

SHAPING THE FUTURE OF DENTAL EDUCATION:

THE IMPACT OF NEW TECHNOLOGICAL AND SCIENTIFIC DISCOVERIES ON TRADITIONAL DENTAL EDUCATION

May 8, 2017, 14:00-17:00

Moderators: Lynn Johnson (USA), Abigail Tucker (UK)

Workshop rapporteurs: Irina Dragan (USA), Domenico Dalessandri (Italy)

Session Chair: Damien Walmsley (UK)





What continent are you from?

Connect to WiFi to answer.



ADEA

THE VOICE OF
DENTAL EDUCATION



Impact of New Technologies

146M Technologies

Lynn Johnson, PhD
Professor & Associate Dean for Faculty Affairs and Institutional Effectiveness
University of Michigan

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Assistant Professor
Tufts University School of Dental Medicine

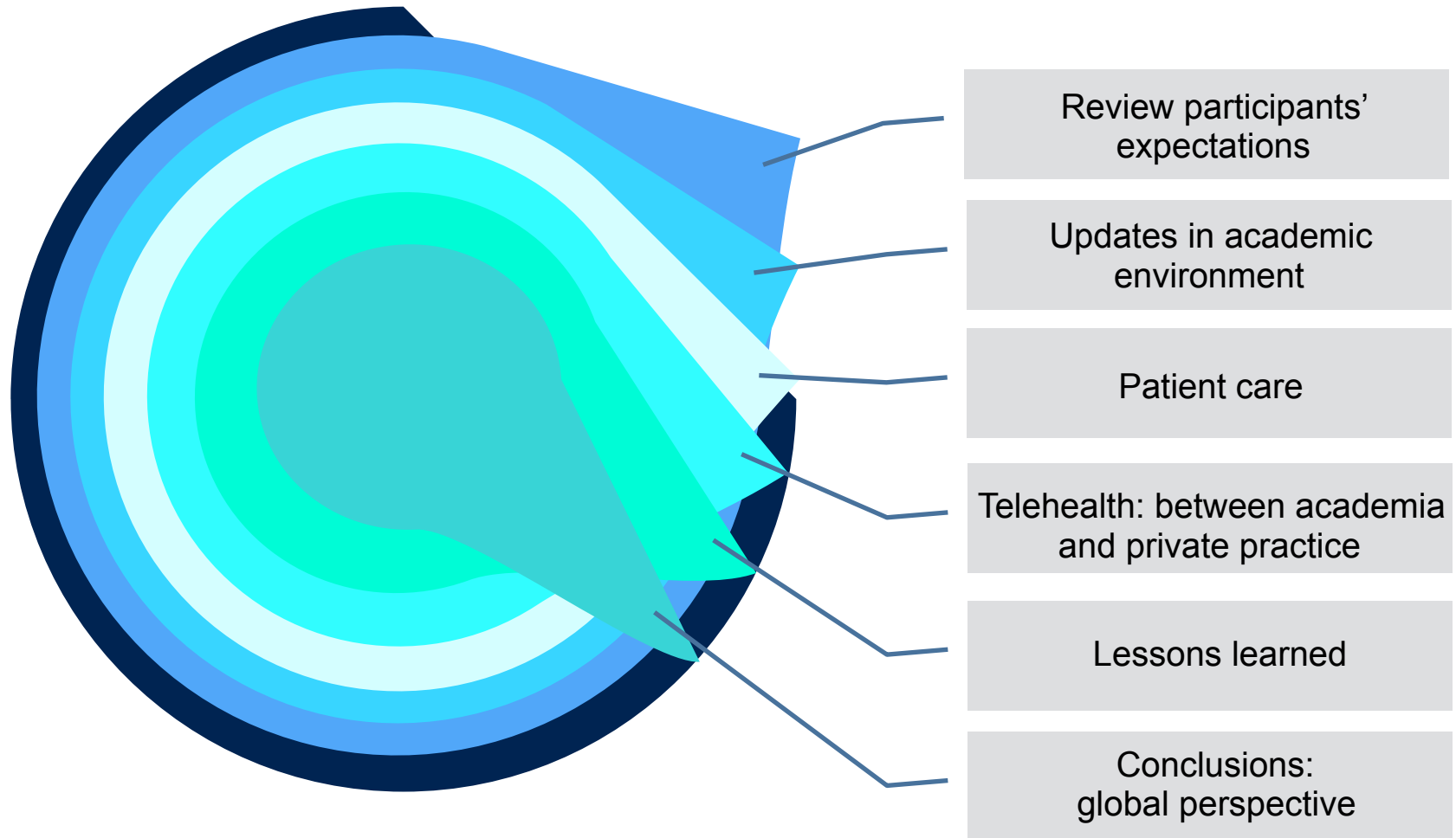
DISCLOSURES

Lynn Johnson, PhD is the chair of the Advisory Board for the Collaboration 4 Health IT. ICE Health Systems is a Collaboration member.

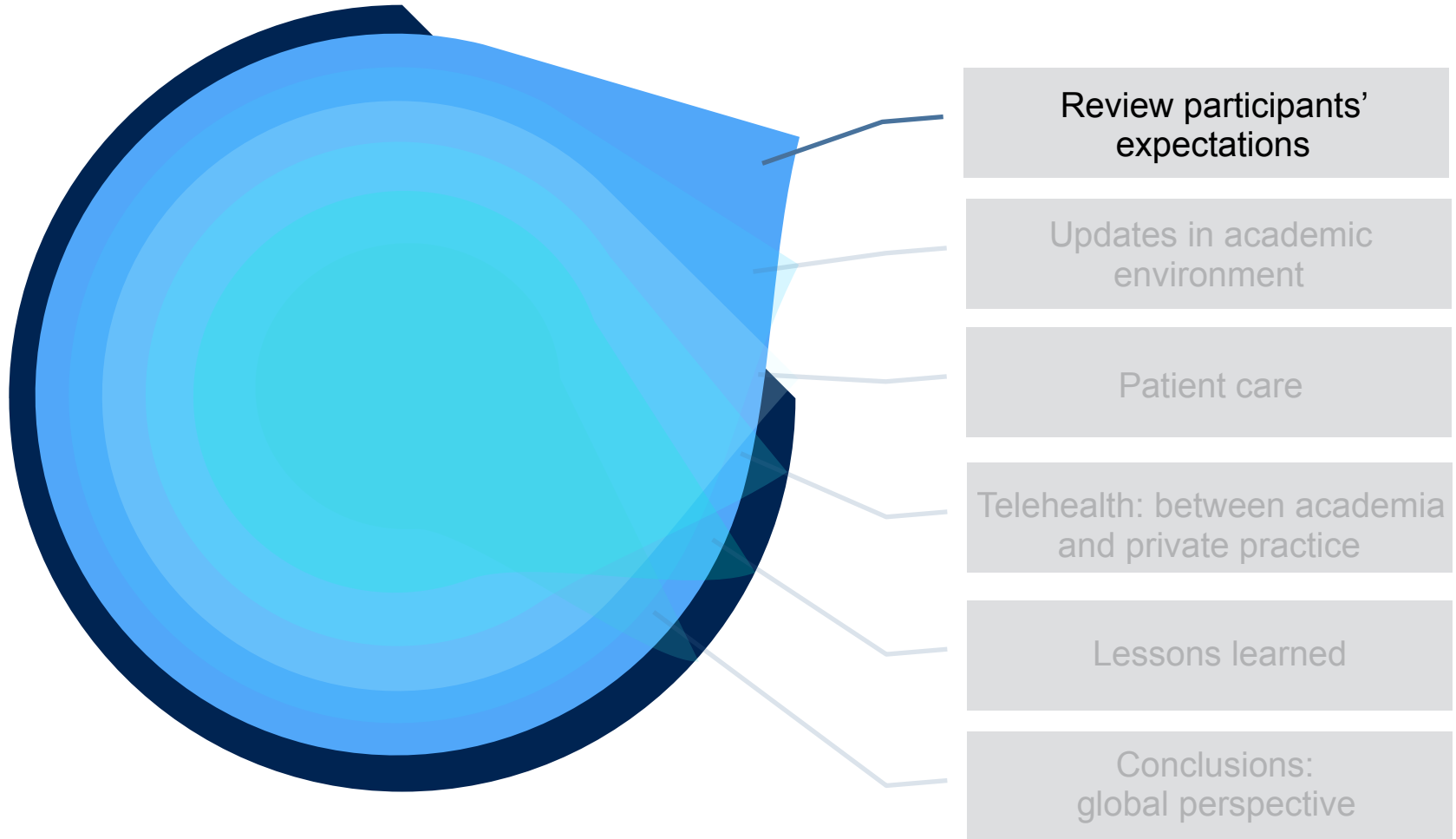
Lynn Johnson is participating in a research study with FollowApp.Care.



