JB: Welcome to Listen to THIS, where we have conversations with people taking all sorts of approaches to studying how to improve the quality of healthcare. I’m Jenni Burt, senior social scientist at the Healthcare Improvement Studies Institute

Today, we are talking about how we communicate and disseminate research. However we design our research studies, we are always going to struggle to have impact if our key findings simply don’t reach the people we are hoping are going to act on these findings. And for healthcare improvement studies, these people are really wide-ranging, from policy makers to academics and frontline healthcare staff, and patients as well. So, the question is, how do we get our research into the hands of the diverse group that we want to reach in an accessible and a compelling way? To help answer that question, I am joined today by two guests from quite different worlds, each with substantial expertise on how to reach out and engage with different audiences.

So first I’m delighted to welcome Andrew Ibrahim. You are a surgeon and a health services researcher based at the University of Michigan, and also creative director for the journal *Annals of Surgery*. Andrew, would you start by saying a bit more about how you got interested in improving how we communicate research findings?

AI: I think for a lot of us who were formally trained in research, we always imagine, what is the impact of our work and how do we explain it to the people that matter most? So when I was training formally in my Masters in health services research, we spent a lot of time thinking about how to communicate our work in our presentations, and it became clear that some of our work just really isn’t accessible to a lot of people who may be interested in it. So about that time the *Annals of Surgery* had been interested in having more of a social media presence, and so I took on the task to be their creative director, to think there are so many great papers that get published in that journal, but what could we do differently to help make it more accessible.

JB: And you’ve also pioneered some really innovative ways on how to disseminate scientific research. Can you just explain a little bit about what a visual abstract is?

AI: Sure. So a visual abstract was a concept we developed at the *Annals of Surgery* now two and a half years ago, and it is a visual summary of the information typically found in the abstract version of an article. The general idea was that a text-written abstract will typically give you a summary of what’s in the article, but even reading two or three hundred words of a text abstract could take you a couple of minutes. What if we could distil that to the essentials in a visual that was almost like an infographic, that could communicate that same information in just a few seconds?

So when we started highlighting the concept in different formats, we found that the average visual abstract could be read effectively with some retention in about six or seven seconds, compared to almost taking a minute to read it in text. We thought that was a really powerful way, knowing how much information is out there, to help readers find the articles that are most important to them, that they want to read, so then they can go on to read the whole article.

JB: Fantastic. I’m also absolutely delighted to welcome James Piercy. James, you’re a science communicator and a public engagement consultant with over 20 years of experience of thinking about these challenges. You are also a member of this institute’s Engagement and Involvement Advisory Board. James, would you tell us what a science communicator is, and how you got involved in that field?

JP: A science communicator, I suppose, is what it says on the tin, really. We talk about science to people who don’t know about it. I got into it actually because I thought about being a science teacher, but I knew quite a few people who got into teaching a year or two above me, and they all shook their heads and cried a little bit when I mentioned it. So I got, instead, into informal science education, and I worked in an interactive science centre for many years.

JB: Hmm.

JP: And really, I developed a way of talking to people face to face about scientific ideas and concepts, and somewhere along my journey a thing called Public Engagement was invented in the UK, and that was really about not just talking to public audiences, but listening to what they think about science, and gathering their opinions, as well. I think it’s really important. We can’t ever think of this as a straight transmission – here’s some stuff, and if we just shout a bit louder, everybody will understand, and the world will be lovely – because it’s just not like that. So how do we encourage a dialogue and a communication between researchers and different groups?

JB: So I wanted to start with a personal bugbear, I confess. So, we’ve already, kind of, set the scene that we are wanting to think about how we communicate and disseminate research, and I’m an academic researcher. I spend a huge amount of time reading abstracts written by other academic researchers, summarising key studies. Most are terrible, and particularly for anyone who does systematic reviews where you’re reading thousands of abstracts, it’s often impossible to work out what the team have actually done, what the study design is. So, my question for both of you is, if we can’t even get this, kind of, most basic traditional way of communicating our research findings to other researchers right, why are we worrying at the moment about these, kind of, innovative ways to disseminate research? Are we just completely getting ahead of ourselves?

