Hi. So this is Erin again. Welcome back. Good afternoon. I'm pleased to welcome you to the online seminar, "Back to School: Enhance Your Research with HSR Methods, Tools, and Resources" from the National Library of Medicine. This introductory level online seminar will provide an overview of resources from the National Library of Medicine's National Information Center on Health Services Research, or NICHSR, as you may hear us refer to it throughout the program.

In addition to providing continuous professional development for lifelong learners, as in the title, this seminar has been developed with students and faculty and mind, so welcome back to school for those of you starting up classes again. We hope that this session will help students understand the field of Health Services Research, or HSR, which we'll frequently refer to throughout the session. And we'll also introduce resources to support your course work, as well as independent research projects with step-by-step instruction.

Faculty will learn more about NICHSR resources that can be incorporated into lectures and support assignments. Specifically we're going to cover searching for health services research in the PubMed Database using Health Services Research Information Central, or HSRIC, as well as health services research projects in progress, or HSRProj, and Health Services and Sciences Research Resources, or HSRR. The online seminar is organized around typical student use cases, so it's structured around explanations that will shape and respond to common questions that staff and AcademyHealth receive from students. We've also included useful resources and links on the seminar page, so it should be great session, and I'm really looking forward to it with the range of speakers we have on tap.

A couple of technical details before we go ahead and get started. The audio and slide presentations will be delivered directly to your computer. Speakers or headphones are required to hear the audio portion of the online seminar, and if you don't hear my voice, if you're not hearing any audio now, please do check your computer speakers, both the settings and volume. If you do need an alternate method of accessing audio, please submit a question through the Q&A pod to the left of your screen.

In addition, if you need live technical assistance, please call Adobe Connect at (800) 422-3623 or refer to the technical assistance box in the bottom corner for tips to resolve common technical difficulties. We often leave that information on so that, if any point in time, you have difficulties you will remember all that information.

Also, please turn off your pop-up blocker in order to take a survey at the end of the online seminar. This is a really, really brief evaluation, only a couple of questions, but your responses will help us to continuously improve, and we really appreciate your assistance with your feedback.

Also, you can submit a question at any time throughout the presentation. We won't answer your questions right away because there's a period of time set aside towards the end to really have a broader discussion with the panelists. But, again, I would note that there are about 200 folks registered for today's webinar, so, really always encourage people to submit questions early and often to ensure that yours get addressed.

So again, welcome to the webinar and to the field. My name is Erin Holve, and I'm the Senior Director for Research and Education in Health Services Research at AcademyHealth. I lead AcademyHealth work on analytic methods and resource researches for the field of health services research, and I'm also the principal investigator of the HSRProj program with the National Library of Medicine.

I will be moderating this online seminar and will introduce the other speakers, as well as the organizations involved. For full biographies for all speakers, please see our website. And although we have many speakers in this online seminar, you will be able to know who's speaking because their name and picture will always appear on the bottom left of the slide.

Just a quick background on AcademyHealth. This online seminar is hosted by Academy of Health with our partners at the National Library of Medicine, and the Cecil G. Sheps Center for Health Services Research at the University of North Carolina in Chapel Hill, with whom we work very closely on HSRProj.
I think most of you are familiar with AcademyHealth as the professional home for health services researchers, policy analysts, and practitioners. We're a leading nonpartisan resource for the best health services research. And recently, AcademyHealth refreshed our mission and vision. Our vision is to look towards the future, where individuals and communities are made healthier by the use of evidence in decision-making. Together with our members, we work to improve the health and performance of the health system by supporting the production and use of evidence that will inform policy and practice.

We also have a core set of principles that are highly relevant to today's conversation, since at AcademyHealth we believe that evidence is paramount to drive improvement in the health system, as well as the fact that diversity of opinion and perspective produce better evidence. It's important to note that we're of the field and for the field. We strive to address the needs of our members, and on that note I should comment that, actually, I was one of the founding members of the Johns Hopkins AcademyHealth members, and I understand they're listening today, so hi to you all.

So without further ado, I'm going to turn the session over to Lisa Lang. But first I want to introduce AcademyHealth HSRProj staff who you'll hear more from in just a moment. Nisha Kanani is Program manager for HSRProj AcademyHealth, and she's responsible for the outreach, maintenance, and marketing of HSRProj and health services research projects and progress. And Liz Koechlein, who you'll hear more from on this session, is also research associate at AcademyHealth for HSRProj, and she has many roles and daily tasks related to HSR projects and progress.

So now I'm pleased to introduce Lisa Lang who will also introduce her colleagues at the National Library of Medicine. Lisa?

Thanks Erin. Hello everyone. A little about me, my name is Lisa Lang and I'm Assistant Director for Health Services Research Information at the National Library of Medicine, and I'm also head of this National Information Center in Health Services Research and Healthcare Technology, NICHSR. I'm responsible for NLM's activities to support the information needs of health services research and public health systems and services and research communities, as well as public health workforce. I also chair a public/private workgroup, PHPartners information access for the public health workforce, which has a website, which I'll describe in a moment.

The National Library of Medicine, which is on the campus of the National Institutes of Health in Bethesda, Maryland, is one of the NIH institutes. It has been a center for information innovation since its founding in 1836. NLM maintains and makes available a vast print and collection and produces electronic information resources on a wide range of topics that are searched billions of times each year by millions of people around the globe. It's used by health professionals, by scientists, by the general public. Our collections are the largest in the world, and they span from 11th century manuscripts to today's electronic journals. Our content also ranges from consumer health information to medical literature to genetic data in support of the Human Genome Project.

NLM also supports and conducts research, development and training in bio medical informatics and health information technology, and in addition, the library coordinates the 6,000-member national network of libraries of medicine that promotes and provides access to health information in communities across the entire United States. The National Information Center on Health Services Research and Healthcare Technology, which as Erin noted is call NICHSR, is a key part of NLM. Our mission is to improve the collection, storage, analysis, retrieval, and dissemination of information on health services research, guidelines, on health-care technology, and including the assessment of health-care technology.

We strive to integrate resources for research and practice to support the work of the broad health services research policy and practitioner communities, including those involved with public health systems and services research, as I mentioned before.

As you'll hear today, libraries and librarians are key partners for health services research, and our resources support both newcomers and experts alike. Highlighted on this page -- and we'll say more
about this later on in this online seminar -- are two of our web portals that speak directly to this mission targeting the health services research community and public health; HSR information central and PH Partners, partners in information access of the public health workforce.

Now I'd like to introduce two of my colleagues from NLM. Patricia Gallagher is a Librarian at NICHSR. Her duties include working with the HSRProj database and with the HSR InfoCentral Web portal. Prior to her arrival at NLM, Patricia was senior user services librarian at the New York Academy of Medicine, where she worked for 16 years, as well as having experience in a New York city-based academic center and the nursing school library.

