# Data Librarianship – Transcript of audio

Please stand by for realtime captions. We will get started in about five minutes thank you.

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Hello everyone, I am talking out loud to give you a chance to set your volume on your phone or computer speakers. We will be starting in about two minutes, thank you.

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Good afternoon, and welcome. My name is Helen Keremedjiev and I am a user support library and at the U.S. government publishing office. I will be the MC for the room today. Ashley Dahlen is providing tech support if you need any assistance. Today's webinar is data librarianship a primer by Richard Huffine . Assistant director Enterprise Information & Records Management . For the Q and a during this talk please add your questions to the chat and add your questions to all panelists or all participants. I will monitor the chat and questions will be answered throughout the talk. His presentation is being recorded and will me made available shortly. I will hand the microphone to the speaker who will take it from here.

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Helen, thank you for introducing me. Welcome to everybody who is here today or joining us guy of the recording. My name is Richard Huffine and I work for the FDIC. I have a 20 year career with the U.S. government and a longer history working with federal depository libraries. I did that in my undergraduate years helping the catalog and make available government information to the users at the Appalachian State University in Boone, North Carolina. I'm excited to talk about things on the horizon for FDIC and for government information in general. I hope you enjoy this presentation and I look forward to engaging with you today on this topic. The topic is data librarianship and it is a growing effort across I think our profession to understand, capture and support users of data. In a much more efficient and effective way. I have an overview, of what this means, what it could mean for you and how is it is also working the federal government. Just as an overview to give you a high-level view. We will talk about the role librarians can play in data and highlight specific areas and which we have an opportunity to support users, acquire data, manage or make available public data, the role of data stewards and data catalogs as well as storage, citation and literacy. I hope you enjoy the presentation and look forward to questions and being able to answer as we go through this today. Let's start with librarians and data. We start with the?. I spent a lot of time in my career thinking there is a hierarchy to information and we sit firmly in managing access to information not and certainly worrying about access to data. This is an example of a recent posting from the Federal Reserve Bank of Atlanta for a data librarian. It goes into specific way the data librarian will involve themselves in the organization in supporting access to data and the use of data. I think it is very instructive as far as understanding the whole scope that they are expecting this one individual to be a part of. You can see some of the pieces of being quiet data literacy program. Enhancing everyone's knowledge and experience on how to work with data effectively is something librarians have a skill set to do. We understand literacies and I think we can apply them to a new set of questions. Partnering with individuals involved in information technology to create programs around the development of services on data management. A lot of that we do with our I.T. support for the information the library provides and extending that data is not a long stretch depending upon the complexity that is introduced. Advised staff on practical solutions to manage, archive and seven eyes 70 their data. Applying a new set of resources is something we do have transferable skills four. I think we quickly became aware that maybe we could provide support in the realm of data as well. Just to continue this view of data librarianship within the hiring or professional space, these are three positions that are currently posted as of June 30th on the ALA job list. one in Gainesville, Florida, one in Oregon and another in Rockville, Maryland. Data is finding himself into our work even if it is a smaller select set of folks that we are hiring to work on this topic. You will see opportunities I think to engage, to grow

