis (RCA) for the late reporting of SAEs. RCA is an effort to understand from a systemic perspective the what, how, and why behind errors in order to prevent their recurrence.

Eight teams participated in RCA meetings. The participants were principal investigators (PIs), research nurses, study coordinators, protocol navigators, fellows, nurse practitioners, quality assurance/improvement specialists, and staff with expertise in regulatory affairs.

Ms. Bonham explained that several different domains were explored with the participants. Sessions were conducted in a confidential space. RCA does not investigate individuals or individual mistakes. It is a search to identify systemic factors that contributed to the error. Among the **human factors** identified were the very high acuity of many Clinical Center patients, complex disease processes, complex protocol designs, limited staff resources, consolidation of

patient care units, and the tension between patient care responsibilities and research requirements. Reporting responsibilities vary and are not always clear. "Email fatigue" due to the large volume of emails to PIs and team members was also a contributing factor.

In the **policies and procedures domain,** participants articulated an unclear/inconsistent understanding of what events they are supposed to report. Reporting requirements are complex. There is also confusion about when "the clock starts ticking" (time of occurrence versus investigator awareness of the event). The rules and processes for determining the seriousness of an event seem ambiguous. Reporting requirements also vary among sponsors.

In the **communication and information domain,** participants reported that IRB reporting tools are not user friendly. In addition, some research teams do not have redundant communication processes (feedback loops) in place, and many teams do not have regularly scheduled forums to review events and the status of reporting.

Regarding **human resources and training,** it appears that study management staffing is under-resourced. No clear processes are in place for allocating research resources. Additional concerns were voiced about event reporting being the responsibility of the staff who are also involved in patient care and protocol implementation. Participants suggested that training be more interactive and include more case studies. Training for study nurses and coordinators is inconsistent with regard to reporting requirements.

Comments pertaining to the **leadership and culture domain** indicated that some ICs wait to report events until all details of the event are available. The participants reported that their relationships with their IRBs vary, and the "customer service" component of some IRBs is lacking. Clinical research requirements are taken seriously. However, patient care requirements are equally important. Tradeoffs sometimes occur. Additionally, when a PI leaves, the PI who takes over may be overwhelmed by the additional caseload.

Ms. Bonham reported that reporting lapses are not the fault of an individual or team. Rather, lapses occur because of suboptimally designed processes and policies, local and organizational management decisions, and complex regulatory requirements.

Dr. Griffith said that the RCA exercise was very valuable for the institution. The following steps are being taken to monitor and ensure timely reporting of problems in NIH intramural protocols:

1. Conduct routine rounds to recognize and discuss reportable events. This will be done at least weekly.
2. Establish standard operating procedures to monitor and ensure timely reporting. Every IC now has a standard operating procedure in place. These are flexible and risk-based.
3. Ensure that problems reported to one entity are reported to other applicable entities. Procedures have been put in place to ensure that all parties are informed in a timely fashion.
4. Conduct refresher training on event reporting for all members of all teams for all studies. Dr. Griffith said that this step is nearly completed.

5. Create and implement an education campaign for event detection and timely reporting. A trans-NIH campaign is being put in place. This will include posters and various materials, printed and online. The Office of Intramural Research is working with the NIH Office of Communications & Public Liaison is helping to develop positive messaging. The campaign will be rolled out within the next month.
6. Modify performance elements for all team members for tracking and timely reporting. Dr. Griffith anticipates that this step should be completed by June or July of this year.

Dr. Griffith reported that a trans-NIH independent audit will get under way in May 2017. This will be a 100% audit of intramural protocols open for enrollment as of May 1. About 400 protocols across NIH will be audited. The auditors will look for items requiring reporting as unexpected events (e.g., unanticipated problems, SAEs), informed consent, and compliance with eligibility and exclusion criteria.