Dr. Lynn Whitener is Senior Health Services Research Consultant for the National Library of Medicine. Lynn has worked with the Sheps Center for Health Services Research at UNC for 25 years. She currently consults with the RTI UNC Evidence-Based Practice Center. She's worked with NLM and with AcademyHealth from the inception to create HSRProj and the database HSRR, and today advises NLM and manages the HSRR database, as you'll hear later. Now I'd like to pass the speaker back to Erin.

Great. Thanks so much, Lisa. So I previously noted that we're joined today by our partners from the Cecil G. Sheps Center, which seeks to improve the health of individual, families, and populations by understanding the problems, issues, and alternatives in the design and delivery of health-care services. This work is carried out with an interdisciplinary program of research, consultation, technical assistance, and training, and focuses on timely and policy relevant questions that concern the accessibility, adequacy, organization, costs, and effectiveness of health-care services, as well as the dissemination of this information to policymakers and the general public.

So I'm pleased to introduce our colleague at North Carolina, Christiane Voisin. Christiane is Associate Director for Information Services, and is Principal Investigator for the Health Services Research-in-Progress, HSRProj, database at UNC and has been working with AcademyHealth for the last 15 years to format and maintain records for this resource. She's also the lead librarian for the RTI-UNC Evidence-Based Practice Center.

Okay, turning to the learning objectives from this session, and you'll hear more from Christiane in a little bit, we hope that by watching this online seminar you will understand how the National Library of Medicine supports health services research, be able to conduct a structured search for HSR and PubMed, know how to use HSRR, and HSRIC, and learn about the scope and contents of HSRProj as, well as use HSRProj to inform your research. To access the resources discussed in the seminar, you can visit nlm.nih.gov/nichsr. This website includes more information on HSRProj, as well as links to helpful online databases and training opportunities. You can also find some of this information through AcademyHealth's website at academyhealth.org/researchresources.

In general, we hope that this online seminar will give you greater insights into the continuum of health research, from knowledge production to evidence and practice, as well as the tools that are available to help you understand access and produce this research. And here I'll just note, in this framework, one of the things you can see is really the spectrum of translational research, and, often, we really think about the work that we're doing in health services research being these last two columns, population-based research and research on the delivery of care.

We've covered a lot of these, I think, in pretty good detail up until this point, but just make sure everybody's clear on a bit of an alphabet soup. The glossary of terms that will be used frequently in this session include HSRIC or Health Services Research Information Central; HSRProj, which stands for Health Services Research Projects in Progress; HSRR, Health Services and Sciences Research Resources, and HTA, Health Technology Assessment.

So I'd like to turn to our first student use case. The first use case features a graduate student, who is starting out in the field of health services research and would like to better understand the type of research that is conducted in the field, as well as how problems are framed and which organizations are collaborating for research activities.
Lisa Lang, Liz Koechlein, and Christiane Voisin will share two resources with you that could help in this case. The first is Health Services Research Information Central, HSRIC, and Health Services Research Projects in Progress, or HSRProj. So you'll see the student in this case asks, "I'm a new graduate student who is starting out in the field, and I'd like to better understand the types of research are conducted, how these problems are framed, and which organizations are collaborating together."

So Lisa, I'll turn things over to you to get us started.

So you'd like to know more about the scope and focus of health services research. I think it's always useful to start with a definition, and I like the definition that AcademyHealth developed in 2002. The scope of HSR is broad and multidisciplinary. It's concerned with the effects of systems, structures, technologies, social factors, and individual choices on access, cost, and quality of health care, and ultimately on the wellbeing of individuals, institutions, and populations; a very, very broad charge.

The Institute of Medicine, one of the National Academies of Science, in its definition of HSR, added something which Erin referred to in the previous slide, which is the importance of thinking of HSR as both a basic and applied field of inquiry. The new knowledge and understanding generated by HSR is intended to inform both policy and practice. So we welcome you to the field. HSR is fundamentally collaborative. It is often conducted in teams comprised of different professional perspectives, health services researchers working with clinicians or other practitioners, with economists, with policy legal experts, with statistician, and with librarians. So a word for a moment about librarians.

While we'll be showing you tools today that will, in essence, place a librarian in your laptop, we encourage you to work directly in the librarian in your school or affiliated institution. This field is diverse and you librarian will have a wealth of expertise about how information is organized and how it can be accessed, which are among your biggest challenges in approaching health services research. Next slide.

So what would you like to know? Well, given the broad scope of health services research, it would be useful to have a place to start looking for information that appreciates both the breadth and the specificity of the field. Your research questions might prompt you to try and find datasets that use both broad data or indicator sets. You'd likely want to see relevant published research or published guidelines or articles. It might be nice to know who were the key organizations and who seemed to be important commentators for the field or for particular issues, and you might want to know where to go learn about new funding or fellowship opportunities.

I'm showing you just a piece of the health services, the front page on HSR Info Central, which is that web portal that we maintain at NICHSR. HSRIC will be just the ticket to help you get started, to stay apprised of new contributions to the field. It's a free searchable database of links to current and important high-quality resources that span the scope of HSR. New content is added to the site virtually every day, both in content areas and for the news of the field.

What you see in this page here is the search engine highlighted. On the left you see the general resources that I was just describing from the previous page, and this allows you to look for by classes of information, things that might be of use to you. But it also -- in the center you will also see specific HSR topics, and on the right, news, and below, featured resources. So I'm going to talk about each of these in a moment.

You can access the rich content at HSR InfoCentral in one of three ways. You can search using the central search bar, you can browse any of the categories for content, either general resources or the specific topic pages, or, as indicated by the arrow in the upper right-hand corner, you can sign up to be alerted about content, either from the site as a whole or for any of the specific topic pages in order to receive updates as soon as that information is posted to the site. The site is updated virtually daily so this news alert service, which is free, is particularly useful.
Let's see what a search looks like. Here's a search for resources related to the economic impact of diabetes, with 124 records received, showing -- and this particular screen shows you portal website, funding announcement. Because the search engine looks for exact terms, you may find when you're searching that you want to try synonyms for your searching. For example, if you use in quotes the term "economic impact," you'll find that it nets only a subset of the total number of items returned for the more general search without quotation marks, and that goes for synonyms as well. Use the search help in the upper right of the screen for additional advice about how to get the most from your searches. Next please.

There are times in any project when you aren't exactly sure what you want or need. For those times, or, really, just to gain familiarity with the diversity of public and nonprofit sources of information about health services research, you can use HSRIC to browse resources, and it's really, really comparable to opening an open-stack -- entering an open-stack library with all the wondrous things that that conveys.

So here, for example, at the top, a very long page of resources that have been classified for the site as data tools and statistics. We give you little ways to click through that long list of sub-categories. But, in general, it's a broad introduction. It's a broad set of resources. Now that said, I should say that this is not -- HSRIC is not a compendium of everything; rather, what it is, the intent of the portal is to highlight high quality content from authoritative sources that's available for free or at very low, low cost.