JP: Yeah. I think there’s this very, kind of, objective third person approach to writing scientific papers, which comes through the abstract, and it’s not necessarily accessible to other people. But there’s a resistance, I think, in that community, to changing that, because that’s what we’ve always done. I think what we’ve always done is quite a dangerous concept in any field, so I’m all up for shaking that up and changing it round.

AI: I think one of my favourite surprises about the visual abstract – and it’s now been adopted by 75 journals – I’ve done more than 20 workshops teaching people how to do it. And almost everybody up front says, I’m really intimidated by the visuals. I’m not an artistic person. And what they don’t realise, the real challenge of the visual abstract is actually the messaging. And most of the researchers going through the process of trying to create the visual abstract struggle with getting their message to a concise point, and they realise, this is actually what my work is about. This is actually the key message that I was hoping to get through. And they look back at their manuscript and realise they didn’t have the discipline in their writing at that point to communicate that.

 So I, sort of, love the hidden agenda of the visual abstract, and that it actually forces a lot of authors to go back and clarify their writing. And after they get that sorted out, the visual part actually becomes quite fun and easy – you know, this is way less intimidating than I thought it would be. So there’s certainly a lot of work to be done, as a scientific community, to just make our work more clear. I think at some point historically, it may have been fashionable or encouraged to make your work more convoluted or more complex, to perhaps give the illusion of rigour to your work. But the reality is, the simplest explanation of your work is probably the most sophisticated, and we really should be striving for that.

JP: Yeah. I think there’s a related thing which is the plain English summary of research. So in applications for funding, everybody is required to write the plain English summary, which again, is about pulling out those key points. And even if you don’t use it, the summary or a visual abstract, the process of producing it really cements the ideas in your own mind – what is it that I’m actually trying to say here? I occasionally review applications for health research, and when I’m reading plain English summaries, I have a little pot for my desk, and it’s full of full stops, and I just, sort of, sprinkle them over the top as I’m going through.

JB: [Laugh].

JP: We’re not cleverer because we use longer words and longer sentences. If we can’t distil it down to something which anybody can understand, then maybe we don’t really know what it is we’re talking about.

JB: Okay. So both of you seem to be saying that, actually, there’s a fundamental problem here in all of us actually understanding what we’re trying to say. How do we help people understand that? Like, what do we do to try and get people to reflect on what they are actually trying to communicate?

AI: So one of the strategies that many journals have started to implement, which is subtle but very effective, is they’ve started to decrease the word limit on articles. So if you look at the top tier clinical journals now, the word limits are moving under 2000 words, and that is a very deliberate effort from editorial boards to say, make your message as clear and concise as possible. If you have more details that are important, put them in an appendix, put them in a supplement, but we really need you to clarify your narrative in a way that can be accessible to as many people as possible. So even just shortening the word requirements and forcing people to work in a tighter space actually goes a long way to help clarify the story.

JP: Yeah, that’s right. Andrew just used the word I’m going to jump on there, because I love it – and that’s ‘narrative’. You know, we’re telling a story. Even in a formal academic paper, we’re telling a story. We have some set-up, we have some crisis, hopefully some resolution at the end of the study, as well. And I think that’s absolutely right, to keep that clear, that is front and centre. And something else that I’ll say to researchers sometimes, when they say, well, how do I explain my research? I’ll say, well, how would you describe what you’ve done to your grandmother? Because we’re used to changing our personality and our tone of voice and our language when we talk to different people, so maybe you can visualise somebody in your mind who you talk to, who you know won’t understand these complicated terms and these long phrases that you use. How can you still get the meaning about what you’re describing over to that person?

JB: So you mentioned the idea of what would we say to our grandmothers, and I said at the start that one of the challenges we face in communicating the kind of research we’re doing in healthcare improve studies is these really diverse audiences. So do we need different approaches for different audiences?

JP: I’d say definitely, yes.

AI: Yeah.