OUTLINE



OUTLINE



BULGARIA

CANADA

FRANCE

FINLAND

GREECE

HUNGARY

IRELAND

ITALY

LITHUANIA

NORWAY

NETHERLANDS

ROMANIA

SLOVAKIA

SPAIN

SWEDEN

SWITZERLAND

UK

USA

TURKEY

EGYPT

KUWAIT

PAKISTAN

CHINA

INDIA

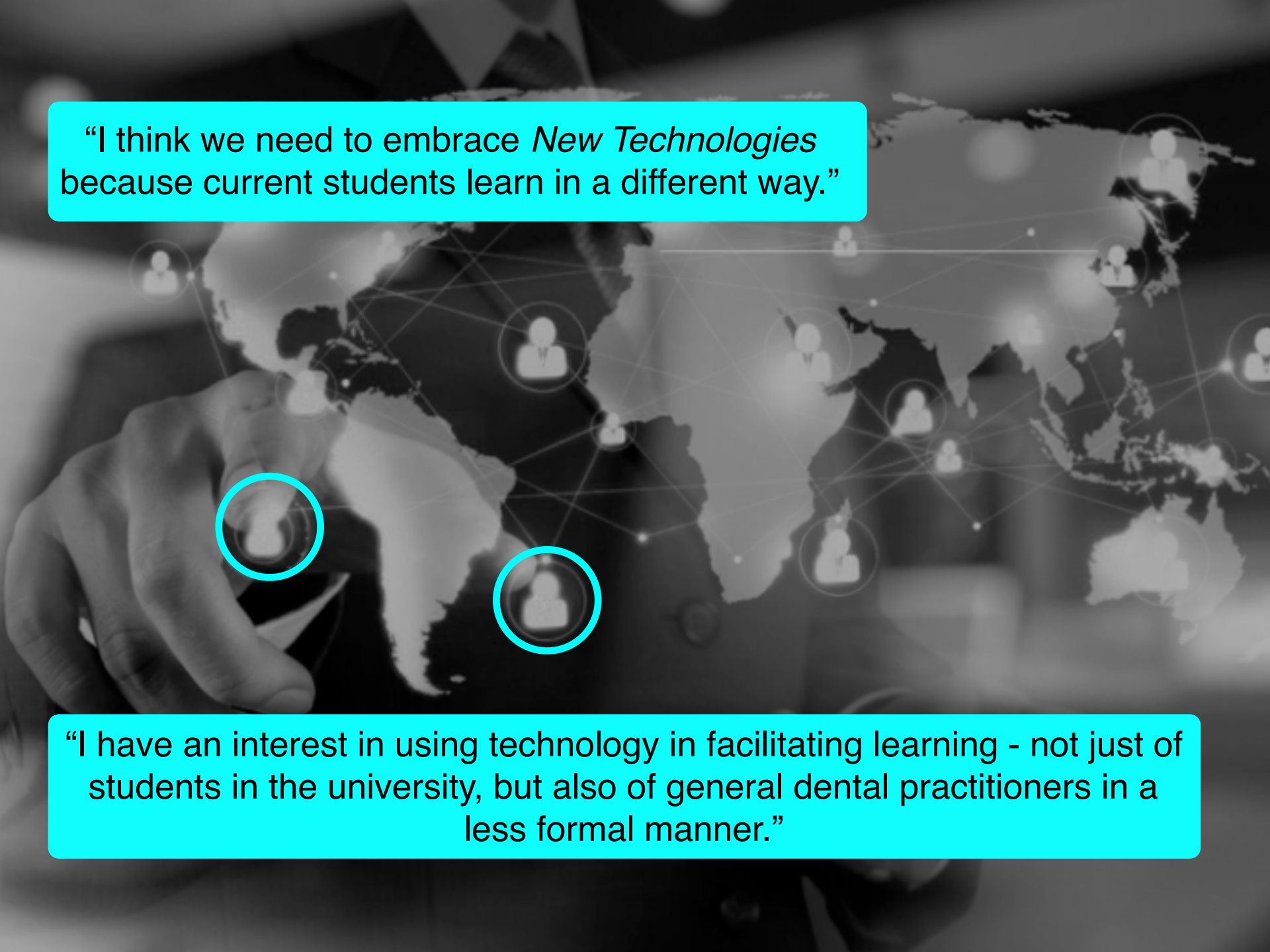
ISRAEL

JAPAN

SAUDI ARABIA



Global Representation

A grayscale background image showing a hand pointing at a world map. The map is overlaid with a network of white lines and circular icons containing person silhouettes, representing global connectivity. Two of these icons are highlighted with bright red circles.

“I think we need to embrace *New Technologies* because current students learn in a different way.”

“I have an interest in using technology in facilitating learning - not just of students in the university, but also of general dental practitioners in a less formal manner.”