So the next page I want to talk about browsing. Browsing is particularly recommended if your topic of interest overlaps with one of our HSR topic pages. The topic pages represent our commitment to focus selection of high-value resources on particular subjects of current significance. We add topic pages regularly, and we welcome your suggestions for new page topics. These pages link to reports, database, websites. In addition, many of the pages have pre-established search strategies that will make it easier for you to search PubMed for current literature or HSRProj for current research projects. But more about that later.

As you see here, we offer topic pages on a wide array of topics, child health services research, evidence-based practice, health technology assessment, health-care reform. These are all -- these may be of particular interest to you and you may be interested knowing that, for example, we're just going to release a topic on domestic violence. This will be of particular use and interest to the both researchers and practitioners alike. So next page.

When you go into a topic page what you'll see is that the topic pages have introductory text and selection categories that make it easier for you to browse and get a sense of the field itself in this particular subject area. We have structured this page to enable the HSR community in this particular example to assess the impact of some recent changes by the IRS of policy that is -- for which the IRS is responsible that have to do with community benefits. This is a topic of particular interest and concern to the health-care community both on the HSR side and the public health side.

But what I want to highlight here is, really, the circled text search strategy, where what you can see is that we manage -- we really do attempt to link the grey literature, these resources that you can get to through the main HSRIC site, with opportunities to find targeted published literature in PubMed, as indicated on the page. And, remember, if you want to follow additions to a particular subject/topic area, you can sign up for updates for that particular topic for the site as a whole. Next.

Finally, I'd like to highlight the very useful featured resources at the bottom of the HSRIC homepage you saw into three categories. There are preset searches or queries for PubMed or other databases. We'll be talking more about those later. There's a second set of resources, which are the NLM databases for HSR Projects in Progress, HSRProj, and for databases of instruments and software, fundamental tools of health services research, and these, too, will also be described later in the presentation. But I also want to highlight a third category, which is HSR resources developed by our partners.

So the first is a message website from AcademyHealth, which contains both basic information and training opportunities about statistics and health services research methods. It's useful for both novices
and for more advanced users, as it provides both basic online access -- online seminars and the like, but also a place where discussion and links to involving methods are identified.

The second resource is the AHRQ National Guideline Clearinghouse, an invaluable resource, which is a free searchable database of descriptions of almost 2,400 clinical and health-care guidelines, which is an area of increasing significance now, as we are moving towards an emphasis on evidence-based practice in both health care and public health. Next please.

So now I’d like to hand this over to Liz, who will talk about HSRProj.

Thank you, Lisa.

Christiane and I are going to introduce the HSRProj Repository, which Erin told you before, means Health Service Research Projects in Progress. We think that this resource is going to be valuable for the student use case that Erin introduced.

So, to give you a little bit of an overview HSRProj is an openly accessible searchable repository of more than 13,000 ongoing and recently completed health services research projects. They highlight, this resource highlights the inclusion of ongoing research. This means that HSRProj allows you to search research that’s currently underway, often before results are published. In this section, Christiane and I will give this bit of information on who supports and uses HSRProj and the ways that can be used by different people, how to access and navigate the database. We will then discuss new advanced search features and additional ways that you can use the repository. Christiane?

Thanks, Liz. Hi everyone. This is Christiane. As we highlighted in the beginning of this seminar, this resource is the result of a partnership. HSRProj is funded by the National Library of Medicine, and it’s maintained through a joint effort of AcademyHealth in the Cecil J. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill. Next.

Because of this partnership, we know HSRProj is the most extensive repository of ongoing HSR. AcademyHealth actively solicits information on ongoing and recently completed projects from hundreds of supporting organization, and they expand to new organizations when possible. And HSRProj staff here at UNC Chapel Hill, we search various databases to ensure all relevant HSR is captured and included in HSR HSRProj. Go ahead.

As mentioned, HSRProj has more than 13,000 ongoing and recently completed projects. It also has archived and older completed projects. That means that, in total, HSRProj contains almost 30,000 projects. These projects are funded by more than 345 federal, private nonprofit universities, and international organizations.

For each of the almost 30,000 HSR projects in HSRProj, we include the searchable fields you see here on this slide. So if you'd like to search for content in a grant or the title of a project, that's possible. You can also search by principal investigator to find out what someone you know might be working on.

As you can tell by the searchable fields, there are different possibilities for the ways that HSRProj can be used. It can be useful for researchers, policymakers, and the funders of HSRP, as well as anyone who finds that their interest HSR spans these categories. Researchers can use HSRProj to enhance literature reviews, identify new and cutting-edge research, build networks of colleagues, and see who is funding HSR. Policymakers can look to HSRProj to see what kind of research is underway to inform evidence-based decision-making and to set agendas. Funders and supporting organizations for health services research can look to HSRProj to understand funding and research trends, as well as the organizations that are performing research to better inform their partnerships.

Christiane will now discuss new fields in HSRProj, including the grant ID URL and advanced search options.
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HSRProj_Back to School_Enhance your Research with the National Library of Medicine

Thank you, Liz.

When staff makes substantial changes to a project record, we now have a record history field where users can refer to track changes. We will relocate the old abstract to the archived abstract field when different abstracts are discovered. We are also able to connect to related projects using the related records field, linking both to and from records, such as parent and child grants or past records that are related to more current projects.

We also provide a new field in project records to accommodate a URL for PCORI or the Patient-Centered Outcomes Research Institute, and for other organizations who would like to provide a link to more information and published results and reports related to the project.

AcademyHealth and Sheps Center HSRProj staff worked with NLM and the Patient-Centered Outcomes Research Institute, or PCORI, to create a system to link PCORI records and HSRProj to individual PCORI-funded projects on PCORI's website. Similarly, to capture research and progress through evidence-based practice centers and funded by AHRQ's Effective Healthcare Progress program, Sheps Center HSRProj staff has worked with the Effective Healthcare Program to include systematic review projects and progress from the UK's Prospero database. This serves as a repository for AHRQ systematic review projects, and we pull from that database.

So links to individual project web pages will be listed in the new field in HSRProj called "Award Information." This was previously called a "Grant ID URL." The hyperlink phrases, underlined in blue on the slide, link to more information and project results that will be available on these pages when they are completed. So now I want to turn back over to Liz, who will discuss how to browse new projects.

Thanks, Christiane.

For a quick and easy way to see what research is being conducted today that will feature in publications in the future, you can go to the HSRProj website featured at the bottom of this screen, www.nlm.nih.gov/hsrproj, and click on "Browse latest projects" to the left where you can see the arrow. You can search for projects by topic by typing your topic of interest into the main search bar, which you can see in the middle of the screen. For example, if I were to type "Health-care associated infections" into the search bar, you can see that it results in 38 projects. These projects will appear ten to a page. You can see more information about each project by clicking on the titles of each project, shown here with an arrow. This will allow you to see the full abstracts.