JP: Whenever I’m talking to anybody about any communication, I say, you’ve only got to worry about two things – not difficult – what you’re saying, and who you’re saying it to. And I think that applies, whether you’re standing up in front of 600 seven-year-old children, or you’re writing a paper for *Nature*. The same questions apply, they’ve just got different answers. So be clear about what it is you want to say, and be clear about who it is you’re saying it to, and then that will decide the kind of medium you use, the kind of language you use, the structure that you use to create that narrative.

AI: I agree. So that the third hat I wear in my professional life is working in a global design and architecture firm, HOK. I’m a senior principal there, and in the studio you cannot get past any design without talking about the end-user experience, and talking about who is the person that has to engage with this content? And I think when I started doing this work, I realised how much that reflected on me, because you start thinking, who is going to read this, and what are their taxonomy norms, what are their expectations for how I might describe this? And it tends to be very different. So in a New England journal type of setting, many people across every medical discipline read that journal, and outside of medicine it almost needs to be a little bit of broader language…

JB: Hmm.

AI: …to be accessible, whereas if you’re going to publish in your sub-specialty, niche journal, some people may be offended by that. They want to know the sub-type detail of your methods, or how you labelled something. So certainly catering to the audience becomes significantly important, both in the visual and the summary, but actually in the body of the text itself.

JB: Hmm, okay. And so probably, kind of, then, thinking about really academic papers – James, you’ve got loads of experience of using other ways of communicating – would you tell us a bit about some other channels that you’ve used?

JP: Yeah. So most of my work, actually, has been in public speaking…

JB: Yeah.

JP: …so not writing a paper, or not even writing an article for *The Times*, but standing up and actually telling something about somebody. And people are terrified of public speaking. It’s often rated as more scary than death, in surveys.

JB: [Laugh].

AI: Incredible [laugh].

JB: [Laugh].

JP: I, kind of, say to researchers when – I did quite a lot of training in public speaking – and I’ll say to researchers, look, you don’t need to be afraid of those people out there, because they’re just apes like you. We like each other. We’re interested in what people say. And also, if you’re going to go and speak at a conference, it’s easy to shine, because most people are terrible at it.

JB: Yeah. I’ve sat through some recent conference experiences where, you know, within about a minute you’re thinking, I feel so sorry for this person. Did they not rehearse with their team? You know, was there no support given? And particularly when, you know, you have – this is a rather busy slide – and you’re looking at a table with, kind of, 20 columns and 100 rows, kind of, crammed onto a slide – we see it all the time.

JP: Yeah, yeah, and it makes me cry a little inside, when I see someone apologise for their slide. If you know that slide is bad, why is it there?

JB: Yeah [laugh].

JP: It means you haven’t properly prepared. And actually, in the rest of your life as a researcher, preparation is key to everything you do. Controlling variables and understanding the conditions that you’re working in are key to your research. You’ve only got to apply some of that to what it is that you’re standing up and speaking about as well.

 Jenni, you mentioned, sort of, other formats…

JB: Yeah.

JP: …because some people, clearly, they are more scared of talking than they are of dying – they are never going to be great at it.

JB: Yeah.

JP: Because it’s a skill you need to learn, but…so do something else. Make a podcast like this one, where you’re in a room, and you don’t have to see people. Write in different formats and in different places. There are lots of different ways you can go about disseminating your research and spreading that message. It doesn’t have to be writing a paper, it doesn’t have to be standing up and talking to a group of people, but be creative about it. There are some interesting things. You can dance your PhD, so you don’t have so much competition.

JB: I did not know that. Tell me about dancing your PhD.

AI: Go on.

JP: [Laugh]. I can’t say I’ve ever seen one, but the idea is that…

JB: I think it should be compulsory.

JP: …by expressive movement, you communicate something about the work that you’ve been doing, which is quite interesting, I think.

JB: Andrew’s looking like he’s glad he’s skipped that one.

JB/JP: [Laugh].

AI: I’ve not seen that one. No, I’m definitely not required to do it, thankfully, yet.

JP: Yeah, but find the medium that works for you, but also the medium that works for the audience. Remember those two key things that we’re going to keep banging on about all afternoon – the message and the audience.