your own skill set and to engage with others if you are interested in doing that. I found that in my career that if I open myself to talking about data I found a new set of customers to engage with. Let's talk about the users of data. To be honest, anybody and everybody can and should be using data, if you read an article questions the results of that you might want to look at the data. There may be data presented inside an article you are reading anyone a question that or understand it a little better. In order to determine how accurate it is and how relevant it would be to your work. There is a combination of current users of information. And folks that would never think of a library is a source of support. There are a lot of people that use data that might not be looking for articles or summaries or research. They are just working for data. Typically focus exclusively on their current needs. They aren't creating a collection of data for future analysis is much as they are trying to get relevant data to what it is they are doing at that very moment. Not always aware of the options for sources of data. We know, as professionals there is a lot of free data out there and there is a lot of data out there that is licensed or purchased and sometimes the purchased data has had added value. It integrated multiple data sets to make it easier or they've curated the data to make sure it's accurate and relevant. Free data from a trusted source can be very valuable. Free data you don't know what the sources can be questionable. The users of data aren't aware of the terms and conditions that may need to be negotiated and honored when data is purchased from a commercial provider. If you are bringing data into your organization are helping people to do that you want to think about how often the data is being refreshed, terms and conditions that are associated with the data. There are a lot of terms associated with free data from providers like Google or Amazon. That you may have to inform your users that while it was free there are limits to what you can do with it and there are times in which you have to meet your organization's requirements. Data acquisition. There is a lot going into determining if this is the right data source, what do we want to do with it, how we are going to do that and how can we use data the way we want to. Free data often comes with terms and conditions and it's something you have to click through or read and agreed to, in order to use it. Its use, the ability to share the data, whether or not you can aggregated or combine it with other data and also whether or not you can create they were the derivative works from it. Asking simple questions like how to you plan to use it? Is there anyone outside of the organization you want to share with? In academic institutions or options with sharing data and information under fair use. But there is still sometimes license agreements that need to be negotiated or addressed. I found nine times out of 10 a producer will give you approval to share data or combine data if you explain to them how their contributions are going to be acknowledged and incited as well. Working with users to articulate what they need helps them and also can help them explain to your leadership how to work the library is doing is helping the organization. As a word of caution you may need to delete data at the end of a use case or agreement and being able to do that and knowing and working with your I.T. team to notice data needs to be identified in a way that it can be removed when appropriate assembly also wants to plan for. Finally the budgeting for data requires engagement with users, management and administration. I always argue, free like a puppy, you still need to budget and plan even if you are loading free data. Data storage has a cost. All this is to be factored in and what the library covers. I want to spend a little bit of time on public data and there is a lot of data made available at every level of government. There is a lot of free data from federal, state, provincial, municipal and local governments. I use broad terminology because there is data that is abrogated or put together at a higher level that can really help communities understand from either a federal perspective what is happening on the ground in your community and other communities as well. As I mentioned before free data still needs to be described, managed, updated, correlated, or integrated with other sources. Free data can take a lot of your time and energy to maintain and I also think as any data source, and is to be scrutinized, evaluated and determined if there may be a better use of your time and energy to acquire a data set that may have already been integrated with a different store so you can accomplish what the user wants to do quicker. There are examples of that, one is Z.I.P. Code data which you can get from the

U.S. Postal Service. It is free but it also may be at a lower level of analysis that something you can get from a commercial provider that would also be provided to someone who is doing mass mailings or other database uses. You may determine working with someone who was already curated and manage the data set is worth the small amount of money potentially compared to bringing in a free data set and trying to bring it up to what your users expect. We are great navigators and can help users understand the true cost of free. I would argue that if you do find trouble with a data source they are often open to feedback and are open to a use case. Maybe a data source you can access directly in a way that allows you to create the data set you want. It is worth and engagement. A lot of government agencies want to see that used and it would be a welcomed conversation.

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Is a good segue because we do have a question. Where would somebody find the currency of data? By the data set? Under general FAQ's? Why would someone normally look to where the current data is?

