

# Best Practices in Using Technology in HAZMAT Training

March 29–30, 2017 | The Condado Plaza Hilton, San Juan, Puerto Rico

# Current Technology Use Among WTP Awardees

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*MDB, Inc.*

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## Presentation highlights

- Quick summary of awardee technology assessment and results
- Collaborators who help develop and implement use of technologies
- Overview of types of technologies
  - Classroom technologies
  - Web-based technologies
  - Indirect technologies and resources
  - Virtual simulation technologies
- Best practices for technology use
- Limitations in use or deployment of technologies

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## Summary of awardee technology assessment and results

- **60 questions** were asked to determine awardees' implementation, deployment, and evaluation of classroom, Web-based, virtual simulations, and indirect technologies
- Total of **20 responses** received (17 complete; 3 incomplete/skipped)
- Representation from **all programs** – DOE, HDPTP, HWWTP, ECWTP, and IDR – but **fewer responses received from DOE and ECWTP awardees**
- **Use of virtual simulations technologies is limited** amongst awardees
- Generally, there was **no difference** between ATT used for awareness-versus operations-level training in any of the programs

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## Collaborators who provide assistance in development, implementation, or guidance for use of technologies

Other awardees &  
Consortium  
partners

Institutional  
extension  
programs (e.g., UC  
Davis extension)

SBIR awardees  
(e.g., inXsol)

Software &  
application  
developers (e.g., Y-  
Stress, Inc.)

MetaMedia

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## Overview of Types of Technologies

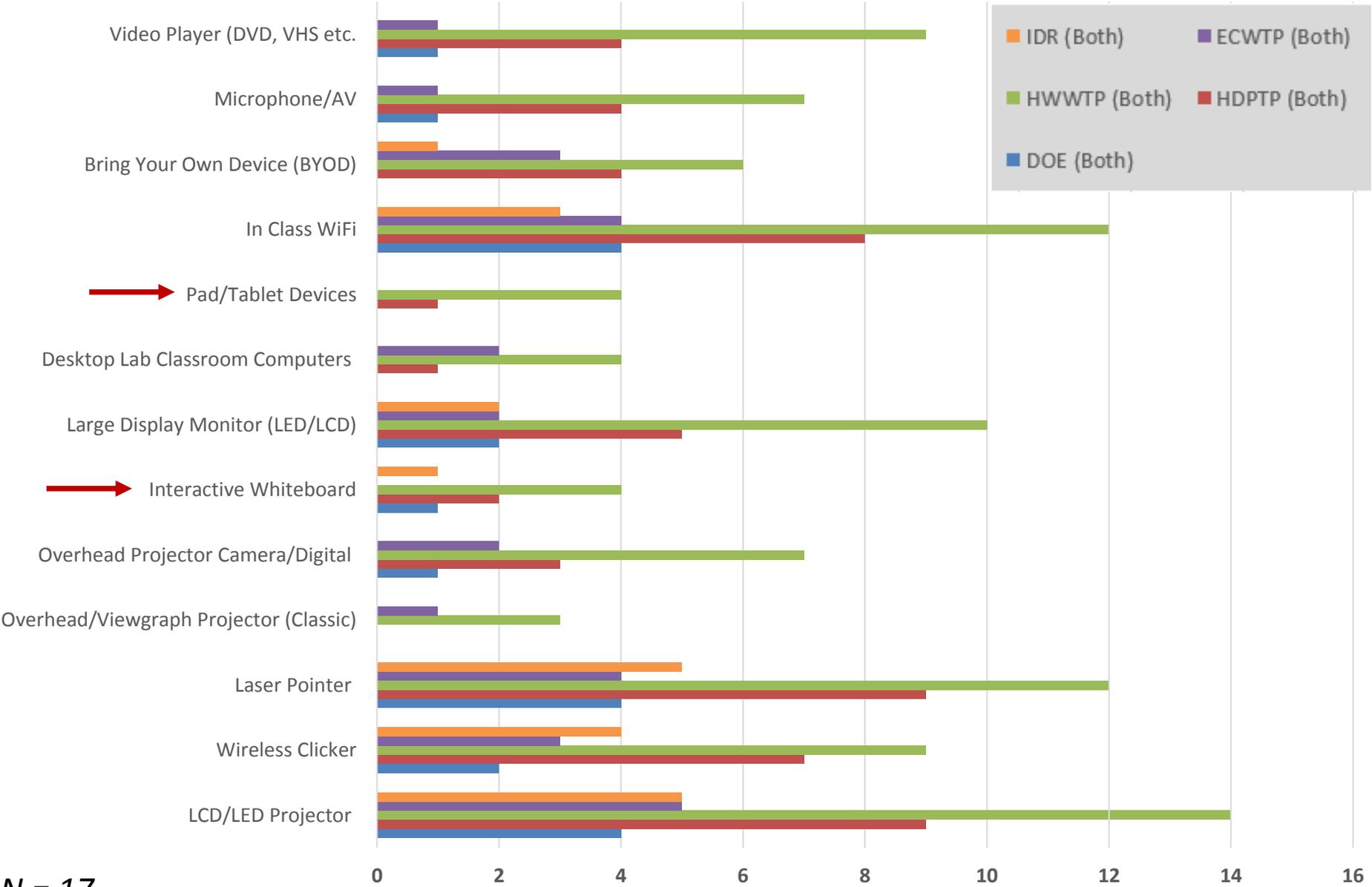
# For what programs does your organization primarily deploy or implement use of ATT?