If you prefer to explore by funder, that's possible too. For example, by clicking on the Agency for Healthcare Research and Quality to the left under "supporting agency," you can see the arrow, I can reduce the results to only those funded by the Agency for Healthcare Research and Quality. You can also continue to select criteria to narrow your search.

Thank you, Liz.

I'll now show you the new advanced search options available in HSRProj. The default advance search page displays three search boxes at the top that you can customize and combine using and or or. And if you click the plus sign at the bottom of the third search box, you may add additional search boxes to expand your Boolean search boxes. You can search the following fields titled investigator, performing organization, sponsoring agency, or funder, award type, which is most commonly grant contractor or intramural, abstract text or mesh, which is medical subject heading.

HSRProj records are indexed with MeSH just like MedLine records are. Your local librarian can assist with using advanced search options if you need guidance, as Lisa mentioned earlier. Notice that you may add some limits to the search, including latest update, state or territory, initial and final year ranges, which are based on the timing of project funding, and project status.
The last limit available is country. Most studies are currently in the U.S. But the database is expanding and contains international projects, particularly a large amount of records from Canada, from the Canadian Institutes of Health Research.

By using the new advanced research feature shown by Christiane, you can search by years and see different trends in HSR. This graph shows that academic organizations are the largest group in the database conducting HSR, followed by nonprofits.

HSRProj can also tell you about the funding duration of health services research projects. Most funding takes place for more than two years. These two charts show funding duration of projects that started in 2011, which is the chart on top, and 2013 below it, divided into projects that lasted, on top, 37 or more months, then 25 to 36 months, and then 13 to 24 months, and the small category of between one month and a year.

Thanks so much, Liz.

You can also use in information to see which organizations are funding the most research. In this table on the slide you can see that certain organizations feature as very strong supporters of health services research, which is great to know if you’re look for funding in a grant. In these three columns you can see the top supporting agencies for HSR in 2005, 2009, and 2013 from left to right. The number of projects remain relatively consistent, and so do some of the top funders like the Robert Wood Johnson Foundation and Agency for Healthcare Research and Quality. Next slide.

You can also export a page of data as HTML, TXT, or XML, by selecting project records and choosing the dropdown box to the top right of these project records. You can currently only download one page of records at a time. Please e-mail hsrproj@academyhealth.org with questions or to gain more access to more data. And by using downloaded data, HSRProj staff have actually conduct it had research projects to better understand trends in the field, including research on the state of health equity research; evidence gaps and understanding cardiovascular disease, the state of public health services and systems research, and comparative effectiveness research.

For example, the previously mentioned state of health equity research reports conducted by staff from the Association of American Medical Colleges, or AAMC, and AcademyHealth presents results of a qualitative analysis of a HSRProj database centered on disparities-focused HSR funding between 2007 and 2011. This report examines five-year trends in the evolution of disparities research from documenting inequities to investigating causal mechanisms to identifying solutions.

The report finds that certain health outcomes associated with market disparities are relatively underrepresented in this research portfolio and that some populations that suffer disproportionate morbidity and mortality are relatively underrepresented and disparities focused HSR, such as persons with disabilities, the lesbian, gay, bisexual, and transgender communities, rural populations, and American Indians/Native Americans. It also finds that over the five-year period study there’s been an increasing emphasis on solutions-focused health equity research and a decrease in the proportion of studies that aim only to detect health inequities. So the figure on the slide shows that between 2007 and 2011 the proportionate of disparity-focused HSR that wanted to identify solutions to disparities increased by 93%. By comparison, the proportion of studies only describing inequities fell by 93%. And by the way, this report can be found on the AcademyHealth website.

So, many other researchers use HSRProj for analysis, and here are some examples, including three studies seen here. Research using HSRProj can be found by searching Google Scholar, or using any of the other resources that you've been looking at today in this seminar.

Thanks, Christiane.

So we hope that HSRProj proves to be valuable to you as you start out in health services research. And if you have any questions for us about HSRProj or if you’re interested in learning more, please feel free to
contact us at hsrproj@academyhealth.org. And as Erin mentioned earlier, you can also submit questions through the Q&A box in the webinar.

I’m now going to pass it over to Erin again, who will introduce the second use case.

Great. Thanks so much, Liz. That was a terrific overview of HSRIC and HSRProj. So we’re going to turn to the second use case. We have an example of a question from a student whose class was conducting a literature review related to healthcare delivery. This student is concerned with how to focus their literature review given the large volume of biomedical information available in PubMed. And for those of you who don’t know, PubMed has more than 20-million records, so I think the student has a good sense of why they need a bit of help.

So now Lynn Whitener and Pat Gallagher will share two resources and topics with you that could help in this case with respect to conducting searches in PubMed and as well as the grey literature. So, again, this student asks, “I’ve been given an assignment to conduct a literature review related to health-care delivery. Given how much literature is out there, I’d like to know which resources are best to avoid clearly clinical research results. How should I conduct searches for this literature focused on health services research?” So Lynn?

Thank you. This is Lynn Whitener, and I’m going to share a bit with you today about PubMed, a service of the National Library of Medicine that covers journal articles about medicine, nursing, dentistry, veterinary medicine, and public health from 1950 to the present. PubMed comprises over 25-million citations for biomedical literature from MedLine, from life science journals, from online books. PubMed is a free resource that was developed at the National Library of Medicine, and multiple mobile apps are available.

In the short time we have today, I can only introduce you to some of the features in PubMed that will help you find what you want with the minimum of noise. Be sure and notice these ways to find help with your searches. The tutorials offer a variety of aids that will match your learning style. You can read, you can watch short film clips between one and three minutes long, you can scroll through outlines to find the section you need. There are also professionally prepared hour-long seminars on MeSH available here. So let’s dive right in.

Here’s the PubMed opening page. I’ve entered health-care delivery just as raw words. When the words are entered without quotation marks the program searches for those three words independently, so “health” and “care” and “delivery” can appear anywhere within a record, and that record will be in your results. While we’re here, note that from this page you can click on frequently asked questions and tutorials, so help is always readily available.

So now I’m going to click “Search.” And that search returns nearly 900,000 citations. So what do we do with that? Where do we start? The challenge of using a database that’s as large and rich as PubMed, with its millions of citations, is finding a manageable set of articles. We could modify this search with the filters and limits on the left side of the page, but there’s an easier and better way to try to get a useful set of articles, and that better way is MeSH. The Medical Subject Headings, or MeSH database, is available from any screen in PubMed when you use the database selection menu, and it provides information about MeSH terms and helps you to find the appropriate terms for searching.

Here, I’m querying the MeSH database about health-care delivery, and “Delivery of health care” is the suggested term. And look at all the other information available here, the definition that’s used by the indexers. That’s the concept concerned with all aspects of providing and distributing health services to a patient population. And that the term was introduced in 1971. This entry date can be very important for health services research, since terms for our field are frequently added. And for some searches you may need alternative terms when you’re searching older literature. Then you see lengthy lists of subheadings and entry terms. I’ll talk more about those later.
So, using the MeSH heading "Delivery of health care," we get 831,0818 citations. That's a little better, but that's still not really useful. Let's look a little deeper at what MeSH can do to help. MeSH has many layers, and the more time you spend understanding MeSH, the more precise your searches will be.