ALL

PRECLINICAL

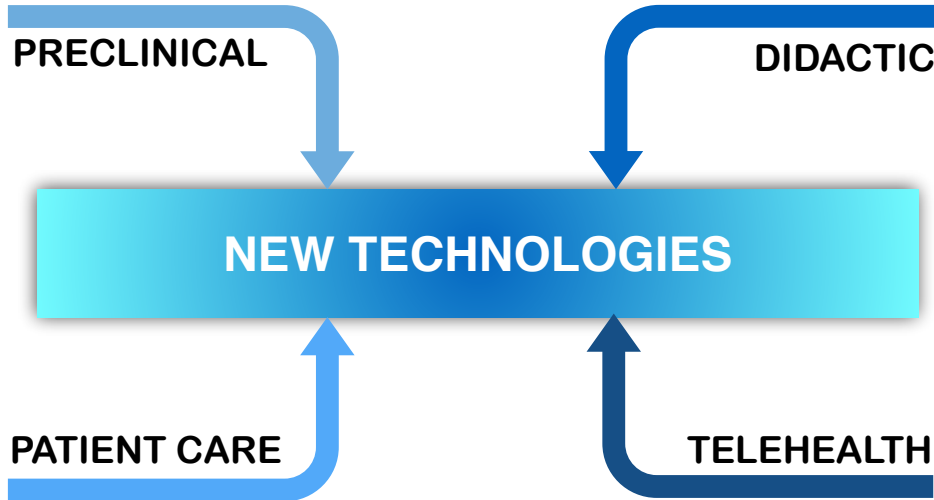
DIDACTIC

NEW TECHNOLOGIES

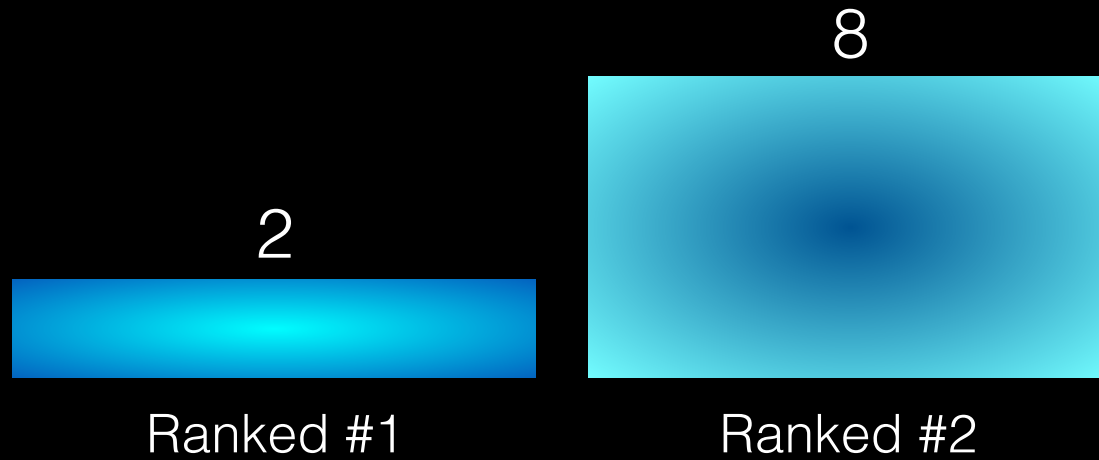
PATIENT CARE

TELEHEALTH

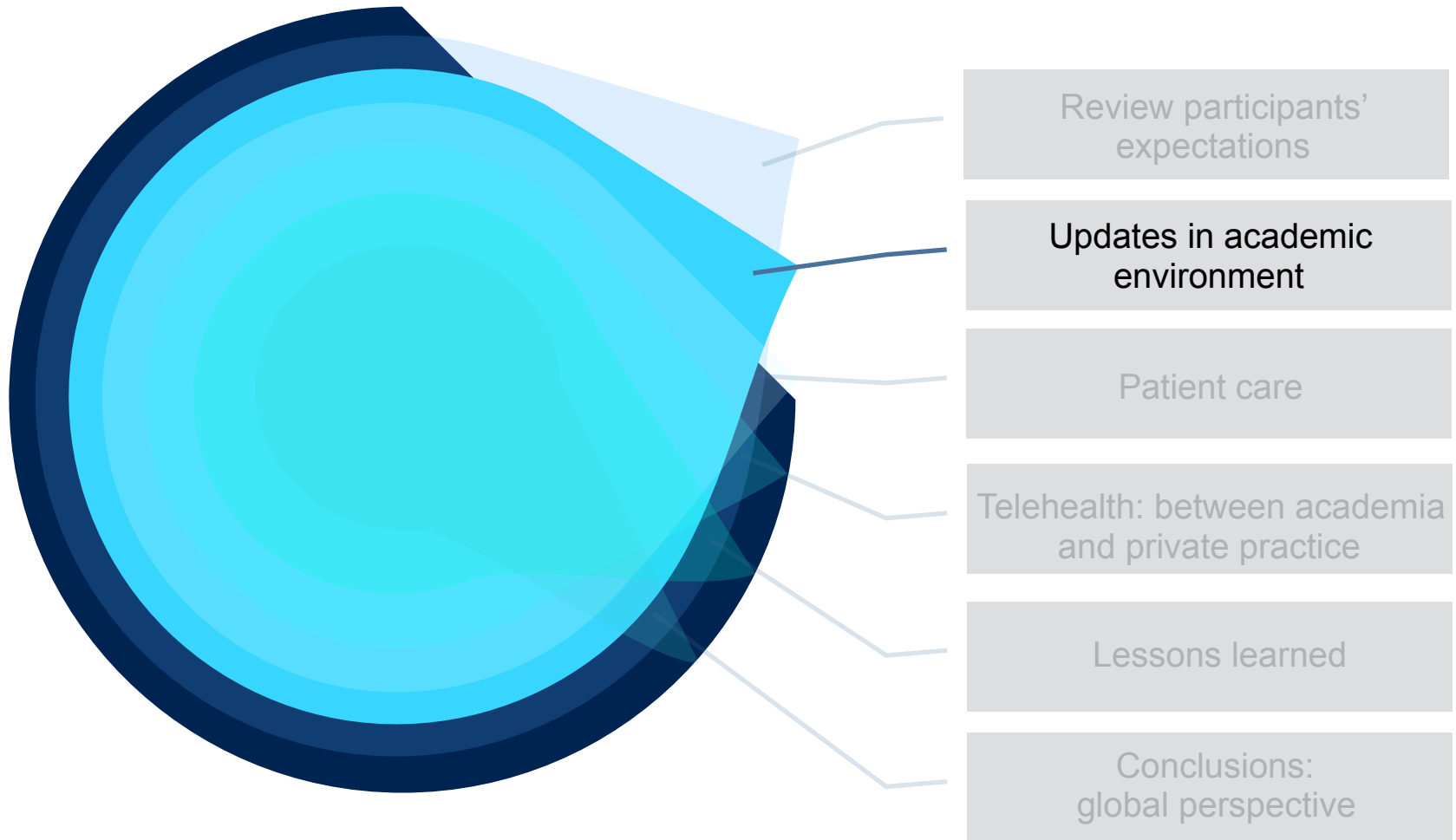
NONE



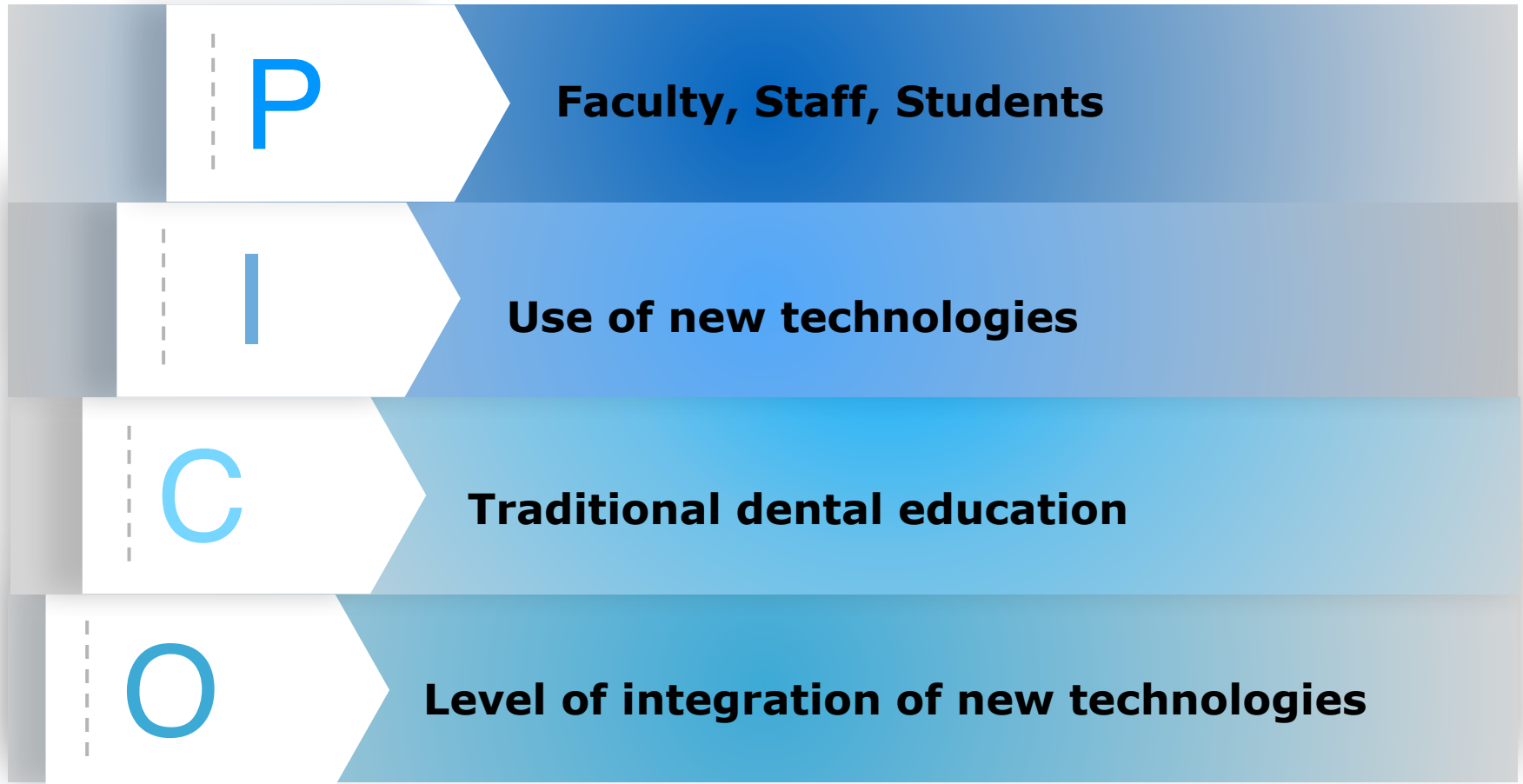
Literature Review




OUTLINE



The Level of Using **New Technologies** in the **Dental Academic Environment**: Systematic Review And Meta-Analysis





A Survey of Information Technology Management at U.S. Dental Schools

Mariusz Wrzosek; Gary Warner; R. Bruce Donoff, D.M.D., M.D.; Thomas H. Howell, D.D.S., M.M.Sc.; Nadeem Karimbux, D.M.D., M.M.Sc.



2003

The majority of schools report using software to:

- manage admissions process
- curriculum analysis
- delivery of curriculum content
- manage student clinics and faculty practices.

Potential of information technology (IT) in dental education.

Mattheos N, Stefanovic N, Apse P, Attstrom R, Buchanan J, Brown P, Camilleri A, Care R, Fabrikant E, Gundersen S, Honkala S, Johnson L, Jonas I, Kavadella A, Moreira J, Peroz I, Perryer DG, Seemann R, Tansy M, Thomas HF, Tsuruta J, Uribe S, Urtane I, Walsh TF, Zimmerman J, Walmsley AD.
Eur J Dent Educ. 2008 Feb;12 Suppl 1:85-92.

- **assist in the education**
- **competence development**

“IT will always remain **exciting**, as it is always changing and the users, whether dental students, educators or patients are like **chameleons adapting to the ever-changing landscape.**”

A hand is pointing towards a world map displayed on a screen in the background. The background is a blurred blue-toned image of a computer monitor showing a world map.