Please check all that apply.



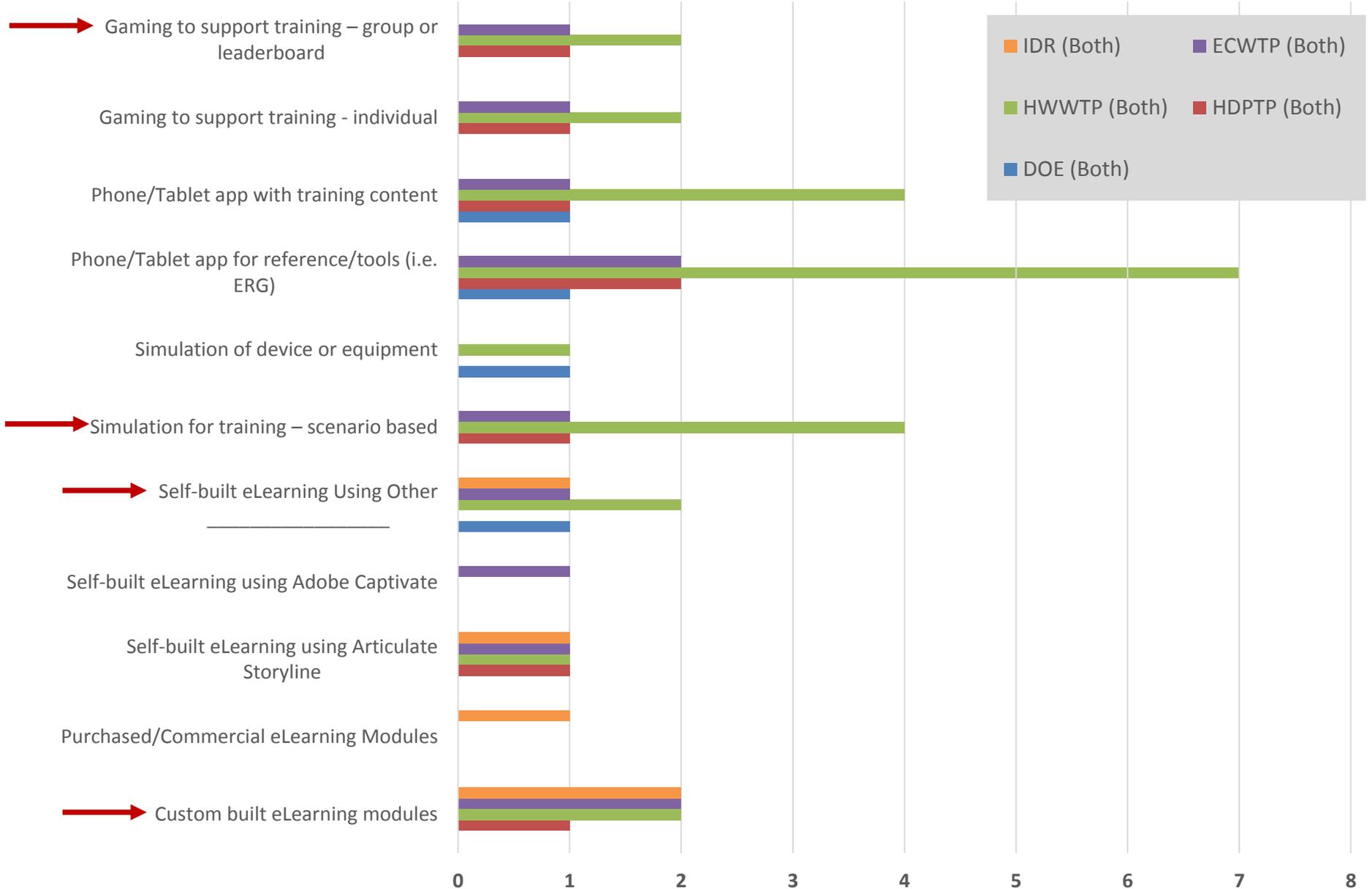
N = 17

# Use of Classroom Technologies



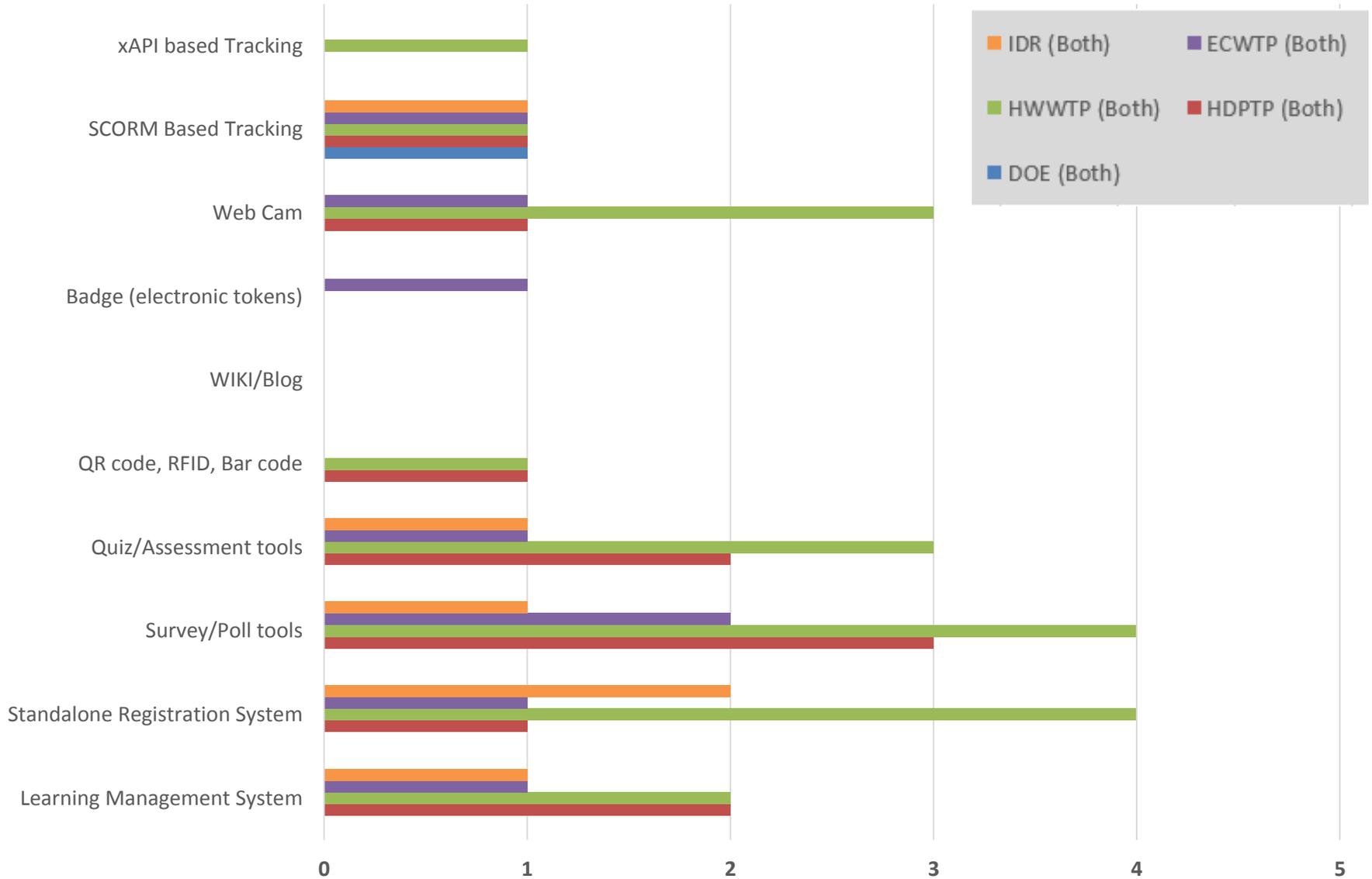
*N = 17*

# Use of Web-based Technologies



*N = 16*

# Use of Indirect Technologies & Resources



$N = 8$

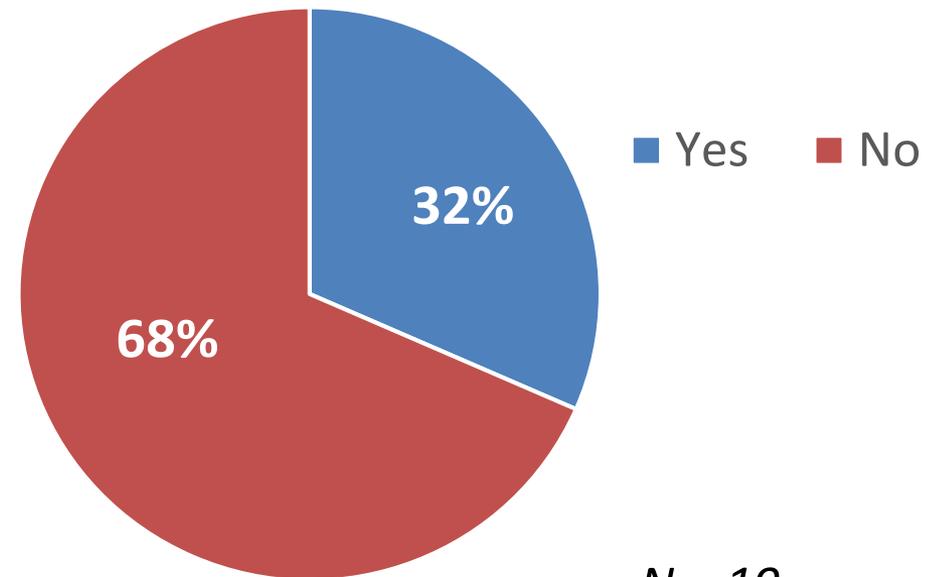
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## Use of virtual simulations technologies

Involves primarily:

- Specialty training device/simulated equipment/patient
- Simulation 3d goggles



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## Best Practices for Technology Use

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## Examples of best practices

- Look at the specifications of equipment **before** buying
- Verify internet access/WiFi signal availability in the training area **prior to** start of training
- Make sure the students have downloaded all the necessary software
- Include a **lesson plan** for trainers
- Implement **mobile first strategies** that employ scenario-based content with as much beta testing as possible
- Introduce [training technology] along with **paper options**
- Provide an **alternate classroom-based activity** for times that glitches occur or for location where technology is not able to be used

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## Limitations in Use or Deployment of Technologies