Discussion

Dr. Tuckson noted that long lists of complexities make it challenging for investigators to report SAEs in a timely fashion and wondered how the research gets done if these things are not in place. He posited that seeing the patients and taking care of them is one thing, but having the support structure for solid research is something else. Dr. Gottesman said that the larger ICs do well with reporting, but smaller programs are lagging. The lack of infrastructure seems to underlie the problem. Dr. Gilman will be presenting a proposal to give all investigators access to a clinical research support structure. Also, Food and Drug Administration (FDA)–regulated studies tend to be better supported. Not every study at NIH is a complex clinical protocol. The intramural program includes many natural history and observational trials that do not entail rigorous oversight. Dr. Tabak acknowledged that a subset of NIH intramural studies in the past did not meet the standard that would be expected for an outstanding clinical trial.

Dr. Forese said that the Clinical Center should set the standard for clinical research. The auditing looks pretty comprehensive. If the RCA and recommended actions do not close the gap on reporting deficiencies, then the community and the CCRHB will not be satisfied.

Dr. Pronovost suggested including the word “safe” in the new mission statement.

Dr. Tuckson said that the Department of Veterans Affairs has some great tools, as does the commercial aviation world. At Johns Hopkins, many RCAs lead to sets of recommendations, but the budget is always a challenge for implementation. Dr. Tuckson also cautioned that systems changes can lead to unintended consequences that worsen the situation. He added that recognitions and incentives can encourage people to report events fully and in a timely fashion.

Dr. Shannon observed that the RCA identified many gaps, not all of which apply to every protocol, and not all protocols had gaps. It appears to be a subset that have had reporting issues. He encouraged aspiring to a state that is free of gaps. The daily huddles that go on in the clinical units could be distilled to two questions: (1) How is the patient doing? (2) How is the protocol doing? The system developed for the Clinical Center should pair the clinical research with the principles of clinical safety. Jeanette Erickson, D.N.P., RN, recommended adding a third

component to the patient huddle: Does everyone have the knowledge and skills required to implement the protocol and ensure that the expertise in patient care is available?

Dr. Tuckson sought assurance that the Clinical Center can do good research. He wanted to know whether the staff know what is required to actually do the study and reporting, and whether the Clinical Center can carry out complicated protocols safely. He noted that the RCA-identified gaps relate to fundamental infrastructure issues that should be in place.

Mr. O'Neill said that RCA looks for undesirable behavior or lapses. If the analysis is set up to rule out the possibility of identifying people or teams who did things wrong, then the findings might not be accurate. If someone is following the process but the process leads to an event, that would be noteworthy. Also, lack of training may be the cause. Sometimes people just do not follow procedures. The CCRHB would like to understand when individuals or teams are at fault. RCA is powerful, but one must let it instruct.

Dr. Gilman pointed out that the domains related to culture and human factors could detect individuals or teams who choose to do the wrong thing. However, the RCA tool used here and recommended by the CCRHB probably was not the best tool. In his view, common cause analysis, not RCA, might have led to a set of findings that would not be so alarming. The Clinical Center carries out complex trials safely. This analysis was entirely about delays in reporting.

Centralization and Recognition of Clinical Research Support

James Gilman, M.D., CEO, Clinical Center

Dr. Gilman presented a pragmatic approach for centralizing clinical research support for the intramural program, based on a white paper by Clifford Lane, M.D., of the National Institute of Allergy and Infectious Diseases (NIAID). This is a problem that has defied fixes until now. To develop the proposal for reorganizing clinical research support, Dr. Gilman sought input and reviews from many NIH leaders. Some assumptions underlie the proposal:

- There will be relief from the hard hiring freeze with implementation instructions.
- Procurement of an enterprise IT system for administrative support of research will proceed as envisioned.
- The DDIR will continue to focus on policy and not on operations.

When this plan was being developed, the initial focus was solely on the Clinical Center, but there was a realization that such a sharp focus would not work. Therefore, the ICs, the DDIR, information management/IT systems, the Office of Human Subjects Research Protections, and the Office of Research Support and Compliance were also included (although only the ICs were covered in Dr. Gilman's presentation).

The goal of the proposal was to make it easier to do the right thing, both by reducing gaps in clinical research support between large and small ICs and by simultaneously improving patient safety and enhancing clinical quality. Policy and operations should be kept separate.

The proposed structure takes a pragmatic approach to influence vice control and provide functional equivalency through some generic protocol services and some specialized services. Not everything will be the same for everybody.