JB: Okay, so that’s great, but within the constraints of someone who is an academic researcher, and people are told, publish or perish, and so on and so forth, if you know you’re not great at giving talks at conferences, if you are quite scared of writing papers, and those are the things that you’re being assessed by, how do you still navigate your path through that?

AI: Yeah. I think one of the hard parts there, I didn’t realise until I started writing more in our research group is, when it comes to writing a scientific paper, this is not the time to reinvent the wheel. This is not the time to be creative, this is not the time to decide you’re going to come up with your own format to deliver information. There are so many tried and true examples of following the standard format of different research papers, where you almost know what should go in every paragraph, and you almost know in what order they should go. So Gil Welch has that landmark paper that all the students are referencing, and we’ve created a guide that’s based on that. But we template very explicitly, your introduction should only be three paragraphs.

JB: It’s three paragraphs

AI: And the goal of paragraph one is X, the goal of paragraph 2 is Y, and the goal of paragraph 3 is Z, and it’s very explicit. And I think for a lot of researchers, and myself included, you come into this, you’re very motivated, you try and confirm good training, you think, I really know how to do this. But it’s actually a good time to just eat some humble pie and say, you know what, I’m going to stay in the boundaries. I’m going to follow the template, and I’m going to obey the rules of this guide, because it’s really quite effective. So I think the people who get in the most trouble with their writing being too complex haven’t been able to just surrender to the guides and templates that already exist.

JB: But then where do we find our creative outlet, as well? I mean, I know I’ve just said, oh but, you know, we have to, sort of, present at a conference, and then we have to publish papers, but, I mean, certainly at this institute, we’ve experimented with loads of different things. We’ve toured a play. That play has now been turned into an interactive video. We’re sitting here, you know, talking on this podcast. James, creativity obviously comes into what you’ve been doing loads.

JP: Yeah, and it’s trying to, sort of, think outside the box sometimes, and do things different. And there’s a fantastic quote in my world – I can’t remember who said it, but I’m going to share it anyway because it’s brilliant – nobody ever changed their mind because of facts. So we need to make emotional connections with people. If we want to have impact, and want to effect some kind of change in the world, and make it a more beautiful place, we have to connect with people on some kind of emotional level, I think. And we can do that through drama. We can do it through music, we can do it through good writing. We can create new worlds, we can tell stories which will engage people, and importantly, connect our research to their real world. And I think in terms of health improvement research, it’s a bit, kind of, abstract…

JB: Hmm.

JP: …sometimes, if we’re honest, it’s a bit woolly. But what it does have is real world context. It really does affect the lives of people, and not just patients and their families, but doctors and researchers as well, and everybody along that path, wherever they are, is intimately connected to that stuff. They ought to be fascinated by it, and if they’re not, then it’s because it isn’t making a good emotional connection with them.

JB: So visual abstracts – we’ve talked a little bit about visual abstracts already, and what they are, and what their value, and what their impact is. You say there are 75 journals, Andrew, that are now using them. These, kind of, really complex issues that James is talking around, they’re, kind of, messy, dirty, kind of, issues we’re trying to grapple with in healthcare improvement studies. This institute has used some visual abstracts, but how well do you think they translate to, kind of, every possible sort of academic journal article that we might be publishing? I mean, you’re a surgeon…

AI: Yeah.

JB: …so things are, sort of, often quite black and white in the kind of research that you’re publishing.

AI: Yeah. Surgery is nice in that, in a lot of our research work, we have very well-defined outcomes. We have pretty specific conclusions, and in that way, that type of research lends itself to a visual abstract well. So for nearly every journal, I’ve advised that as they are starting to do visual abstracts, choose the articles that are the most clear, that have well-defined outcomes, and use that as your learning curve. But as we just mentioned, some of the topics and problems we’re trying to tackle are more complicated and more complex, and need other formats. So we initially piloted about 20 different visual formats to see, with user groups, could you get your head around a topic this way or that way? And we narrowed down to about six that people felt, if the information was presented to me in this format, that would make the most intuitive sense for me to follow.