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## Examples of limitations

Logistics & Cost

Transportation

Accessibility

Adaptation

Expertise

Instructors &  
Trainers

Target Audience

**RUTGERS**

School of Public Health

**UMET**

UNIVERSIDAD  
METROPOLITANA  
SISTEMA UNIVERSITARIO  
ANA G. MÉNDEZ

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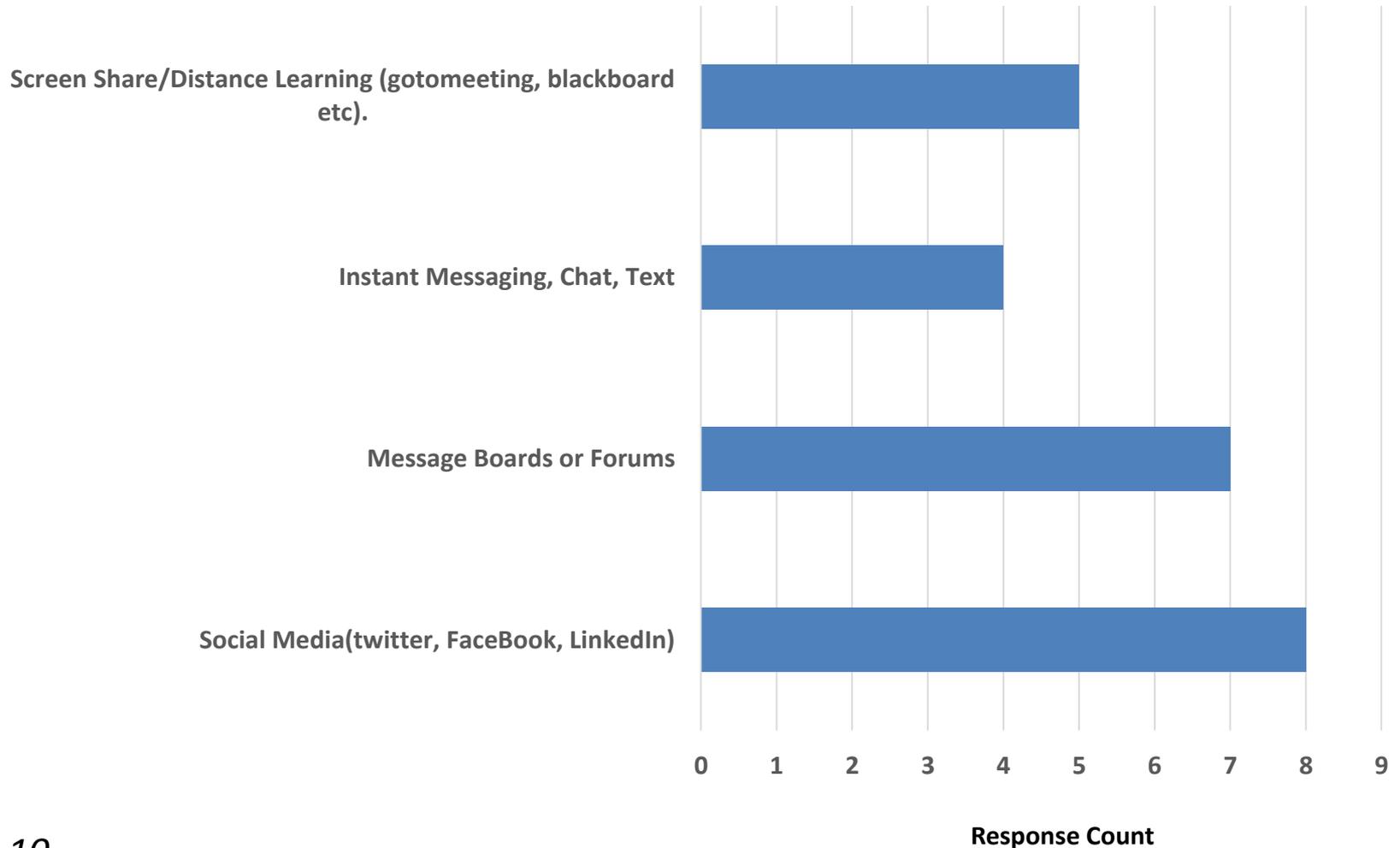
National Institute of  
Environmental Health Sciences  
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**\*Additional Slides\***