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The data source will typically describe how often it is updated. If it is not there it may be on a metadata file blow it up next to the source. There may also be documentation on the organization's website to explain when or how it is updated and things like application protocol and API connections. They are direct feeds is someone I know how recent or current and how often the data is updated. I can tell you sometimes with the government there is a lake time and a lot of government agencies pledges by organizations that require the data to be processed and made available. You may have a three or six month delay sometimes in data availability. There are times in giving feedback to an agency will be provisional until the full data set is available. But if you don't find the information that is a kind of question that an organization should welcome and it should be able to put you where you can find that information as well. I would argue that once you get that information put it in your data catalog, your catalog record so that your users know what you found from that inquiry. I want to talk about data stewardship because there is a role here and it may not necessarily be for you the library and what it is for you to go out and find who the data stewards are. Data governance is a function by which agency try to make sure that the data that is available is the most accurate, the data that is needed and that is available to the people that need it. There is a role within organizations for data stewards people that within our topic areas and specializations can advocate for data they need an organization needs but they can also make sure that it is updated and current and that we are aware of changes in the data format so people can change their analysis is necessary. Data stewards within organizations are those contributors to the data catalog effort and are often those who can speak to how data needs to be combined and what issues there may be with combining two data sources that are different from each other. All of this goes towards a data strategy within an organization. But librarians can play a role as data stewards if it is appropriate but they can also play a role in coordinating or organizing data stewards and making sure they have the information they need and they are engaged with one another and the other resources available to manage data effectively. Sometimes data people forget there is information functions. Managing the outputs and capturing the information that is derived from data analysis. Data management is not just managing data but also managing output, managing the information we have about how we are using the data that is available to your organization. Some want this information now and understand it today but you also want to capture that understanding you can benchmark, compare how the markets are a year from now compared to last year. Are there changes that have happened that would reflect why your data looks different today. Bringing the information skill set is not just in helping people manage data more effectively, but also understanding how data fits into a broader infrastructure. Including information and knowledge, who knows what or has the expertise to use this data effectively. I mentioned there are three different types of stewards. Librarians may not be the tactical stewards, those are the I.T. people but they may be the collaborative stewards who can speak to how data is used, who uses it and they can also be executive stewards who make

decisions about the data within the organization. Together these stewards provide governance, strategy and leadership over data management across the enterprise. There are a lot of people that live in their own silo but the goal here of an enterprise data strategy and understanding data is to make sure that those people in the silos are sharing the data that other people need to make informed decisions as well. We have a question here, or the statutes or regulations which define data governments -- there are some mandates that are necessarily in statute and they have been driven by Congress to the administration. There is a mandate to have a chief data officer within federal agencies today and there are mandates of those chief data officer's reply to the data elements and the work being done in agencies. That reporting is going to the Office of Management and Budget and there the chief data officer counsel which communicates across agencies about the mandates and requirements and how to meet them effectively. I can tell you that as far as I know there is no dedicated funding to data management or data availability within the federal government today. It is expected that agency will manage data effectively in order to reduce the burden of managing data across the enterprise. And they will make data available to the public on the requirement or expectation of open government and open communication. So there are expectations, reporting and I can tell you there are probably agencies that excel in agencies that fail to meet those expectations. But there is not a centralized funding source there is not a dedicated funding source to ensure the data is being managed and made available to the public in a way that it should be. You will be able to find a lot of information about agency data operations probably through the reporting and the activities they are doing as well. I am heavily involved in the chief data community areas within my community. I am a collaborative stewards within the FDIC for data. Specifically I support administrative data and access to the commercial data that we purchase for the organization. Here we get into our wheelhouse in some ways. There is a growing expectation and need and a real capability to build out data catalogs. Agencies have a lot of data but it is awfully hard sometimes to know who has a need for what and who is using what and sometimes what does the data mean. There may be a column or row that is hard-to-find in what was captured or managed. There is a lot of metadata that is generated in a catalog to describe every single cell or column and wrote description to help people understand how data may be collected, what its provenance is, how current it may be, what source was and as well as how it can be integrated, utilized for analysis. You would think librarians would be excellent or participating in these connotations and I do think there are skills built into the catalog effort but I am surprised how few librarians there are working within organizations or even the company that built the data catalogs. They do help capture and they can even help people find the resources they didn't expect that would help them meet their needs. It is not just the catalog is actually capture information automatically and there is a little bit of artificial intelligence in there. And there is a lot of information that is system generated that would be valuable as well. Information science is at the core of data catalogs. Their sophistication would put most library catalogs to shame in some ways. Doesn't necessarily do the same thing librarians have done for years but it does create an opportunity for data users to access and connect two things these catalog support extractions, information so you may have iterated versions of a data set that have been utilized for different purposes. And they can support different data warehouses. I will stop here and address the question that came in. Where in QNB or those CDL reports housed? And what is the opinion of data.gov considering the low funding. I assume he may mean the funding of data.gov as a coordinating function but I can't speak to that. I have not looked for the CDO reports but I will be happy to look for it and share it after this call. There is information out there that agencies are sharing with each other that omb is sharing with the public as well. I mentioned data storage and the reality is that a lot of data lives within a system. If data is generated or created within a system and agency usually does us every day to the normal activities, they may extract that for the purpose of integration and use. They will put it into what used to be a data warehouse which today may be called a data late or a data mesh. The difference between warehouses, lakes and marriages or how well the data is described down to the elements level