2008



ADEA Emerging Leaders Class of 2017

Variations of teaching, diagnostic and treatment technological applications among seven dental curricula



New Technologies

```
graph LR; NT[New Technologies] --- Operative; NT --- Prosthodontics; NT --- OralSurgery[Oral Surgery]; NT --- Endodontics; NT --- Periodontology; NT --- Orthodontics; NT --- PediatricDentistry[Pediatric Dentistry]; NT --- Radiology
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Academic Affairs

Operative

Prosthodontics

Oral Surgery

Endodontics

Periodontology

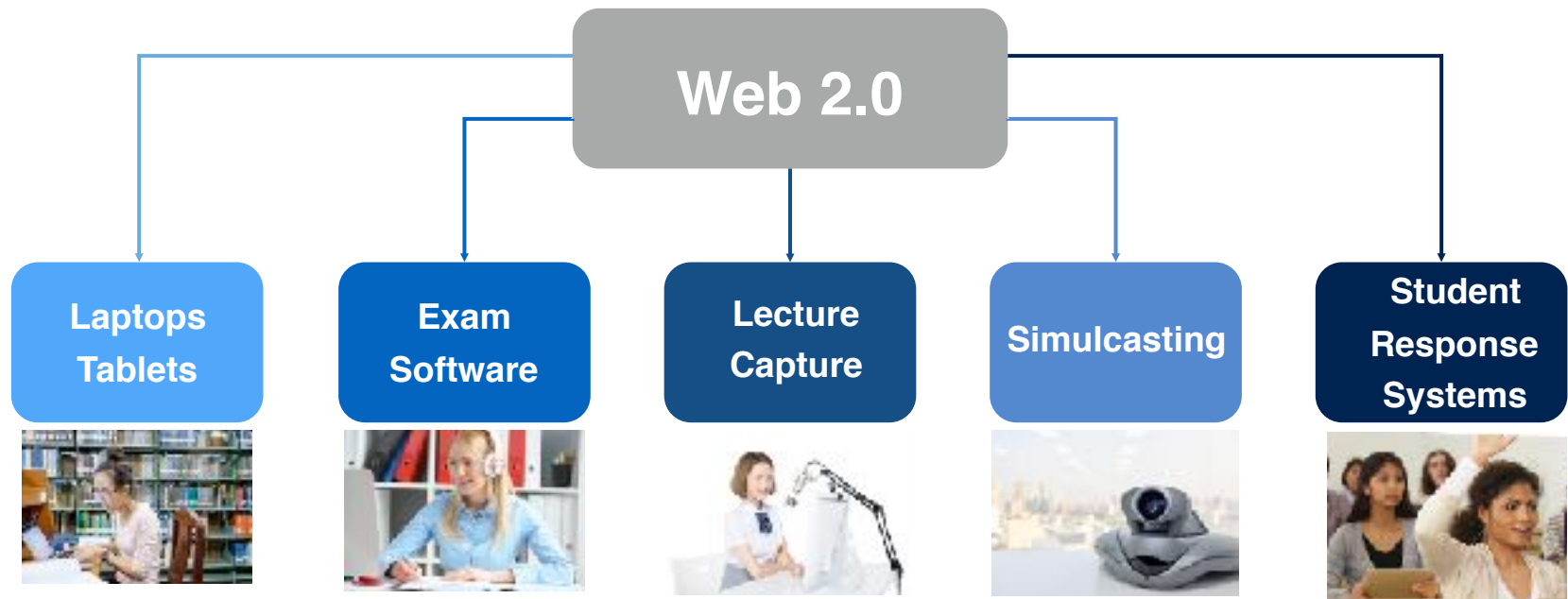
Orthodontics

Pediatric Dentistry

Radiology

Didactic

Technologies in Dental Academic Institutions



Spallek H, von Bergmann H. Should laptops be allowed in the classroom? Two viewpoints: viewpoint 1: laptops in classrooms facilitate curricular advancement and promote student learning and viewpoint 2: deconstructing and rethinking the use of laptops in the classroom. J Dent Educ. 2014 Dec;78(12):1580-8; Kramer GA, Neumann LM. Confirming the validity of Part II of the National Board Dental Examinations: a practice analysis. J Dent Educ. 2003 Dec;67(12):1286-98; Azab E, Saksena Y, Alghanem T, Midle JB, Molgaard K, Albright S, Karimbux N. Relationship Among Dental Students' Class Lecture Attendance, Use of Online Resources, and Performance. J Dent Educ. 2016 Apr;80(4):452-8; Spallek H, Turner SP, Donate-Bartfield E, Chambers D, McAndrew M, Zarkowski P, Karimbux N. Social Media in the Dental School Environment, Part A: Benefits, Challenges, and Recommendations for Use. J Dent Educ. 2015 Oct;79(10):1140-52.



Gamification: A Tool to Enhance Knowledge Application and Lifelong Learning

Michelle Robinson DMD, MA¹ and James Willig MD²

University of Alabama at Birmingham Schools of Dentistry² and Medicine²



AIM

The volume of information required for students to learn can be overwhelming. In order to be able to apply new knowledge into practice, students must be familiar with a plethora of facts that may be challenging to learn and retain. This work examines gamification as an innovative pedagogical technique to engage students in learning.

RESULTS

Implementation was simplified by a calendar feature allowing test questions to be scheduled for delivery. Scoring was set up ahead of time, permitting points to be assigned for correct answers and pre-determined milestones. Customized badges were motivating in keeping students engaged. Areas of strength and weakness were able to be identified. Participation rate was 100%.

CONCLUSIONS

The gamification format was well-received in this educational setting. It provided a novel method of interaction with material and shows promise as a means of improving test scores and retention of knowledge needed to facilitate research and clinical practice.¹

METHODS

An online game called Kaban ("continuous improvement") was developed to aid student and resident learning. Periodontology residents participated in the game to assist them with preparation for a national in-service exam that assesses their learning over time in the program.

The game allowed for both individual and team participation. Four online questions representing different Periodontology topics were given each weekday. Beneficial game features and participation were observed.

How does the game work?



- Instructors assign students to teams
- Instructors post questions and rationales in Kaban software
- Students log into any device using their ID and password
- Students answer questions and can receive feedback with shower rationale

1. Leaderboard view: questions

#	Team	QID	QID#	Score	Notes
1	Team Alpha	QID1	1	100	The first question is correct.
2	Team Beta	QID2	2	100	The first question is correct.
3	Team Gamma	QID3	3	100	The first question is correct.
4	Team Delta	QID4	4	100	The first question is correct.
5	Team Epsilon	QID5	5	100	The first question is correct.
6	Team Zeta	QID6	6	100	The first question is correct.
7	Team Eta	QID7	7	100	The first question is correct.
8	Team Theta	QID8	8	100	The first question is correct.

Scores are tracked using an online leaderboard and badges used to reward participation and correct answers.

Level Badges (Awarded According to Points)

Hot streak badges +				Marathon badges +			
Weeks	Score	Points	Notes	Weeks	Score	Points	Notes
1	100	100	Golden Streak	1	100	100	Golden Streak
2	200	200	Golden Streak	2	200	200	Golden Streak
3	300	300	Golden Streak	3	300	300	Golden Streak
4	400	400	Golden Streak	4	400	400	Golden Streak