 And I don’t mean to say that those are the six that we should use, but I think one of the important design concepts that should come out of this work is that, this idea of rapidly proto-typing, that if you’re going to try and describe a research method that hasn’t been done before, or try to tackle a problem that’s pretty sophisticated and nuanced, try it with a user group of a group of your colleagues in five or six different formats, and say, you know, which one of those are most memorable, or which one of those seemed to make the most sense?

There’s a real trial and error in this work. It’s maybe a little different than what we’re used to in clinical medicine, where, you know, you want to get the answer right the first time, and the stakes are high. Thankfully in this work, amongst your research colleagues, testing which way your work is most accessible you can do that five, six, twenty times until you find the right format or display that gets people’s attention.

JB: Andrew, I know one of the accusations that has been levelled at visual abstracts is that they are dumbing down or over-simplifying in some way.

AI: Yeah.

JB: Do you…I’m assuming you don’t think it’s the case.

AI: Yeah, so that was a common push-back, and I take that very seriously, because I know, for a lot of the papers that gets published in these top journals, this is years of work, people who have committed their life to it, so to see it reduced to 40 words with some icons on a PowerPoint slide can be frustrating. And one of the important things in true health services research fashion, it’s not enough to have a good idea. You need to test it and have evidence. So we, about six months in, in the visual abstract, when we realised we had a concept, we actually established a randomised trial prospectively in a cross-over fashion. We took 40 original contributions, half of them we disseminated as visual abstracts, half in text only, and we waited a four-week wash-up period and then disseminated them in the other order, and then compared articles head to head – what disseminated further, what spread further in different formats? And we found that articles with a visual abstract got visited on the publisher’s website three times more often.

JB: And am I right, it was seven times more downloads?

AI: More…yeah, shared on social media seven more times.

JB: Okay.

AI: And going to the actual article itself was nearly three times higher.

JB: Okay.

AI: So that was really powerful, to go back to authors and say, my goal here is not to be a billboard for your work. This isn’t marketing advertising. My goal is to get people to engage with your work. So, if creating a visual abstract means three times as many people are now going to your article to read your true work, to me, like, that is enormous. I don’t know many interventions in healthcare that we get excited about that have an im…that have the odds ratio impact of times three.

JB: [Laugh].

AI: So this is certainly, to me, good evidence that it’s the right thing to do. And a lot of journals who have now adopted it and replicated it, their data is not public, but internally they have seen similar effects.

JB: But you’re saying that they are a, sort of, shop front for people to come in and explore in more depth. James, a lot of the stuff that you’ve been working on is how to communicate really complex concepts very directly in a more simple way.

JP: Yeah, and I think the key thing is to distinguish between accuracy and precision. So we might sacrifice some precision. They might lose a bit of the fine detail, but we don’t want to be in a position where we have to contradict something that we’ve said later on, so we’re going to keep it accurate.

JB: Hmm.

JP: All of the information that I’m going to tell you is true, and it is accurate, but I’m not going to tell you everything, because you don’t need to know the precise details of this study. And to, kind of, cling onto this thing. And I think that is the difference between simplifying and making something more accessible, and I try to use that different language when I’m working with people, so it sounds a bit less like…we’re not trivialising, we’re not dumbing down, we’re making it accessible, so that other people can access this work. It’s still going to be accurate. There’s not going to be anything in there that’s wrong, but I’m just not going to bother to tell you everything because you don’t need to know it. And if you want to, if you want to come back and ask more questions, you know, Andrew has just given us a fantastic example – people who saw the visual abstract didn’t just say, hey, that’s nice – they went to go and visit the thing to find out the details. So, you know, ask questions. If you want more information, it’s there, but I’m not going to give it all to you straight away.

JB: Is it your experience that that’s something that researchers can really struggle with – that cutting out of the detail, and the simplifying…

JP: Yeah.

JB: …of the message without losing accuracy?

JP: Yeah, sometimes. And also, because often researchers are working on one tiny element, and actually what’s interesting and engaging for the audience is the big picture. So the thing that you’ve been doing for 20 years, that’s fascinating, but it’s really intricate, and it’s not really very accessible unless we know why – what is it part of? What is the big thing?