and how possible it is for you to look across multiple data sources in order to get the information you need out of a pool of data. Out of collections of data. This diagram shows how multiple data sources may be extracted, transformed and loaded into a data warehouse. That is one method and the data Lake reference addresses another method of bringing data in. Keep in mind today that you can have access to data via an application protocol interface so you don't even have to bring it into your environment to organize and and related, you can bring it in on demand via query and utilize it that way. There is a lot of opportunity to connect data sources and do analysis on the fly. The best option means you are bringing data together and orchestrated method to meet a specific need upon demand. As long as you curate your data and make sure your data is good when it goes into these transformations or is connected to other data sources there is enough to make a informed decision about how it can be utilized. Security is critical for sensitive data. A lot of data elements may not be sensitive by themselves, but if you can bring them into an organization and connect the dot you might create what they call the Mosaic affect. Get a piece of information that would not be have be provided for sensitivity purposes. That can include things about infrastructure, power plants or water supply. On individual or individuals who may have cancer or have a mortgage or whatever they have. That would be aggregated into the sources and individually you might not even connect that.and one source but you can find it by connecting multiple sources together. What we try to do in this data storage environment is only release the elements that are needed for the analysis that is being done. You can also de-identify data sources so you can say and said this is Mary Jo, this is citizen a 457 so that unique identifier can persist but you can't connected back to a specific individual. When you're cognizant of the Mosaic affect you have the ability to work across multiple data sets and maintain sensitivity and still get a lot done which is very helpful. I have a question here, do you think library should catalog resistance of data catalogs. And I think that is probably a good idea. Because there may be multiple data catalogs within an organization or catalogs out there to help people. I think library and can be involved in making sure that the data catalogs understand the way data and metadata is utilized so that resources can be uniquely identified. And they can be linked to providers and to users. I think use cases are extremely valuable in both category and making available the information to others. A lot of people just want to follow someone else's path and get a similar insight. I think there could be a lot of reusable components out of the analysis I could be made available. I think librarians are valuable at every table and if you have a chance to get to the table in your organization it is worth trying to do. The other component to this which I think librarians have a lot of role in today and have driven maybe a lot of the decision-making is data citation. When we have some in producing information and he wants to have it re-created or understand how they got to the result they did. There has been a lot of work done to create and capture data titrations and there has been work to capture analysis and data sources. You don't have to release your data sources so someone can see the results and potentially use that. There's a lot of opportunity in data citation to acknowledge providers that collectors of data and where the data came from but also acknowledge the opportunity that people will want to use this data to build upon for future research as well. It is important to train and support data users and document their methodologies so the results are trustworthy. He may be able to produce a data citation, but if you haven't documented the methodology used to come to that result people really may not know where to start to use the data sources you've identified. It's important for them to understand the approach that was taken.

Similar to a question that has come in. With metrics in their own changing criteria are there concerns for long-term data analyses that use different units of measurement or varied methodologies or have inconsistent data sources?

