



2021 NCSBN Scientific Symposium - Keynote: Open Science, Public Accountability: NLM Helps Nurse Scholars Shape Public Discourse Video Transcript

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Event

2021 NCSBN Scientific Symposium

More info: ncsbn.org/15185.htm

Presenter

Patricia Flatley Brennan, PhD, RN, Director, National Library of Medicine, National Institutes of Health, U.S. Department of Health and Human Services

- [Maryann] Hello and welcome to NCSBN's Scientific Symposium. I'm Maryann Alexander, Chief Officer of Nursing Regulation at NCSBN. The studies being presented today were conducted both by NCSBN's internal research staff, and external scientists funded through NCSBN's Center for Regulatory Excellence grant program.

The grant program awards over \$1 million annually for studies that advance the science of nursing regulation. The data from these studies are used to make nursing regulatory and policy decisions, develop national guidelines for nursing practice and education, develop important changes to nurse practice acts and regulations.

We want to thank all the researchers and grantees for their important contributions to nursing science and a special thank you for those presenting at this year's Scientific Symposium. One of NCSBN's researchers was Jennifer Hayden. She was a young talented scientist that was the principal investigator for NCSBN's National Simulation Study.

This study changed the way simulation is incorporated into the pre-licensure nursing curriculum around the world. Unfortunately, almost upon completion of the study, Jennifer passed away from breast cancer. Because of her important contributions to NCSBN and to nursing science and policy, we have named our Scientific Symposium keynote address in her memory.

And now it is my pleasure to introduce to you the Jennifer Hayden keynote speaker. This year, we are honored to have with us Dr. Patricia Flatley Brennan. Dr. Brennan is the Director of the National Library of Medicine at NIH. She is the first woman and the first nurse to be named to this prestigious position.

Prior to this she was the Lillian L. Moehlman Bascom Professor at the School of Nursing and College of

We're very excited to be part of the National Institutes of Health, which we joined in 1966. However, our library is 180 years old. Right now, in the 21st century, we focus on critical areas, critical infrastructure for knowledge and policy. We facilitate open access to the literature.

We have resources such as PubMed Central, our full-text literature repository, the COVID-19 recollection which has over 120,000 COVID-specific articles that had been made open to the public for machine learning as well as for general perusing during this terrible pandemic, and PubMed, the bibliographic citation database that we have.

We also conduct and support research in computational biology and computational health sciences. And we implement and establish training programs. We have training programs around the country, 16 programs in pre and post-doctoral training in biomedical informatics. We host hundreds of training programs throughout the year for clinicians, patients, and librarians to better understand data science and the resources of the National Library of Medicine.

And we focus on informing policy. Now, as a federal body, we can't make policy but we do provide the educational and informational resources to shape policy around open data, research integrity, information access, and research accountability. Our focus today is on open science and public accountability.

And the phrase that comes up quite often within open science concepts is the idea of open access. Now nurses, particularly nurses in practice who graduated from their programs that have been richly supported by libraries suddenly find that they can't always get access to the journals they're used to getting access to. The concept of open access means bringing the literature in the open to all who may need it.

We're going to have a brief poll now to talk a little bit more about specifically what does it mean for the library to open access to literature and data? There's a new poll that's upped just now. Please respond. I'll try to give it a little more time this time so that everyone gets a chance to respond.

What is open access? Not everyone will know the answer to this. Don't be concerned. We want to make sure we start off at the same point, though.

There's a new poll that's upped just now. Please respond. So please respond. Open access, 42% of you got this correct.

It's a set of principles and a range of practices through which research outputs including journal articles, but not only journal articles, are distributed for on-line access.

We run these filters by topic, research topic categories but we're also able to help people create individual clinical queries for their own clinical populations. This does help us to accelerate discovery and opens up the literature more quickly. Opening up the literature is not only making the literature available but making it accessible in ways that people can consume it.

A good deal of our work though focuses on research data sets and making research data sets reusable and discoverable around the world. On the screen in front of you, you see a number of different important research data sets such as the Kids First study from Pennsylvania or the All of Us, the million participants of the... participants to understand health and everyday living, Cancer Moonshot, the Framingham Study, and the NCBI.

That's our National Center for Biotechnology Information. Finding ways to connect these data sets and make them available by a query not only accelerates research, but it also provides a wonderful platform for training for our students. And for those of you who are looking to shape public policy, being able to access data directly provides a strengthening to the base of the policies you're trying to shape.

Most recently, we've been looking at how to better support the use of model organisms in research. Model organisms are important because they provide a way to better understand a particular physiologic oriented process that's relevant to humans, but can be studied in another species. In our case, most of our model organisms provide part replicas of humans like zebrafish, or rats or mice.

Some of you may have even studied some of these in school. But to build the knowledge base that connects them together requires that we construct the ecosystem that you see on the left-hand side here. So on the upper part of that left-hand blue document, you see various organisms, the sequences, and the anatomy, and images about those organisms. In the two circles, you see the data related to those organisms, transcriptomes, genes, orthologs, as well as the tools to interrogate the data.

The BLAST search was just a broad analysis search or genome annotation. The role of the National Library of Medicine is to bring those two circles together with the communities that want to study them.

Most of you did not know that the National Library of Medicine funded research. But now I'm delighted

So when that knowledge is needed to shape policy, we must be the ones that bring it forward and make sure it's incorporated. We must remember that we should ask and answer questions that are germane to

One of the critical pieces about communication about studies is knowing what failed is as important as knowing what worked. And that kind of information can be found by looking at the ClinicalTrials.gov repository to look at our results.

- Thank you. I have another question for you from Kathy Scott. She asks, "Could you say more about open science publications and the responsibility of the author versus the publisher?"

- I can say to...from the perspective of the director of the National Library of Medicine but I'm not a publisher so I can't speak specifically for them. When you say open science publications, I believe you might be referring to open access publication. In the PubMed Central repository we have something referred to as the open access subset. These are journals where the journals themselves are completely open.

Now, in most open access journals, that is, the journal makes all of its publications, all of its articles available without a paywall and available electronically, in most open access publications, there is a process called author use fees or author publication fees. And this is a fee that the author pays, as the publication is being developed, to support the cost of managing the journal.

So in many cases, author fees or other publication fees are required to support an open-access journal. The National Institutes of Health does allow investigators to include in their grant budget fees that would need to be paid for open access journal. So the fee can be charged to a grant budget and that does help support the ability to publish in a lot of different outlets.

We encourage authors to use open access journals where possible. The National Institutes of Health has a wonderful set of recommendations of how to pick a good journal to publish in. And this is a way to help ensure that your materials reach the most people. Now, publishing in a what we would consider a traditional journal isn't necessarily a bad thing. And the journals are beginning to become more flexible in their approaches.

So even the journal of my field, the *Journal of the American Medical Informatics Association* has an ability to unlock journal articles. That is we can open journal articles, remove the paywall for everyone. This then allows information to be distributed much more quickly. And just as a reminder, the NIH does have a policy, that within one year, any articles describing research supported by an NIH funding must be completely open access.

That is the journal can hold an embargo for one year. But after one year the article has to be freely available to the public. In the last year or so, we've been seeing new initiatives come through the Congress that have required that if we're going to receive special funds for a certain kind of research at NIH, we must make the journal...all the articles funded under those special initiatives really accessible immediately at the point of publication.

And that includes the 21st Century Cures, which is funding a lot of cancer research right now, and the Heal Initiative, helping to end addictions long term. In both of these cases, the Congress has recognized the urgency of getting information out to the public really requires that the information be available as quickly as possible.