Step 1: Implement the Primary Nursing Model

In his white paper, Dr. Lane suggested having hospitalists or consultants for every inpatient unit. Regarding the latter option, Dr. Gilman noted as an example that the cardiology consult service is run by National Heart, Lung, and Blood Institute (NHLBI) physicians, not Clinical Center physicians. The first option (hospitalists) would be prohibitively expensive, whereas the second option (consultants) would entail extremely high maintenance with many memoranda of understanding to oversee. Instead of adding numerous physicians, Dr. Gilman suggested using the primary nursing model (e.g., the OP8 model). This would mean having one Clinical Center nurse per 125 patients. The staffing requirement would not be as intensive as in clinics where patients are seen on consultation (a model based on the primary protocol clinic; e.g., dental clinic, eye clinic), because many Clinical Center protocols are natural history studies or observation studies that require few patient visits. In the primary nursing model, the main responsibility of the nurse is to know the patient while managing some protocol responsibilities.

Dr. Gilman said that the primary nursing model is really an old model brought back to life. He observed that NHLBI and NCI largely function on a medical oncology model (i.e., each investigator has one or two nurses who work with him or her exclusively). The largest requirements in terms of nurse staffing are for OP9 and the Pediatrics Clinic (OP1). This model would require hiring about 16.5 full-time equivalents (FTEs; 17 nurses).

Step 2: Establish the Clinical Center Research Support Office

The office would provide centralized support with protocol navigators, protocol writers, site monitors, and study coordinators. Generally, the navigator and the principal investigator work together to write protocols. The office would also supply study coordinators, independent safety oversight by independent medical monitors, statistical support, and data management support. Regulatory support would be available for investigational new drug/investigational device exemption (IND/IDE) research.

Dr. Gilman presented a draft organization chart. The structure is sized for 900 existing protocols. He anticipated 70 new protocols per year, excluding those run by NIAID, NHLBI, and NCI. This volume would require the hiring of about 16 protocol navigators (eight federal hires and eight contractors) and two medical writers. Most protocol navigators are nurses.

This proposed structure would give two, three, or four independent opportunities to detect SAEs, unanticipated problems, and protocol deviations. Protocols of most ICs would have four opportunities to detect events (the primary nurse, the patient safety and clinical quality office, the research team, and the clinical research support office). At NIAID, there would be three independent opportunities (the primary nurse, the research team, and the patient safety and quality office). At NCI, there would be two independent opportunities (the research team and the patient safety and the quality office).

Discussion
Ms. Erickson said that the nursing role in the NIH Clinical Center provides a unique opportunity to know the patients while providing opportunities for career development. These features make the Clinical Center an attractive place to practice.

Dr. Forese asked about the number of FTEs required for this clinical research support organization. Dr. Gilman said that 17 new nurses would be needed. The "wiring diagram" would require the hiring of 55 new people. Salaries would amount to $7 million, and the cost of a one-time renovation of office space would probably be around $2 million.

In response to a question about the time frame for setting up the new support structure, Dr. Gilman said that Virginia Guptill, Ph.D., and her group are looking at how to put this new organization in place. This will not happen overnight.

Brig Gen Burks emphasized the importance of ensuring that the clinical research support structure is sustainable over the long term. This effort could help drive cultural change. He inquired about resource tradeoffs. Dr. Gilman said that some ICs are providing some support resources for protocols (e.g., protocol navigators), but not all ICs have comprehensive resources or sufficient budgets. Clearly, some resources for centralized support would migrate to the Clinical Center.

Dr. Pronovost asked about potential risks. Dr. Gilman acknowledged that risks do exist, mainly because centralized research support would be a new function of the Clinical Center. The risks would be mitigated through a set of standard operating procedures and the creation of forums for people to learn from each other. Courses already exist for teaching protocol navigators. Study coordinators would be the most challenging piece, because some PIs are accustomed to doing things their own way. The idea is to create a Clinical Center resource that applies a standardized plug-and-play approach to give all ICs access to research support.

Dr. Clancy recalled that Christine Grady, Ph.D., M.S.N., RN, of the NIH Department of Bioethics offers a course in bioethics and asked if there are opportunities for connectivity with other NIH entities. Dr. Gottesman said that a bioethics curriculum and other activities are available through the NIH Office of Clinical Research Training and Medication Education.