I would argue identified the majority of the concerns we have about replicability of data analysis of research. How data management within an organization can address those things really depends upon

how much scrutiny or time and attention that is paid to making sure that when researchers published that it is well documented, methodologies are captured. When we talk about units of measurement and things like that they are all translatable for the most part. When you talk about data sources, especially if you are using data that is very temporal you may very well be able to go back and run an analysis again but the underlying data may have changed. Either it was corrected or updated or has moved forward in time and the data that was utilized at that time isn't part of the data set any longer. I am a big believer of pulling it into extract, of holding that extract and associated it with the main data source but still releasing extract and saying this is the data I used at that time to produce this result. Scientists know how to document their methodologies, they just don't like doing it sometimes. That is something you might want to pursue. We have a question here that Jennifer says she is not from familiar with PID. That is typically a unique identifier, it may not be a URL it may not be used in a URL but it is a unique identifier used in conjunction with the URL to link to something. Typically in a data set you will have a unique identifier identifying that row of data and that is the PID. The next piece of this, is a fairly highly coordinated, the idea of data literacy. It was barely -- very highly placed and data literacy is just one more of the many literacies in today's libraries that we need to understand and incorporate in our interactions with users. I have a graphic that shows several of them. Technology literacy which spans everything from I don't know how to turn it on to I really want to program this. Visual literacy. The ability to look at a picture and understand or be able to express via a picture and understanding. Critical reasoning. There is a lot of training today around trying to help people do critical reasoning more effectively. Get people to an informed decision more quickly and also have them be more comfortable with the decisions they make. Whether it is what commute they should take or whether or not they should invest in this tool or that service. Information literacy is an area we've been involved with heavily and really created a lot of the documentation for. The other two listed, statistical literacy the and data literacy really have to do with how well do I understand data and analysis and if I can run an analysis do I feel comfortable with the result and what it is telling me. They used to say and it's very true that statistics can lie to you or life for you and you have to be careful about communicating information either in a visual presentation or in a statistical analysis that uses a very small data set that makes presumptions about how this may represent a broader group of people. Or just takes a look. I see a lot of people say here is the activity over the last month but they don't tell you how does that compare to the month before or two that month a year ago. You don't even know if the data you are looking at tell you if it is high or low or if you should be worried or not. There are plenty of things that will do a green, yellow and red scale to show you that a number may be high or may be impactful. But teaching people data literacy involves teaching them how to collect data effectively, how to manage metadata and descriptions, how to make sure the data set can be picked up by someone else and used effectively as you use it yourself. It turns out everyone in the organization at some level either generates or uses data. Even you as a librarian, how many reference questions did you answer today. I know we struggled with this and there are probably tons of papers on how librarians collect statistics on how complex the questions are. About whether or not I was her skill set that they applied or something that anybody could have entered on behalf of the library. So those data points sometimes can create more problems than they solve and data literacy really helps people ask questions of themselves and others to make sure they are effectively using data in their work. The responsibility for data literacy is shared across the organization and I do hope libraries are a part of that conversation and that corporate training is a part of it. I would highly recommend if you are interested in data literacy there are a number of YouTube videos produced by several universities which are good in teaching data literacy on campus. That could be applied to our organizations as well. There is a lot I'm sure that has been written on data literacy in the professional literature. But also within the corporate world. It is a key component to effectively managing data within an organization and I'm very glad to see that data literacy is a part of the chief data officer's counsel conversation and the office of budget management as well. We come around to it

I came around to the realization that it is not data and librarians? It is data and librarians!. The reality is yes, we have transferable skills, the reality is a lot of the information we manage was or could be data in the future. A data point in itself or use data for its generation. We never had a handle data back before the digital era because it was all on print. I don't know about you but I'm struggling with a lot of old publications which are just a whole bunch of tables and print and how to make that into data again. How to make that data available to researchers today. When you start looking at data or looking for something that librarians can play a key role in. I would argue that not just the federal but definitely the state and local level there is a great amount of data being collected and made available to help local politicians and local government agencies make informed decisions. It builds their skill set that way as well. Being at the table does not mean taking on another task without resources are so work. I don't want you to think that you have to become librarians on top of everything else but it can mean allocating resources within the organization. Librarians at the table within data are thinking about what information is being produced from this data and how that is being to be made available and managed. So the sources of information and library are built off a very effective data source as well. I highly encourage you to be engaged in this conversation and it can produce a new position. You could ask for a new library in order to hire someone with the skill set. There may be some things you are doing less of today that would make room for you to think that the next library and would have some skill or focus on data as well. I am open to your questions. I would love to see if you've had similar experiences in your own organization or whether you see data being built as a pillar outside the library that you might want to figure out a way to be a part of in the future. We definitely have seen in most agencies at the chief data officer sits within the chief information officers organization or within the technology side. But I do think that you have a chance to be involved, to be engaged and to make sure that the library, library and skill set is part of the conversation we talked about. Like if someone is in library or information school today what skills or aspects of the data realm would help their library career?