5	500	500	Golden Streak	5	500	500	Golden Streak
6	600	600	Golden Streak	6	600	600	Golden Streak
7	700	700	Golden Streak	7	700	700	Golden Streak
8	800	800	Golden Streak	8	800	800	Golden Streak

REFERENCES

Gamification as a tool for enhancing graduate medical education.
Mavin CR, Westfall AD, Rodriguez JM, Dempsey DM, Chorrington A, Ray B, Patel M, Willig JH, Postgrad Med J. 2014 Dec;90(1070):685-93.

ACKNOWLEDGEMENTS

This work was supported by the University of Alabama at Birmingham Kaban project and made possible with assistance from the Kaban clinical team:
James Willig MD, School of Medicine
Cathy Roche PhD, School of Nursing
Nancy Wingo PhD, School of Nursing

Preclinical

Technologies in Dental Academic Institutions

Simulation
Models



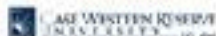
Haptic
Technology



Virtual
Patients



Koo S, Kim A, Donoff RB, Karimbux NY. An initial assessment of haptics in preclinical operative dentistry training. J Investig Clin Dent. 2015 Feb;6(1):69-76.
Cederberg RA, Bentley DA, Halpin R, Valenza JA. Use of virtual patients in dental education: a survey of U.S. and Canadian dental schools. J Dent Educ. 2012 Oct;76 (10):1358-64.
Lie T, Hoff I, Gjerdet NR. Computerized evaluation of the effectiveness of subgingival scaling in jaw models. An introduction to the program developed at the School of Dentistry, University of Bergen. J Clin Periodontol. 1987 Mar;14(3):149-55.



Dark Room to Augmented Reality: Technological Rise of Oral Radiology

Ali Z Syed¹; Ahmed Abdelkarim²; Scott Lozanoff²

¹Department of Oral and Maxillofacial Medicine and Diagnostic Sciences School of Dental Medicine, Case Western Reserve University, Cleveland, OH, USA

²Department of Anatomy, Physiology and Biomechanics, JAGSOM, Honolulu, Hawaii, USA



Abstract

Radiology has continuously evolved in combination with advances in imaging technology initiated with the yellowish silver phosphor plates introduced over 150 years ago. Current advances in imaging technology surmount the introduction of holographic display within the context of an augmented or mixed reality (AR) environment. The introduction of this technology to dental radiology may enable the radiologist to achieve improved diagnostic understanding and interpretation of complex clinical conditions. The purpose of this study is to implement AR display for the observation of impacted third molar with involvement of the inferior alveolar nerve. For illustrative purposes, animated videos depicting impacted teeth were created to demonstrate using AR technology.

Aim

Historically, dental and medical education has taken place in a traditional, faculty-instructed lecture format in the dental field, modernizing dentistry with virtual procedures has encouraged the need for further and more realistic training with the advent of AR technology, virtual objects are superimposed onto a real environment to create a fundamental user interface. This type of technology is now being utilized by a number of clinical disciplines and is poised to become a fundamental aspect in how we perceive and assimilate information. CWRU School of Dental Medicine and University of Hawaii John A. Burns School of Medicine are among the first adopters in the world to utilize HoloLens technology in Dental Radiology.

Methods

The imaging pipeline is shown in fig. 1. CBCT images were obtained and subjected to image analysis utilizing CBCT software (apexray.com). Relevant structures were viewed in cross sections and segmented (fig. 2). Mesh data were imported into Maya (autodesk.com) and polished (fig. 3) transferred to ZBrush (maxon.com) and typologized, and boolean operations were applied to isolate the inferior alveolar nerve canal connectivity (fig. 4). meshes were submitted to Unity3D scenes with gesture interaction enabling user movement recognition by HoloLens depth-sensing cameras. Live streaming via VR6 controller was implemented enabling 3D data viewing of the headset user POV (fig. 5).

PHASE 1

CBCT
D-ROOM

FX-ML
software

Model
Modeling

PHASE 2

Model
Polishing-
Maya software

Creating
sample

HoloLens

Figure 1. Graphics pipeline for mandibular model

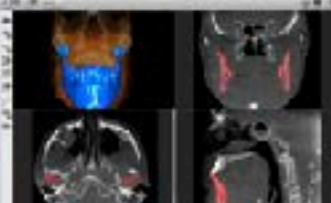
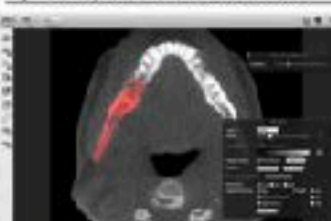


Fig 2. Relevant craniofacial structures were viewed with CBCT software and segmented

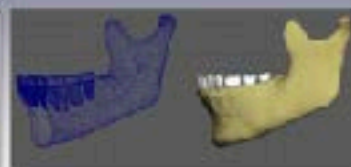


Fig 3. Models were imported into Maya and polished



Fig 4. Models were typologized with Z-brush