Data and Monitoring of Violence in the Workplace

Alfred C. Johnson, Ph.D., Acting Deputy Director for Management, NIH

Dr. Johnson provided an overview of the NIH community. The campus comprises 106 buildings; the largest is the Building 10 complex (the Clinical Center), where approximately 9,000 staff work. The campus has an average daily population of 27,000 and receives 750,000 visitors per year. The campus police force has 88 sworn federal police officers.

According to Dr. Johnson, the most frequently reported crime on the NIH campus is larceny. Most arrests were of visitors related to outstanding warrants or possession of items that are illegal on federal property.

Dr. Johnson remarked that April is Workplace Violence Awareness Month. NIH activities included presentations on the topic of workplace violence and communications about resources available to mitigate the risk of such incidents and to help victims.

Dr. Johnson also explained the NIH Civil Program. The multidisciplinary Civil Response Team shares information and develops agency responses to behaviors of concern that may lead to acts of violence. Coordinators conduct intake interviews, assess situations, and coordinate and track agency responses. The Advisory Committee advises on accountability, policy development, education, and outreach.

Among the 23 civil cases that occurred in the Clinical Center in 2016, the major concern was patients striking care providers (five incidents). So far in 2017, nine civil cases have been reported; four were workplace issues, three were behavioral concerns, and two involved bullying or intimidation.

In summary, Dr. Johnson said that the NIH Bethesda campus is a relatively safe environment with a low crime rate and minimal workplace violence. The NIH Civil Program brings together resources to manage threats or incidents of violence and provide workplace violence awareness.

Discussion

Ruth Brinkley, M.S.N./Adm., said that NIH is like a small city. Employees and patients are being kept safe. She asked about the impact, if any, of the heroin/opiate addiction problem on NIH. Dr. Johnson said that a review of all NIH police reports for 2016 and 2017 revealed no problems with opiates on campus.

Dr. Collins added that NIH is carrying out research to combat the opiate addiction epidemic. For example, NIH investigators are developing painkilling drugs that would be less prone to abuse. NIDA's Nora Volkow, M.D., is a world expert on pain.

A CCRHB member asked whether new employees are screened for illicit drug use. Dr. Johnson said that NIH complies with federal regulations in this regard: The federal government goes by job title in determining who is required to undergo drug screen. Most NIH job candidates are not screened, with the exception of police officers. Individuals with national security clearance are subject to random drug testing. Mr. O'Neill pointed out that many hospitals screen for illicit drug use before hiring.

Closing Statement and Adjournment

Laura Forese, M.D., Executive Vice President and Chief Operating Officer, NewYork-Presbyterian, and Chair, CCRHB

Dr. Forese and Dr. Collins thanked the board members for their thoughtful input. Dr. Tuckson thanked everyone who was involved in the excellent and informative tour of the Clinical Center.

The next face-to-face CCRHB meeting is scheduled for July 14, 2017.

Dr. Forese adjourned the open session at 2:46 p.m.

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Abbreviations and Acronyms

CCGB	Clinical Center Governing Board
CCRHB	Clinical Center Research Hospital Board
CEO	chief executive officer
CNO	chief nursing officer
COO	chief operating officer
DDIR	Deputy Director for Intramural Research
FACA	Federal Advisory Committee Act
FDA	U.S. Food and Drug Administration
FNIH	Foundation for the National Institutes of Health
FTE	full-time equivalent
FY	fiscal year
GMP	Good Manufacturing Practices
HHS	Department of Health and Human Services
ICs	Institutes and Centers
IDE	Investigational Device Exemption
IND	Investigational New Drug (application)
IRB	institutional review board
IT	information technology
IVAU	Intravenous Admixture Unit
MEC	Medical Executive Committee
NCI	National Cancer Institute
NHLBI	National Heart, Lung, and Blood Institute

NIAID	National Institute of Allergy and Infectious Diseases
NIDA	National Institute on Drug Abuse
NIH	National Institutes of Health
PI	principal investigator
PSCPQC	Patient Safety, Clinical Practice, and Quality Committee
RCA	root cause analysis
SAE	serious adverse event
STARS	Safety Tracking and Reporting System
SMRB	Scientific Management Review Board