That's a really great question. If you are a library student today there are a couple of different directions you need to be very much cognizant of if not integrating into your education. Data management and data literacy or something that would build off the other literacies and understand you will have in your classwork. But also knowledge management and how information services roll up into supporting office management. There is a pyramid out there that talks about how data in context and information in context is knowledge and knowledge and contacts is wisdom. No one has said you can manage wisdom. But everyone has looked at knowledge management as an opportunity to really manage, expertise, where decisions made and what do they need. A very and how data being managed can be in itself an information product. Depending on where you find yourself for yourself being, never thought I would be in the role I am in today. But you definitely want to send back a bit and have a broader view of information because if you want to have a role you feel proud of and stand back and say this had an impact that he wants to understand how the library work you're doing fits into how people make decisions. People use data to make decisions. I encourage you to incorporate data management, data literacy into your papers, conversations with your professors, they will see an opportunity that you are building off of I think in the conversation.

Yes, you can buy free data from a lot of different providers. Sometimes, it depends on what the provider has done with that data that make sense for you to pay for. Sometimes they have taken that data and they've normalized it with a lot of other sources, maybe other free sources, but the time they've taken to made it more accessible and placed it in an approach that really lowers the bar on what you will have do to make the date of our useful. If it saves a lot of time and energy than it may be worth the money you will pay for it. You can always ask questions about where the data comes from because another thing that can be a challenge with paying for free data is that they may not be updating it as fast. If

currency is important to you by getting data for free from the source may save you time but still require processing that they will otherwise be freed is have determined that the value is there and what they are doing for you.

Someone put in the chat, I will read it for everybody. We currently live under the Tran a and without the office having limited resources themselves they want to make it consistent library is data scientists. In that scenario the expectation is that we would stop doing other things. Those other things may be as important or more important than the data science activities. We struggling with wanting to be involved with data science and the larger roles and your need to still provide other services.

Let me say, I have seen data scientists position descriptions that look very different from data librarian positions or librarian roles. Data scientists often have to understand a lot of the tools for analysis. This is physical analysis, the process of combining data and analyzing data. These kind of things that are taught in science courses, not in just information science courses. But in mathematical courses. If you are saying that corollary I would argue that your officer is trying to get librarians, and document them into data managers but not necessarily data scientists. They may not realize they have a need for that higher scientist level capability. I do see the challenge you have because you fall into the and not fully understanding the value of the information management you are doing any to be done effectively and the acquisition of information is a function that does not go away with its digitization it just really moves it into a virtual world. It still takes time and energy and we still create a lot of metadata to support information does as well as you would create data. I would be advocating for separating the scientist aside from the data librarian capabilities but asking if these new positions would augment the function of the library and not supplement or move people away from supporting information resources that the organization needs. That's the thing. Organizations still need research, access to the analysis that has already been done. Because that way you are not working within a vacuum and you want to make sure that the analysis, the daily work you are doing is in contact with other data work done outside of your own organization. I think too many people don't, and leadership in our own organizations don't really want to bench themselves against other organizations similar to them. Whether it be research institutions, other government agencies, I do think you needed be aware of what else is out there. Your data management vacuum will produce results that have no context in the world at large. I feel for you. And don't want to see that happening but I can tell you most of the CDO organizations haven't been funded to build up their own capabilities so they are probably trying to find skill sets that they can use to build an organization out of resources they arty have.