Here are examples of MeSH for health services research, delivery of health care, health care quality access and evaluation. Subheadings are available for these terms and we can use publication types to further narrow results. Let's see what we get when we return to the MeSH term "Delivery of health care."

Remember when we use MeSH we're down to 831,000 citation that an indexer has said is about the delivery of health care. Look on the left side of the screen. There are many ways here to limit our results, article type, text availability, publication dates, species, languages, all these can be expanded to show more options. I've clicked "Review." When we limit to review articles, we're down to 69,000. That's still not very useful. But even more importantly, how do we know that a term is really a reliable comprehensive term for what we want?

Remember earlier I mentioned entry terms. One of the features that gives value to MeSH is its use of entry terms. We don't need to think all of these ourselves. The indexers are doing that for us. Here are some entry terms for health services research. Articles that use these kinds of words will be indexed as HSR. So we know we're getting a good pool for things about health services research that we can use to narrow our search about health care delivery. Let's combine those two concepts and see how many citations include both ideas.

So here is a search of terms in search boxes, and I will combine them. We're asking for articles about health services research and the delivery of health care. This search will yield, again, 96,000 citations to articles about both concepts. So what else can we do?

Indexers can also assign subheadings to describe that particular aspect of the MeSH concept discussed. Examples of subheadings are shown here. They're included in with the MeSH heading after a slash. We saw a large number of subheadings available for delivery of health care. There are subheadings available for every term. They're reliable way to limit your results. So for HSR, the examples here are economics, manpower, trends; and for delivery of health care, examples are ethics, history, statistics, and numerical data.

So here I'm adding the subheading trends with delivery of health care and the sub-head methods with HSR. And by adding those sub-heads, we get 153 citations, a very reasonable number of titles to review. We've gone nearly 900,000 citations about health-care delivery, to 153, about trends in health-care delivery and HSR methods.

Another good way to limit results for health services research topics involves using special queries. These can help you focus your search. You've seen this page before. Notice at the bottom links to HSR and CER queries. These special queries pre-formulated searches that act as filters to narrow your topic results. The HSR queries allow you to focus on appropriateness, process assessment, outcome assessment, costs, economics, qualitative research, quality improvement. Here's the search page for an HSR query. You enter your term, then choose how you want to limit by the categories I just mentioned. Then further by scope, a broad sensitive search or a narrow specific search. Here I've entered health-care delivery, looking for appropriateness and a broad search. And that search returns 70 citations, a very reasonable group.

Now let's talk about the comparative effectiveness research queries. PubMed searches use these categories will find citations that correspond to clinical comparisons of treatments or that report on treatment outcomes; randomized control trials, observational studies, systematic review, health disparities, cost and cost analysis, CER as a subject. After running one of these searches, you can refine your results using PubMed filters, or you can use the search results combining them with other things in the history feature.
So I've entered my term and limited to cost and cost analysis. This search yields over 21,000 citations, so let's focus a little more. Here's the filtered search that yielded 21,000 plus citations. If I limit to meta-analyses, I get 36. You can see in the upper left-hand corner, under the PubMed banner, where I've clicked "meta-analyses." It's got a checkmark, and the print has turned blue. This only scratches the surface of all the different ways you can limit or expand your search. I want to emphasize again that there's lots of help available from the PubMed site as you need it, as your research evolves. Please visit the sites above that find the help that best matches your work and learning style.

Now Patricia Gallagher will discuss grey literature.

Thank you, Lynn.

The Luxembourg Convention defined grey literature in 1997 as that which is produced on all levels of governance, academics, business, and industry in print and electronic formats, but which is not controlled by commercial publishers. The most important part of that definition is that the information is not controlled by commercial publishers. Grey represents a variety of proceedings, reports, and documents produced by the government organizations and educational institutions primarily, much of it freely available on the Web. Next slide.

These are some relevant grey literature resources at NLM. We'll only be going over two in detail; locator plus and HSRIC, but don't forget to add PH Partners, Partners in Information Access for the Public Health Workforce, for public health information, and disaster lit for grey literature on disasters to your search arsenal.

Locator Plus is NLM's online catalog: a list of books, journals, and electronic documents that are part of the collection. It also serves as a useful resource for finding grey literature in areas that are of concern to the health services researcher. Here, you can see a search of locator plots in which I'm limiting to the phrase in quotes, in the keyword field "health services research." To help limit to grey literature, I'm selecting "Electronic resources" from the limitation box. I get these results. Note the Internet link to record on the right.

I'm going to click on the record that we've marked with an arrow, and here is the electronic record. It shows you the MeSH headings that were used and can be used by you for future searches. It gives you a summary and a link to that particular document. Click on the electronic link, which I've highlighted, and you can immediately read the report.

As we've already discussed HSRIC for our first question, I'm going to go into a little detail on how it's appropriate for this question as well. Decide first if you want to browse or search. Also, for ongoing research, consider subscribing to updates via gov delivery for the topic of your choice. Next slide, please.

I've run a search on delivery of health care. Here are the results. You'll see from the stars next to the URL that you can already see a variety of different papers, as well as organizations; the Commonwealth Fund, AHRQ, NLM, Mathematica Policy Institute, the GPO, all with grey literature on this topic. On HSRIC you'll find many different kinds of grey literature; government reports white papers from organizations, issue briefs, guidelines, and technology reports. These are just a few examples.

Use HSRProj as well to get started in your research. Find the potential authors of grey lit. Find the organizations that potentially produce it. Locate the authors of research or find the organizations that either fund or perform specific research then search their publications for relevant grey and published literature. Similarly, you can use clinicaltrials.gov to find information for further research.

Outside of NLM take a look at the Grey Literature Report produced by the New York Academy of Medicine for grey literature related to prevention, healthy aging, and health disparities. The URL for their database and to subscribe to the bimonthly report is www.greylit.org. I've marked on their page eliminating disparities. Just click and you'll see documents appropriate to that topic. You can refine your search using the side bar on the right.
Affiliated with grey.net is their search platform, Open Grey, which was launched in 2011 and features open access to 700,000 bibliographic references of grey literature produced primarily in Europe. Open Grey contains citation-only, but provides information that will help you to locate the full text.

Finally, you're going to want to search the web. We know that. But if you want to use Google you pull up too much and lots that's really irrelevant. So try using the Google Advanced Search screen to help fine tune your search. The advanced search feature is not always easy to find but the URL is www.google.com/advanced_search. You'll see a series of boxes that will help you tailor your search into Boolean language.