Fig 5. Live streaming and user POV

Results

Understanding complex dental procedures continues to remain a challenge for dental professionals as they communicate with their patients. Microsoft HoloLens technology enables the placement of holograms, or 3D objects that result from the intersection of light beams, within the physical environment facilitating user interaction. HoloLens analyzes sounds, captures information, and recognizes gestures in spatially map the world around the user in real time. HoloLens provides countless opportunities for users to interact with computers beyond a screen. This is the **first practical** study demonstrating the usefulness of holographic display within the context of dental radiology.

Using HoloLens technology, AR models of 3D molar tooth impactions were created as an illustration for diagnosis and depiction. A preliminary demonstration was presented to select faculty members at the Case Western Reserve School of Dental Medicine (CWRU SODM), which gained immense interest and support for further exploration.

Conclusions

Future efforts will include introducing HoloLens technology to dental students at CWRU SODM during several courses including Introduction to Radiology, Pain Control, and Head and Neck Anatomy.

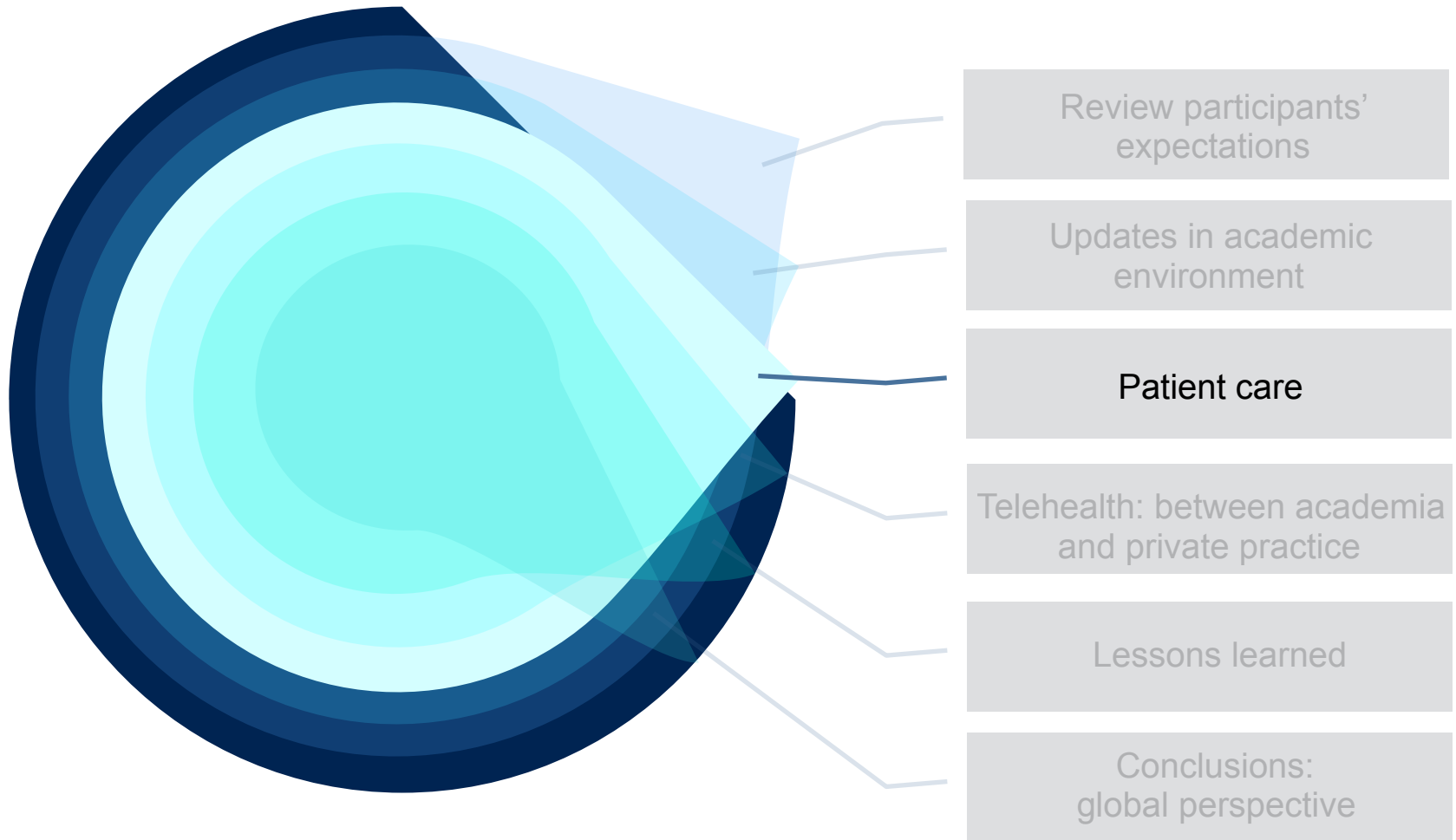
References

1. Presentation of Anatomical Variations Using the Aurasis MobileApp. Hong T, Bickard G, Lozanoff SK, Ishaq R, Lozanoff S. Hawaii J Med Public Health.
2. Gopal S, Kawamoto K, Farrell ML, Tamers K, Lozanoff S, Lozanoff S. Computerized 3D anatomical modeling using plaster: An example utilizing the human teeth. PLoS One (2014) 9(12):1-12.
3. International Data Group, Inc. History Funding Universe. Retrieved 21 April 2014.

Acknowledgements

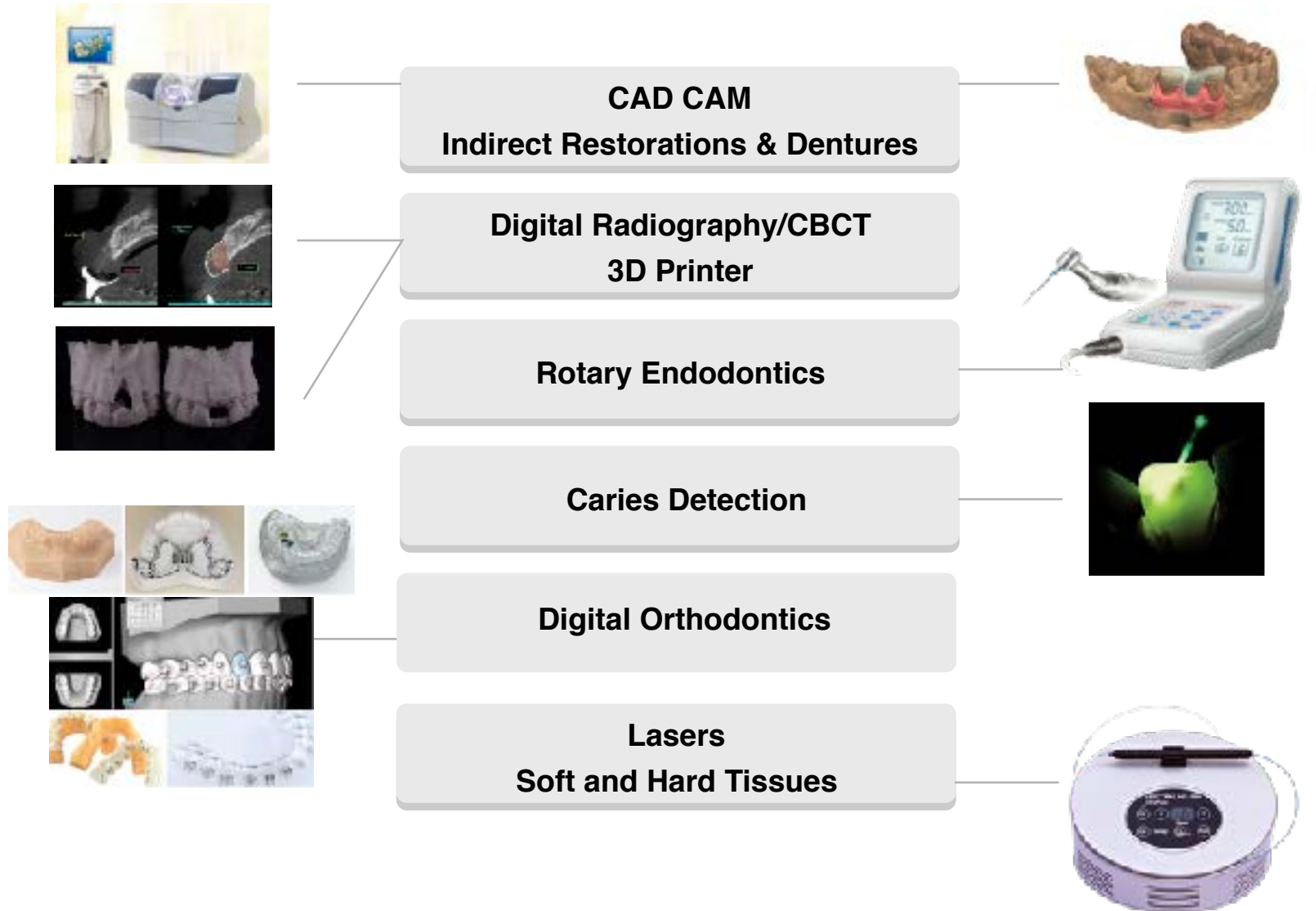
- Beth Lozanoff and Jesse Thompson, Department of Anatomy, Physiology and Biomechanics, University of Hawaii School of Medicine
- Supported by UCDM

OUTLINE



Patient Care

Technologies in Dental Academic Institutions

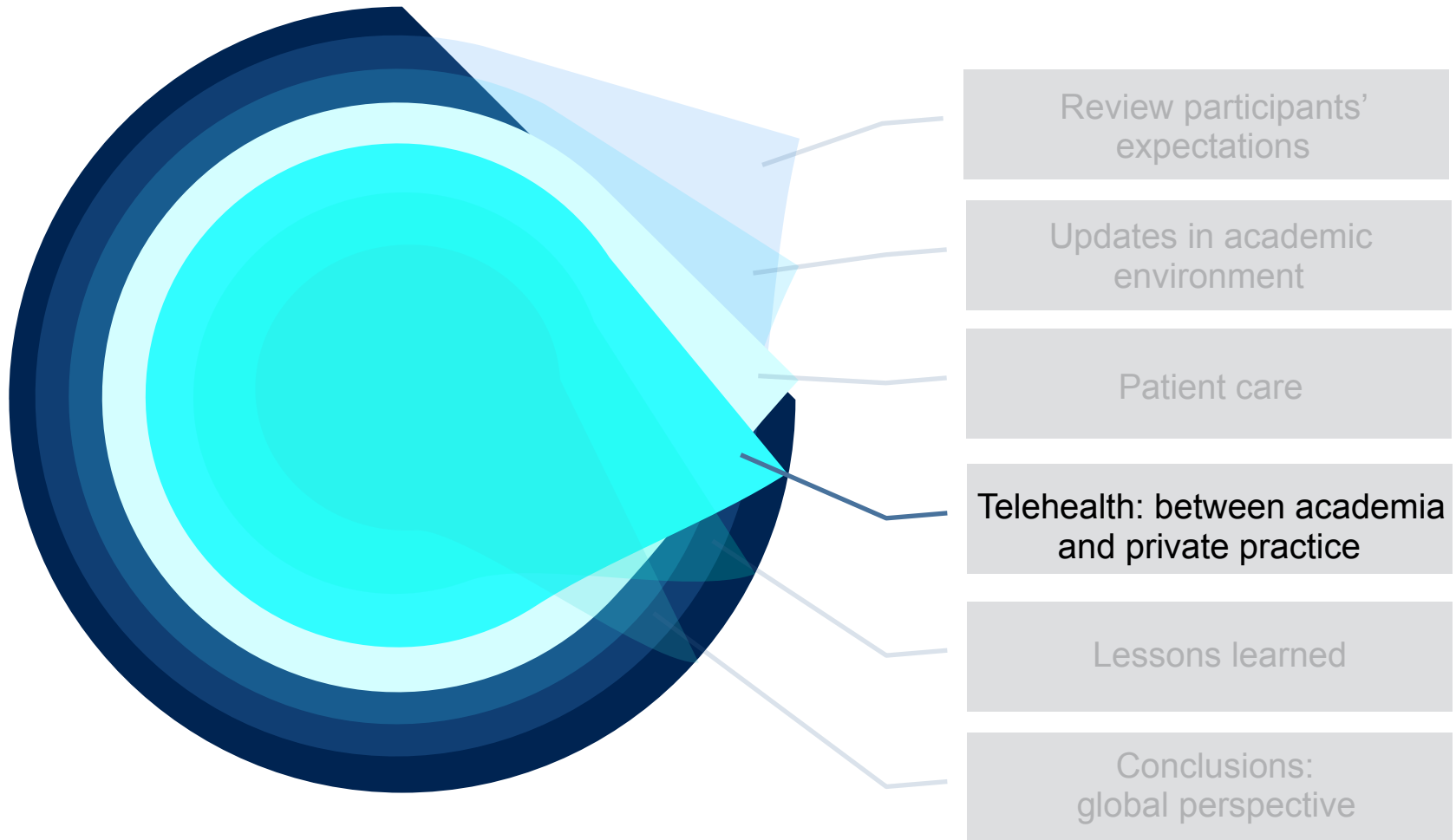


**“Is dentistry responding to
technology or is technology
driving dentistry?”**

Paul Trombly, DMD, MS, DAPM



OUTLINE



ELECTRONIC HEALTH RECORD (EHR)

Client-Server EHR



School responsibilities:

- Servers
- Data Centers
- Backups
- Security
- System administrators
- Network
- Legal

Cloud/Web EHR



School responsibilities:

- Legal
- Network

ELECTRONIC HEALTH RECORD (EHR)

Integration with other Cloud/Web Systems

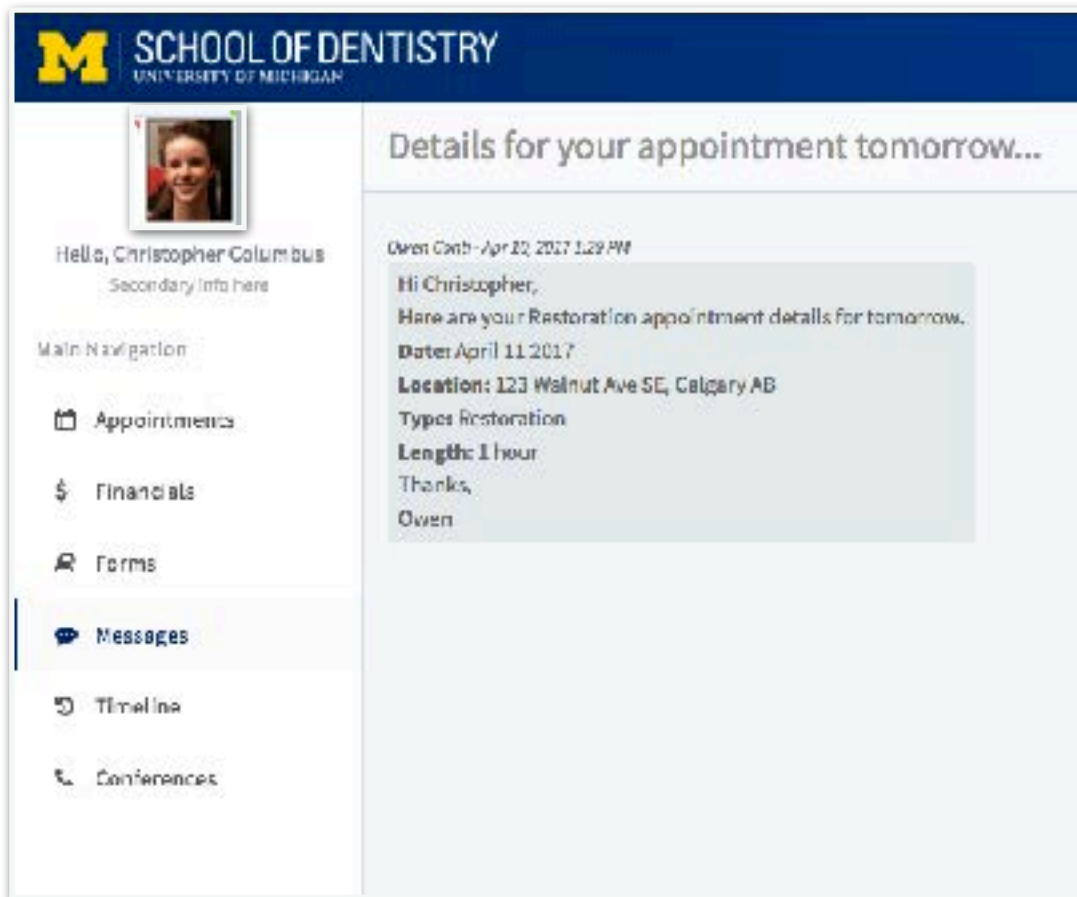
The screenshot displays the ICE software interface, which is used for managing dental records and patient information. The interface is divided into several sections:

- Top Navigation Bar:** Contains the ICE logo and a series of tabs: Practice, doctor, Patient, Medical Support, Lexicomp, Time Tracking, Feedback, Help, and Logout. The 'Patient' tab is currently selected and highlighted with a red box.
- Dashboard:** Below the navigation bar, there are tabs for Dashboard, Imaging, Charting, Financials, Education, and Recall & Notes. The 'Imaging' tab is active.
- Patient Information Panel:** On the right side, a panel displays patient details for 'Liz Test' (ID: 46371). It includes fields for Status (Active), Date of Birth (03/18/1987), Gender (F), Primary Phone (403-870-1877), and a 'More Details' link. A small portrait photo of the patient is also shown.
- Image Gallery:** The main area of the interface shows a grid of dental images. The top row includes four images labeled 'Lateral', 'Lateral Smile', 'Frontal Relax', and 'Frontal Smile', all dated 01/09/2014 14:08. Below these, there are more images, including 'Intraoral Right', 'Intraoral Front', and 'Intraoral Left', also dated 01/09/2014 14:08.
- Left Sidebar:** Contains a 'Timepoints' section with 'Today' (01/11/2014) and '01/09/2014'. Below this is an 'Uploaded:' section listing various dental procedures and their counts (e.g., 1 Lateral Smile, 1 Frontal Relax, 1 Upper Occlusal, 1 Intraoral Frontal, 1 Lateral, 1 Intraoral Right, 1 Frontal Smile, 1 Intraoral Left).
- Right Sidebar:** Features a 'Template View' dropdown menu set to 'Ortho Master'. Below this is a list of templates: Panoramic Radiograph, Ortho Master, Composite 10, Composite 9, Composite 8, Composite 5, and General Dentistry Master. Further down, there are sliders for 'Rotation', 'Zoom', 'Gamma', and 'Blur', and a 'Color Options' section with a '[Show]' button.