Something just came and how current does data need to be to stay relevant in a presentation to show patterns of usage when something is used?

But does make some sense. Data, and context is always useful. There is a lot of data that is in real time today like Amazon I'm sure is monitoring how many people have bought something in real time. But having that date of data two months ago could be informative for that campaign or what were people doing then and if they will do that again or do we want more of that? I think as long as you provide the context for the data you have even if it is dated it is still a valuable data point. Now if your organization is driven on I need to know what happened yesterday, I'll use an example in my own world. One of the things I supported our contact center. People calling and asking questions about deposit insurance and the FDIC. Until March our call volume was about 120 to 150 calls. Since March since closing a major banking a lot of news about the banks in our culture came out we now have an average of 350 calls a day. Now, three months into the activity, 350 calls a day looks normal. I keep having emphasize that data point will always be valuable as long as you have context for end use it effectively. If you can get

current data the challenge with current data or real-time data is you have to build the analysis or the transformations in real time as well. So you have to be able to use it raw or process it quickly in order to use it.

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A little on the spot for you, besides data.gov any other federal government resources to access data that you recommend?

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Data.gov is meant to be the clearinghouse where you can go to find out who has data that I might need. But I would argue that sometimes interacting directly with the agency to say what else do you have or how can I use this is a perfectly reasonable conversation. If you are in earth scientists and you authority gone to data.gov and found what you could but you are like there should be more there must be more than this. Reach out to the researchers and scientists in organizations that you would expect to have data. Sometimes explain why that data is broadly available or they may be able to even say how they can give you some of that data. You can request data just like you can request information. You can ask for the data from an agency. He might not get on a pipeline or regular basis, but it can be available. I do want to mention Jennifer mentioned in the chat there is an organization that looks like it's for organizational scientists. The librarians aren't part of the radar small members and a much larger number of research data specializations the thing I want to avoid and I think we all do is the silos and not use at the enterprise level. The have and have not were people that say they can analyze data over there because they have the people and skill set but we can do the same here that is the reason why these chief data officer positions are being created so we have an enterprise view of data used in data availability and we make sure that data is accessible at the enterprise level.

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Before I wrap up this webinar as anything you want to elaborate on?

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What I would like to say is as I mentioned about the library science student if you have been in the field for a long time open yourself up to understanding the challenges of your users and the people in your organization. Dig about the library's data sources in ways that'll demonstrate or build your skill set and data literacy and date of Hills. You may have data about research questions or about check out the you want to tell a story with. Every year within my organization we try to tell a story about our article usage against the context of how it costs to produce articles commercially. That kind of cost per use analysis six is extremely valuable and I will argue that you want to be a storyteller. He wants to make sure the data you have backs up your story and I highly recommend you dig about you using this opportunity think about how that'll fit in other places as well. A typical place to store code but it can be a place where data is shared as well. There are a number of data repositories out there for commercial or academic sources. Get hub may be a place where you can get to data but it also the place where you can get analytics code shared by other people as well. Another statement here. So many CDO's and tech officers not thinking about the public using the data how do we get our use cases to those agencies so they could see the data value? I would argue that a lot of the guidance needs to be aware and make sure the agency's data are available to the greatest extent that they are possible but I do think government librarians as well as citizens have an opportunity to speak to agency officials about the value of more data access and data transparency need to be advocating that is part of our conversations around funding and support the agency's play in communities.

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Thank you, Richard. Your presentation was fast! This webinar has been recorded and you will be notified shortly when it is available to view. I am putting a link into the chat is survey about the webinar. If you enjoyed today's webinar check out some of our upcoming webinars we will put two links in the chat. The

first is about the Academy and the second is our events calendar. Thank you, Richard and have a marvelous day everyone.

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Please take the survey I would love to hear your feedback. Thank you, have a great day.

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[ Event concluded ]