# Other technologies or social media platforms used for training or as indirect technology resources



*N = 10*

# Examples

## Examples of social media platforms:

- Facebook, Twitter, Youtube, Soundcloud, Instagram, Pinterest

## Examples of online forums or message boards:

- “TRU-Net – The Trainers & Researchers United Network (TRU-Net), is an effort to formalize the link between CPWR’s consortium of safety and health researchers and its extensive training network and provide these researchers, trainers and their trainee ready access to each other’s experience and expertise. TRU-Net consists of a private online forum where researchers and trainers can ask safety and health questions, find answers, and share related information, and a formal mechanism to engage a broader cross-section of trainers and their trainees in specific research projects...”
- Google groups

## Examples of screen share/distance learning technologies:

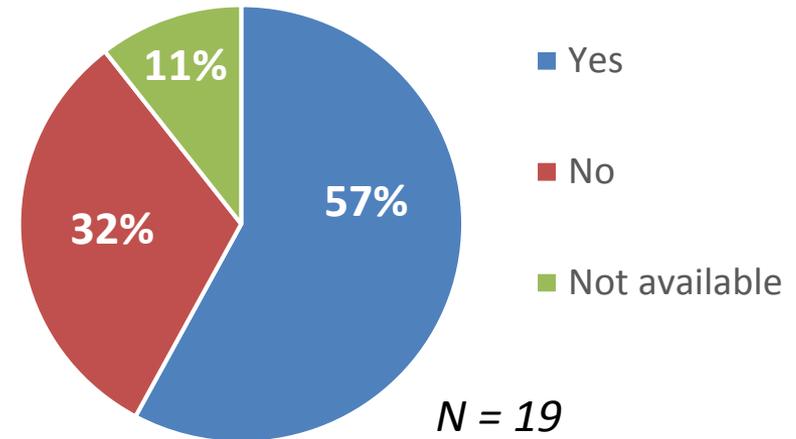
- GotoMeeting, Moodle, GotoWebinar, Zoom, Canvas

# Are finances and human capital limiting your ability to implement training technologies?

“Yes, the use of SIM technology is very expensive and somewhat cost prohibitive for our DIDRT program. Therefore, we have to utilize SIM technology on a limited basis in our healthcare training population only.”

“Yes. Existing staff/human capital are maxed just maintaining and updating existing curricula. Online capabilities are limited and require integration into a learning management system, which is our membership database. So a link between designing the curricula online and placing it online to work and function on a learning management system is a gap right now.”

“Instead of creating our own online e-learning platform and support center for our peer trainers, we choose a free program called Moodle. Also, in order to get our virtual reality activities up and running we had to find the least expensive smart phones with the capability we wanted as well as inexpensive virtual reality readers such as google cardboard (\$12.50) instead of the \$100+ models.”



“No. The greater challenge to selecting an ATT is making sure we choose a technology that enhances the overall learning experience for all of our consortium members.”

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## Examples of technologies organizations have chosen not to use

“Some consortium partners have foregone the use of technology as part of their courses **given the diverse literacy levels of students, noting that in these situations technology “would likely be a complicated challenge more than an asset.”** In cases where we arrange training in distant locations (for example, in the Pacific Islands or rural Alaska), materials are shipped in pelican cases, so we typically don’t purchase fragile equipment that may break in transit or might not arrive back to our location like tablets, laptops for student use, virtual reality equipment or software.”

“PowerPoint – used minimally in training courses mainly to project an image to illustrate a discussion point or to provide an example of a hazardous scene.”

“**CSEA has decided to not use webinars** for any compliance or proficiency training.”

“**Adobe Connect has costs issues and band width issues.** We initially decided to use Adobe Captivate but we are limited on how interactive the course can be because of infrastructure and technology limitations on the side of the end user (learner). Issues with Flash, etc. and band width are a problem we are still working through. We are **also having difficulty in locating a central LMS that all of our target learners can access.**”