JB: So one of the things that this is making me think around, we’re talking about a huge, varied skills set here – design and visualisation and how to communicate, and everything. Whose responsibility is it for us to communicate and disseminate? Researchers already feel really overwhelmed with how much they are normally supposed to do, and they often don’t have very many support systems. They don’t have access to communications professionals, they don’t have a budget for design. So how do we move forward with that? What do we do?

JP: I’d, kind of, question a bit what you said then…

JB: Good.

JP: …in that universities, research institutes, do have communications teams. So you should be budgeting for disseminating results of your research. So you should have the money, you should have access at least to some support to help you along the way on that journey, and we need to find it. If you don’t have the time, and that is the most common thing I hear, then that’s not true either. You’re just not prioritising it.

JB: Hmm.

JP: We all have time to do the things that we want to do, don’t we? We’re all enormously busy working 48 hours a day doing them, but you make time if it’s important to you, and I think the change that needs to come across – and it’s starting to happen actually already…

JB: Yeah, I agree.

JP: …is that people do start to prioritise. Because actually, this research project you’ve spent five years doing is worthless if nobody knows about it.

AI: Yeah. I think the two parts to the effective dissemination of your work, if the researcher said, you know, I can’t do visual, I don’t have the budget to hire a graphic designer – I get that, and I wouldn’t fuss with that – but researchers do not have an excuse to not have their writing more clear.

JB: Hmm.

AI: When your writing is clear and the message is clear, and what you’re trying to communicate is clear in your research, doing the design part after is actually not that difficult, and I think a lot of people who make the argument, I don’t have time to hire a designer, I don’t have time to do this work, the reality is, the time isn’t for the design part, the design is…the time is to clarify their message, and I think culturally we need to accept that your job as a researcher is not just to do your great work, but to make your message accessible. And that’s literally in the writing in the text of your work, and then we can talk about what graphic designer, what format you use. That’s just become so common now, and fairly inexpensive. But the real rate limiter to me, I think, is actually making the message more clear.

JB: And do we need to change people’s mind-sets, then? James, you said you think it’s shifting?

JP: It is shifting a lot already, and certainly I work quite a lot with PhD students and postdocs, and it’s just embedded. Their scientific career has always included good communication skills and talking about the work that they’ve done. I can’t remember who it was, but somebody said that science progresses through a series of funerals. You know, we get a paradigm shift when some old folk die. And actually…

JB: I hope you’re not including me in that [laugh].

JP: …there’s some kind of truth in that, though, that as the next generation comes through and the new generation of professors will be people who have done this their whole careers. So we will start to see a change getting embedded, and it’s being pushed by the research funders in the UK…

JB: Hmm.

JP: …who are insisting on this impact, and some way of measuring, who are insisting on better dissemination. And in health research, the insistence on public patient involvement in every stage of that research, from designing the project to performing the research, and then delivering dissemination afterwards, that’s having a change.

JB: So we’ve covered so much ground today, thinking around how we can better disseminate the results of our research. I think it’s really clear to me, from what we’ve talked about, that first off, we just need to know what we’re actually saying. Getting our message clear, understanding what it is we want to communicate, is the first step to any of this. We also then need to always remember that we’re not just trying to stand on top of a mountain and shout at people until they pay attention – that it’s a dialogue, and we need to really pay attention to what people are saying back to us, as well as what we are trying to tell people. And also, I think I’ve been challenged quite fairly by both of you, that I have absolutely no excuse. It’s everyone’s responsibility, it needs to go high up our priority list, and if we look, there are resources to support us in how to disseminate our research.

 I also think that, actually, it’s quite a lot of fun. We’ve talked about lots of different ways of communicating today, and I might not be hosting an interpretive dance for my next dissemination session, but I think there’s just lots and lots of fun and creative ways that we can think about this. So thanks so much, Andrew Ibrahim, for joining us today. Thanks to you, James Piercy. I’m Jenni Burt, and thank you for listening to this.

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