I put several terms in the first box, connected with or's. Google does understand Boolean logic, so that's a huge help. And I've put several of the terms into quotations to make them phrases. I've limited to my search, which is highlighted in blue, to past year. That will show you any web page that has been updated in the past year only. Some records may actually have older dates. That's because the page was updated in the last year. The document itself may be older. More importantly, I'm going to limit size domain. You'll need to run each search separately. This example is just to give you an idea of the domains you might wish to search. So you'll want to search .edu and run that search, then run .gov, run the search. Don't try and do it this way. It doesn't work.

You can also use the site of the domain box to run a search within a particular website, so if you want to only search for information, for example, for the Kaiser website, in the domain box put www.kff.org and it will search only Kaiser. Next, please.

Using the search I just showed you and searching only for the domain `.gov', you'll see I get results from health and human services, healthcarereform.gov, aids.gov, and the IRS. The "Advanced Search" feature will let you really manipulate your searches.

Grey lit comes from many places. It comes from the government, from advocacy groups and foundations, and from educational facilities. These documents that I've highlighted are just some examples of the kinds of grey literature that inform health services research. And now back to Lisa Lang.

Thanks, Pat. Just to reflect on what Pat and Lynn have said, there are really six steps to a successful review for literature in HSR. And I thought it was appropriate to quote the words of Thomas Edison about "Genius being one percent inspiration and 99% perspiration." So step one of all -- with any search is really to define your question. And the most important thing is to expect that to be an iterative process, and don't be afraid to make it a collaborative one as well.

The second step involves starting with the published journal literature. This process will also be iterative. And there are several resources for this which we've heard about today. Use pubmed.gov to access PubMed, PubMed Central, where you'll find full text versions of articles that are cited in PubMed, and PubMed Health where you can find evidence syntheses. Augment your keyword searches with MeSH terms to give added strength and subtlety to your searches. Use specialty designs, health services research, and other preset searches to give yourself a head start in working through various topics. And you can find searches on the searches that we've identified and find more searches in the PubMed site as well.

Use related articles to expand your search. When you find an article that you like, that you think makes sense as you're wandering PubMed, click on it and see where the indexers have identified other articles that are similar to the one that you find most relevant. You can get good value from looking at Google, but I think the "Advanced Search" capabilities that Pat showed make it a much more precise tool, so try those out for both grey lit and for published articles in general. But, most importantly, work with your local librarian who will help you find other databases such as the Cochrane Library that may also be relevant to your collection.
Next, here's the iterative part made formal. Review your results and repeat as needed. There's really no right amount of information. You just need to start someplace where it makes sense. And it may be that you actually need to review the articles -- many more articles than you would even anticipate at the outset.

So the fourth step involves expanding your search beyond journals to other kinds of literature and sources. You can start with the NLM collection, which represent our holdings. These have been preselected as representing high quality, good, concrete places, and good, concrete resources. You can access those with LocatorPlus, as Pat described, or, again, going back to the pubmed.gov site, using the NLM catalogue or bookshelf resource.

You can look at HSRIC or its public health counterpart PHpartners.org to help you find links to useful content and other potential sources such as specific foundations or agencies or consulting groups that may have information of relevance to your topic. Consult other sources such as the Grey Lit Report or Open Grey, and, as I mentioned, the advanced searching capabilities of Google. And don't forget HSRProj and clinicaltrials.gov to find works in progress.

These projects, researchers, and funders represent the evolving field, and it's important to remember that they are just as valuable as projects that have been published and have a record in the published journal literature. So, with that, I'd like to pass it back to Erin. So, finally, HSR is an ongoing endeavor, but enjoy the process and enjoy the discovery. That's the most important thing. Pass it on to Erin right now.

Thanks, Lisa. Couldn't agree more. It's a terrific bit that you've given us to really think about discovery here. So, along those lines, I want to turn to our third use case, which is for an instructor who would like to help their students find health services research datasets for the conduct of analyses as well as resources that can help them improve methods in their work.

So I'm going to start really briefly in the interest of time. And just note that there are many more traditional data resources for health services research. Some of you who may have been in the field for a while will know that on this slide what I'm showing are a number of the federal or often federal public data resources that are available, many of which are from well-established surveys. So I won't go through these, but if at any point you want to refer back to it, there's a nice list here and then also on the HSR Methods website, which Lisa mentioned earlier.

In addition, it's useful to start thinking about the range of data types that are now available. So not only do you have information on metrics, and some of you may be familiar with the Health Indicators Warehouse as a source of information. There's also organizational level data and then microdata, individual data files that may present either de-identified individual level information or limited datasets for which there is a limited subset of variables on individual experiences with health and health care. And then more information can be found about what is in a limited dataset and some other resources on AcademyHealth website, but often these have sort of a specific designation with respect to the Health Insurance Portability and Accountability Act and their access.

And then, finally, there are research identifiable files, which typically have almost all the information that's available on an individual. And there's also geocoded data, which has location information. So at each of these levels of data there are more privacy concerns, generally speaking. And so it's important, as you start working with these sources of information, to really be aware of which type of data you need to answer your question, and they are also prepared to take the time, and sometimes even to spend some additional resources to make sure you can actually access the data that you'll need for a particular project. So, Lynn, I'm going to turn things over to you to talk in more detail about HSRR.

Thanks. And I'm happy to tell you about Health Services and Sciences Research Resources. I'm going to go through this fairly quickly so that we can get to your questions. This is a great place to find information about and, more importantly, links to important data sources specifically for health services research and
so much more. It's designed to partner with HSRProj. So when you find a project in HSRProj and want to see the questionnaire or dataset that was used, you can generally find them in HSRR.

This was designed for health care researchers and health sciences librarians who are looking for data resources for health services research, behavioral and social sciences, and public health. Users can examine and compare characteristics of the tools and then there are links to additional research resources. Right now they're divided into three record types: datasets, instruments and indices -- and that's where you'll find questionnaires -- and software -- and this software is programs used to develop databases, analyze, and/or manipulate data from the datasets. You can access HSRR from the same page that we’ve seen before.

HSRR includes clinical records, discharge summaries, claims records, EPI surveys, social surveys, disease registries, birth registries, data about practitioners, programs, and facilities. The record itself will have information about the accessibility, links to the provider, vendor contact information, cost, restrictions on use and methodologies, sample size, population characteristics, unit of analysis. When available, relevant public references about resources are accessible through safe searches with one-click links to PubMed. A button will take you directly to PubMed and all citations to articles that mention the tool.

So here I've done a basic search in HSRR using delivery of health care. HSRR records have both MeSH and text word indexing so you can bring over terms you've used in PubMed. This record shows we've retrieved 21 datasets, five instruments, and five of those are particularly applicable to public health systems and services research. Notice the PubMed buttons and let's look more closely now at record two, the SHADAC data center.

Here's the record for the State Health Access Data Assistance Center. The title URL will take you to the site. The purpose is explained and, best of all, there's that pre-formulated PubMed search that is clickable. And by clicking that link we're taken directly to 11 citations to articles that mention the SHADAC data center products. I hope this very quick tour entices you to visit HSRR and become acquainted with the many ways this database can help you to choose existing datasets and questionnaires that can inform your research. In addition, a valuable government resource for funding data sources is healthdata.gov, which can complement your searches in HSRR. So, Erin.