The interface is designed to provide a comprehensive view of a patient's dental history and current status, facilitating efficient clinical workflow and record management.

ELECTRONIC HEALTH RECORD (EHR)

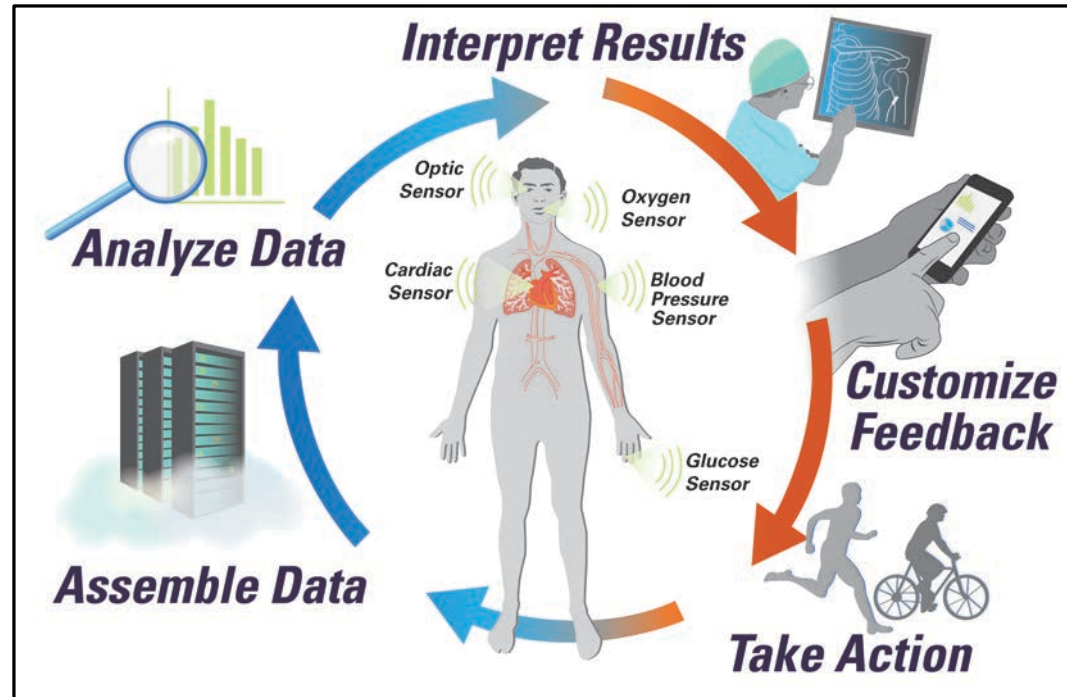
Patient Portal



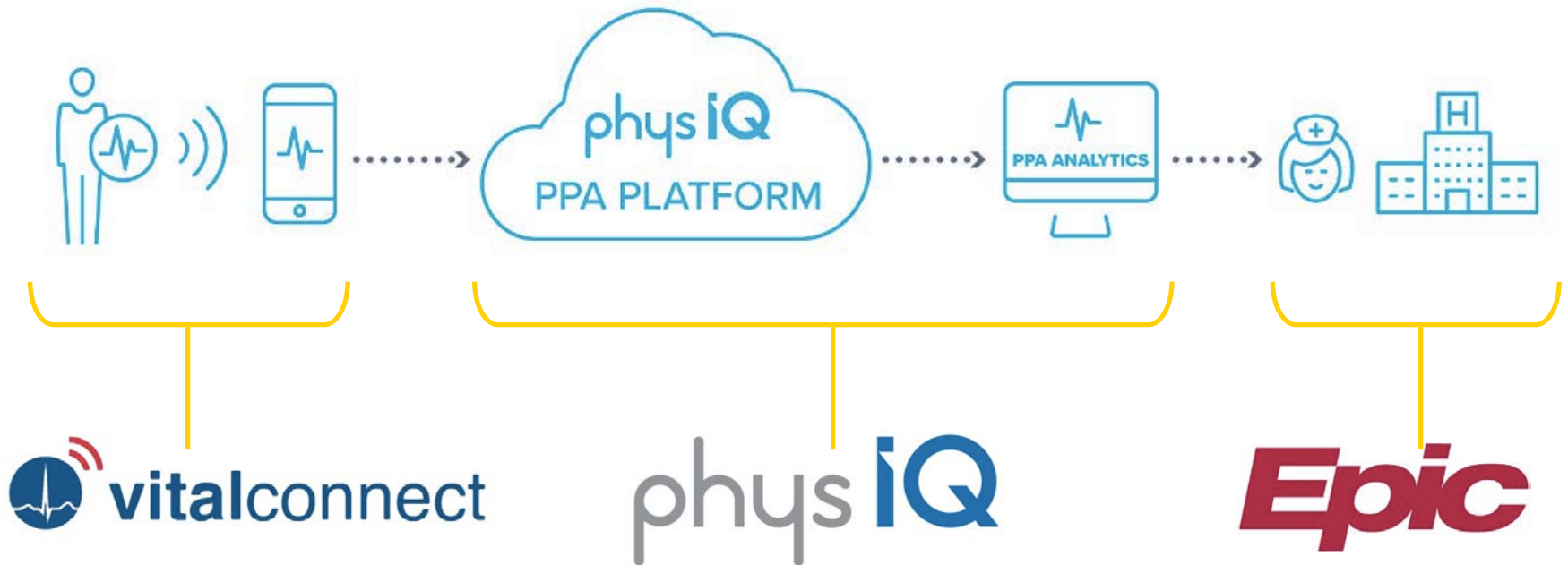
- Web
- Mobile device

2020: LEARNING HEALTH SYSTEM

- Automatically gather data
- Systems analyze data
- Clinician decides action
- Patient receives information
- Treatment provided



2020: LEARNING HEALTH SYSTEM



TELEHEALTH TECHNOLOGIES





Innovation Through Collaboration-An Overview of the University of the Pacific, Arthur A. Dugoni School of Dentistry Virtual Dental Home Program

Paul E. Subar, DDS, EdD, FACD, Associate Professor of Dental Practice, Director of Special Care
 Alan W. Budenz, MS, DDS, MBA, Professor, Dept. of Biomedical Sciences and Vice Chair, Dept. of Dental Practice

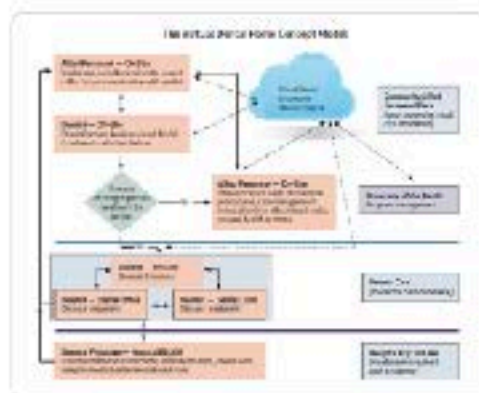
ABSTRACT

Large and increasing oral health disparities in the U.S. population led the Institute of Medicine to call for expanded research and the resolution of delivery barriers that limit underserved populations' access to dental care.

These new efforts include delivering oral health services in nontraditional settings, using skilled dental professionals and incorporating telehealth technologies. The Virtual Dental Home is a system that designs services to the characteristics of the community.

INTRODUCTION

- In 2011, only 14% of eligible children received any dental service compared to 64% in 2006.
- Almost 25% of all Children in California have never seen a dentist.
- Almost 40% of California African American, Latino, and Asian populations report missing oral care.
- 85% of elementary school children in these groups are in need of basic dental care.
- 2000 US Census revealed 49.7 million people with a functional disability.
- Almost 100 million Americans are over 65 years old and need dental services that are not provided in their care.



SUMMARY OF VIRTUAL DENTAL HOME

- Care management over time
- Health promotion activities
- Access to specific dental services when needed
- Treatment on early diagnosis
- Ongoing relationship between dental care provider and the patient, inclusive of all aspects of oral health care delivered in a continuously accessible, coordinated way.

TELEDENTISTRY

The use of technology to share records between dentists and other dental professionals in the field.

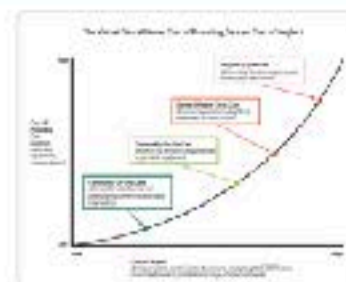
- ERI AD generalist and specialist records on-site
 - History, dental, social, dietary history
 - Digital radiographs
 - Radiographic projections
 - Panoramic imaging
 - Hard tissue imaging
 - Disease risk assessments
- ERI AD generalist and specialist records on-site
- Dental review of records, formulate diagnoses and treatment plan
- Dental records and care management plan
- Dental records and care management plan

VIRTUAL DENTAL HOME

Oversees and coordinates delivery model in which underserved, underserved and underserved populations receive dental services in community settings where they live or receive educational, social or general health services. It utilizes the latest telehealth technology to link practitioners in the community with dentists in many ways.

SERVICES PROVIDED UNDER GENERAL SUPERVISION BY A DENTIST

- Health promotion and prevention education
- Dental disease risk assessment
- Radiographic (X-ray) and CBCT projections per conditions for the California Dental Practice Act via bill AB 1174
- Digital radiographs
- Preventive procedures including:
 - Fluoride Varnish
 - Sealants
 - Prophylaxis
- Placement of Interim Therapeutic Restorations by RDHP for eligible patients for future definitive care (New allowed by the California Dental Practice Act via bill AB 1174)



OUTCOME

- The VDH is demonstrating a new system of care that is more likely to improve oral health of underserved and vulnerable populations at a lower cost than other systems of care.
- Sites throughout California
 - Hospital Programs
 - Elementary Schools
 - Skilled Nursing Facilities
- Thousands of patients treated with ongoing care management
- Over 1,500 Interim Therapeutic Restorations Placed without Incident
- Results of the Health Monitoring Pilot Project completed by Pacific helped support passage of California Assembly Bill 1174, signed into law by Governor in 2014, that brought the California Dental Practice Act to allow for RDHP's to
 - Operate on-site radiography to take in the field