Thanks so much, Lynn. So, again, I'll proceed pretty quickly so we can get to some of the great questions that we're receiving. As I noted previously, at different levels of identifiable information, there are some considerations in terms of the relative openness and ability to preserve the privacy of individuals who are included in certain data sources. So you can see here on the left for more open and accessible data you can get sources of information that will maybe use visual tools or descriptive statistics to give you aggregate information, all the way through to access to proprietary data or otherwise sensitive or classified information. And at each step along the -- at each of the steps along this continuum, again, you'll have to take into careful consideration how you will handle that data and what some of the governance requirements may be to access that information.

Along these lines, I'm sure you've all heard lots about big data as a buzzword. And it's a very important and exciting area of inquiring using big data. And there are really sort of three predominant or prevailing definitions of big data. One that I particularly like is the three "Vs" definition, which refers to big data in
terms of its volume, its velocity -- how fast it moves between actors -- and its variety -- in terms of, you know, from sources within the field. And now I've actually heard that there's potentially a fourth "V" to add to this definition, which is its voracity. So you can stay on top of that evolving definition.

The second prevailing definition is that it's broadly synonymous with analytics. So data that really exceeds the processing capacity of conventional database systems that move, it's too big, it moves too fast, and, importantly, doesn't actually fit the strictures of most database architecture. So that's where sort of broader concept of analytics is needed. And third speaks specifically to the volume piece of the three V's. You know, now -- you know the size of files that we can process, and particularly in cloud computing architecture, it's just growing tremendously. And the amount of information in the world is, you know, expanding exponentially. And so whereas, you know, we were dealing with a few dozen terabytes of data in 2012, we're now working in petabytes of data, and it's really important just to keep in mind that this notion of what is big keeps expanding as well.

So I'll refer you all, if you haven't followed the activities going on in the space of the Health Care Cost Institute and the Observational Health Data Sciences Institute as well, OHDSI, I definitely encourage you to take a look at both of those sources as good examples of rigorous work that's happening in the field of health services research.

So I'm going to really conclude on this slide and then by noting that when we think about what it's going to take over time to move from big data into the kind of evidence that I described in AcademyHealth mission and vision at the outset of this session, we're really thinking about the movement of data, even big data, into information that creates knowledge, and that knowledge that will drive action to improve health and outcomes. And I really have found, working with this community, that really the sort of hint here, the answer is developing good questions and thinking about how to get the right data that's needed, and then using good methods to produce those answers. So I think, as exciting as the mission of big data is, we always have to keep in mind what our questions are and what are the outcomes that we're driving towards within the community. So, Lisa, I'll turn it back to you and then we'll wrap up with a couple questions.

Fantastic. Thanks, Erin. I think that goes exactly to the point. Good questions really require good methods. And I wanted to just put up a few resources here just to remind you. You may, in your studies, obviously get training, but there is help you can access at a fairly basic level with some of the tutorials and resources you can find on the NLM website at the NICHSR page that you've seen previously.

We also have a current resource on health technology assessment in e-text, which is a much more sophisticated level of health economics. The methods resources that we've mentioned previously, the website that AcademyHealth maintains for both the newbies in the field as well as for trained -- some of these complex and developing methods issues that Erin alluded to, that's another good resource for you to look at. And, finally, if you want to get a sense of the evolving field in general, you can go to the AcademyHealth website and sign up for their monthly newsletter, Methods Minute, which is a good way to keep track of new developments in the field from a methods perspective.

I guess where I want to conclude before we go to questions is this notion of "Join the discussion." This is really -- that's really the message for today. HSR is an active and evolving field. It's a welcoming community. There is a host of ways for you to learn and for you to contribute, and otherwise become involved in this field. So, before I go, I just wanted to highlight just one of those venues to echo what Erin was describing in terms of big data, specifically the intersection between health services research, health information technology, and this evolving big data idea.

The EDM Forum, the Electronic Data Management Forum, was originally created with support from the Agency in Healthcare Research and Quality to advance the national dialogue on the use of electronic health data for research and quality improvement. In addition to providing opportunities for collaboration, this website, the EDM that's posted here, the EDM Forum provides access to issue briefs reports, peer-reviewed publications, special supplements on analytic methods. It gives you a sense of the evolution of
the field and the clinical informatics like learning health care systems, these are all issues that are really very much going to preoccupy us in this 21st century.

The forum also has its own open access journal called eGEMs where you can read more about the ongoing debate and discussions in the field. The journal itself can be found at the AcademyHealth site listed on the page there. But it can also be found when you take advantage of some of the advice that both Lynn and Pat gave you about how to search PubMed, it's in there also. And I commend it to you, but I commend the search and I commend the journey, and welcome to the field. With that, I'd like to pass it back to Erin and we can go to questions.

Thanks, Lisa. So we received some really terrific questions. And why don't I just jump right in. And to your point, Lisa, about the invitation to get more involved, a great question about if somebody wants to get their own research into HSRProj, how do you go about doing that? Liz, do you want to start with that one?

Sure, I'd love to. So there's a couple ways you can get involved with HSRProj. And, as we mentioned earlier in the HSRProj, there's an HSRProj email address, which is the quickest way to get in touch with us and to ask us questions, and also to alert us to the fact that you'd like to get your research in. So that email address is hsrproj@academyhealth.org. We check it frequently and we like to hear from you. Another way that you can get your research into HSRProj is by going to the HSRProj website and you'll see a link. I don't have a screenshot here for you, but it's on the website. It's also on the website of this webinar webpage. I believe we included the link to submit a project in HSRProj. If you're unable to find it, again, email us at hsrproj@academyhealth.org.

Terrific. Thank you. So, Christiane, I wanted to turn a question to you about the extent to which HSRProj systematically receives contracts from the federal agencies, since that is not always something that is directly included in grant databases. So can you respond to this question about the extent to which HSRProj includes information on contracts?

Sure. I think that -- so for the mainstay of our electronic searching we do in federal databases, and the largest one is one that man of you are probably familiar with called "NIH Reporter," which records all current and past biomedical research from NIH, and other federal agencies have been added, such as AHRQ. And so we've been collecting research from that source and from other sources. And sometimes - - you're right, the questioner is right that sometimes contacts are not always included, but many times they are. And so we did have a special effort to get AHRQ contracts through.

AHRQ has their own database, and so we now routinely search AHRQ's "GOLD" database for contracts. So that's just an example. And if, you know, anybody who's participating on the call has other suggestions, we can definitely take those under advisement for other sources of contracts. That true, they can be a little bit more difficult to find.

Thanks, Christiane. Liz?

Yeah, I just wanted to add that HSRProj, as a resource, has the most comprehensive list of PCORI records. So PCORI actually publically makes available their records through HSRProj. So that's how they show that they've awarded these records. You can find them there easily.

Those are all contracts, correct?

Those are all contracts, yeah. As well as many AHRQ and NIH contracts as well.

Fantastic. Thank you. Also, Christiane, maybe I'll start with you on this one as well, in terms of tagging we talked in PubMed about MeSH. Within HSRProj, how are the projects assigned keywords and/or are they titles very descriptive? So what are some of the best ways of searching HSRProj?

Thanks. Yes, the keywords, generally, if they are included, keywords being distinct from the MeSH or controlled by vocabulary that is assigned by the NLM, those generally are included when they come with
the rest of the information for the record, such as the title and the abstract and all of the other fields that we include in HSRProj. And so we get most of those, again, from NIH Reporter, and try to include as many as are useful and will actually help the NLM Indexer to index them with MeSH. And so, as mentioned earlier in the presentation, you can search -- many of the fields are searchable. You can search MeSH. You can search keywords. The title words are searchable. The abstract is searchable. And so if you have questions about how to best search HSRProj, we can help you, AcademyHealth can help you, your local librarian can help you.

Great. Thanks. Another question about how all of us, again, who work on HSRProj database, how we think or why we think HSRProj is unique, and what are the primary messages we might give someone about why this database is useful compared to others? And I hope folks online, but I thought I'd just start with that from my perspective, having served as principal investigator of this project for the last several years. And for me there are really two distinctions. The first are the sources of information that are provided within HSRProj.

So, as Christiane was just saying, the most traditional grant databases only include information from that particular funder. HSRProj is quite unique in that we include information across lots of funders. And so that, I think, is particularly across the federal grantmaking agencies as well as private foundations. And there's a really nice distribution of those within the database.

The second is the degree of curation that goes into ensuring these really are the appropriate sort of scope for folks who are interested in health services research. So, while clinicaltrials.gov is a really tremendous resource, there are a lot of different types of research in there, you know, moving even beyond clinical trials at this point. But, again, if you're trying to really, you know, get in deeper and find the right set of projects to look at, I think HSRProj is a much faster one-stop shop, and that's really why it was developed by the National Library of Medicine to begin with. So that would be my sort of quick summary of these unique sources and then the degree of curation that the team undertakes, as well as all the tagging that Christiane mentioned. But curious if anybody else on the team has some other ways they would answer this question about the unique features of HSRProj?

I do. Just to layer on top of what Erin has already said, I think one thing that we have covered, and that is sometimes covered in other grant databases, but I think when you layer it with the multiple funders of HSR and looking at the scope of HSR, that this is ongoing I think it becomes a really valuable source of information for conducting environmental scans of the field, understanding what's going on, and what's current, and, you know, what's happening in the field of HSR. It's useful that way. I don't know if anybody else would like to add anything as well.

This is Lisa Lang. And I would echo what you've said so far, but I would also add that the timeframe of the projects that are described in the database also is unique in that you can really see the arc of the kinds of research that have been done over time, and that kind of trend analysis really is important so that you can do gap analysis both over time and within topic. And I think that's really -- it's hard to make that happen otherwise.

Yeah, agreed. Terrific point, Lisa. So I wanted to turn to Patricia and to Lynn, interesting question about the kinds of bibliographic software that you might recommend to work well with PubMed as well as other HSR resources.

There are a number -- go ahead, Lynn.

No, you go ahead, please.

Okay. I was going to say there's a number of citation managers, and almost every single one of them, RefWorks, EndNote, those are just a couple. There's a freely-based one on the web, which I'm blanking on the name of, but all of them will allow you to run a search on PubMed, export the data, and then upload it into your citation manager for further manipulation. For grey literature, it's a little more tricky.
You'll probably have to run the search and key in the information since it is web-based. I know of no really easy way to just download a citation from a web document at this point. Lynn?

This is Lynn. I just want to add this is not -- I'm not trying to sell EndNote, but I use EndNote in my work a lot, and while you're in EndNote you can actually search PubMed from inside the EndNote program. So if you have a title or an author and you know you want to add them to your bibliography you can search in EndNote and they will feed in directly, so you don't even have to do a download and upload.

Great. Thanks so much, Lynn. While we've got you on the line I also want to ask another question I received about how you can determine the quality or what measures of a dataset quality you can actually find within HSRR.

Well, now that's an excellent question. That is an absolutely excellent question. And I want to make it clear that just because a dataset or an instrument appears in HSRR that in no way indicates an endorsement of its quality. We are passing along things that are used in other people’s research. So some research has thought that this is of value. Of course you'd want to use the same kind of metrics and filters and just common sense that you use with anything that you find. When you look at a list of sources you want to see what the sources is, whether it's a "gov" or a "edu" or a "org." It's so easy on the internet for anybody, as you well know, to do anything and make it look very authoritative. So you want to look at the source. Just use your regular old smell test, you know, does this look reasonable, do you trust the person that's putting it out, do the results look reasonable to you? So I wish I could be more encouraging and deliberate, but that's just the nature of the beast.

How about you, Erin? How do you decide when you're looking at something, whether it's good or not?

Well I think, you know, I suppose one of the ways that I read this question was what specific actions in the HSRR database can be used to assess some of these questions at the outset. And I think part of, you know, what that points to, and as you're saying, is the need to largely kind of dig a bit deeper; right? There are lots of different characteristics of datasets. And, in fact, I've been involved in an effort through the EDM Forum to think about the data quality of data across distributed research networks, and, in fact, there's a paper on that topic I'd be happy to share around. But it illustrates that there are a lot of dimensions of data quality that need to be taken into consideration. So rather than enumerate those here, we can post that link if folks are interested, and we'd encourage you to take a look at that and reflect on those questions because I think they also can be brought back to other more traditional data sources, some of which are in HSRR for considerations. So we'll be sure to post that.

And let me just piggyback on that, that that's one of the strengths of HSRR is you can look at them side by side there, from an array of places.

Great. Thank you. And Liz, you had some late-breaking news and a comment from someone else on the phone who had something to say about bibliographic resources.

Yeah, we've gotten an additional comment from someone who's now my favorite because they mentioned my favorite bibliographic resource which is Zotero. So, again, not to endorse anything, it just sounded like I did.

Yeah. Zotero is another one you might want to look into. And our commenter says "Zotero has a browser that captures the metadata for grey literature if you have the document or site open. So, good point to make. Thank you for submitting it. And that is web-based and free.

Yes. Right.
Okay. Great. So, thank you very much. Okay, so we are right at time for 3:00. And I want to thank everybody again for joining us today. This was a terrific session. I want to give a special thanks to our colleagues at the National Library of Medicine and NICHSR, as well as UNC, and of course our lovely colleagues here at AcademyHealth. So please do get in touch with us. We welcome the opportunity to work with you to make the most of resources from the National Library of Medicine in pursuit of all of this great discovery that we’ve been talking about today in health services research. So thanks again. Have a wonderful weekend. Bye.