 - Place interim Therapeutic Restorations in the workplace supporting ongoing reconstruction
- Pacific is beginning a new Secondary station for all senior dental students starting Summer 2015

EDUCATIONAL LEARNING OPPORTUNITIES - TECHNOLOGY ENHANCED INTRAPROFESSIONAL COLLABORATION

- Telehealth training for dental and dental hygiene students - starting summer 2015
- Dental hygiene students join RDHP in Community Health Home to gather records and provide preventive care
- Dental students join dental school clinic, to receive records via telehealth technology and provide treatment plan
- Patient seen in dental school clinic for interim therapeutic restorations



ICE

Telehealth and Clinical Mentoring Through a Collaborative Cloud Health Record

Mark Genuis, PhD, ICE Health Systems, Canada; Lynn Johnson, PhD, University of Minnesota, School of Dentistry, USA

AIM

Health professionals in remote locations struggle to serve patients, as well as to improve their skills. The Collaborative for Health IT, consisting of three US dental schools (Michigan, Pittsburgh and North Carolina), The University of Sydney (Australia), Internet2 (US) and ICE Health Systems (Canada) is addressing these issues through expanding a cloud-based electronic health record (EHR), while incorporating both telehealth and clinical mentoring functions.



Collaboration GOALS

Our vision is to use technology to rapidly advance health, education and research.

In doing so, we are committed to addressing the following problems as priorities for dental education and the dental profession:

1. Continuously investigate and use cutting edge technology.
2. Develop a state-of-the-art that, with the proper permissions, is continuously updated with patient information.
3. Improve access to patient information so that the needs of dental researchers are met.
4. Increase security through continuous external audits.
5. Ensure interoperability with other systems.
6. Create a system of governance that encourages the schools to determine the future development roadmap.
7. Keep EHR costs at a level that allows the schools to focus their resources on their mission.

METHODS



Connect clinicians to clinicians, researchers and patients efficiently and in real-time in a cloud-based



Convenient access to patient information through a web browser



Patients and care providers can all view the record for emergencies and consultations.



Cloud computing enables access to patients and research world-wide by eliminating the need for local servers and server support.



Security is ensured through standards set by Internet2, a partner of GÉANT, and continuous external audits. ICE is now in process of seeking ISO 27001 Certification.

COLLABORATION



Collaboration members work together to guide the development of their EHR, innovative applications are now being explored. These include Telehealth, Data Warehousing and Clinical Mentoring.



Collaboration members meet annually on an ongoing basis and in-person at least once per year. The Telehealth committee is very active with multiple projects and at least monthly meetings.

Patient Mobile Monitoring: A Novel Tool in Dental Education

LESLIE KORTS HERRICK, D.D.S., M.S.,¹ JESSICA L. GARDNER, D.D.S., M.S.,²
DANIEL HUBERS, D.D.S.,³ and HANCOCK, D.D.S.,⁴ * UTMSU College of Dentistry, TN, USA
** Private Practice, London, UK ***ThamesValley Univ., London, UK

Aim

Evaluate the effectiveness of mobile monitoring post-dental treatment for early detection of complications and to assist in dental education. Identify and treat complications earlier, reducing patient suffering and in-office visits and facilitating faculty evaluations.

Methods

Patients enrolled in the graduate prosthodontics program received text messages with surveys tailored to specific dental procedures using HIPAA compliant patient monitoring solution. On-time notification alerts were used to monitor patients. Monthly reports allowed close tracking of patient treatment outcomes and satisfaction.



Dashboard displays the outcomes and feedback data, enabling faculty and students to proactively analyse and address any concerns during a patient's recovery journey.



Example of mobile application.

Objectives

1. early detection of complications.
2. Patient treatment home monitoring.
3. Student performance evaluation.
4. Reduction of unnecessary office visits.
5. Reduce costs to facility as well as patients.
6. Determine if the Mobile application is user friendly.

Monthly Report



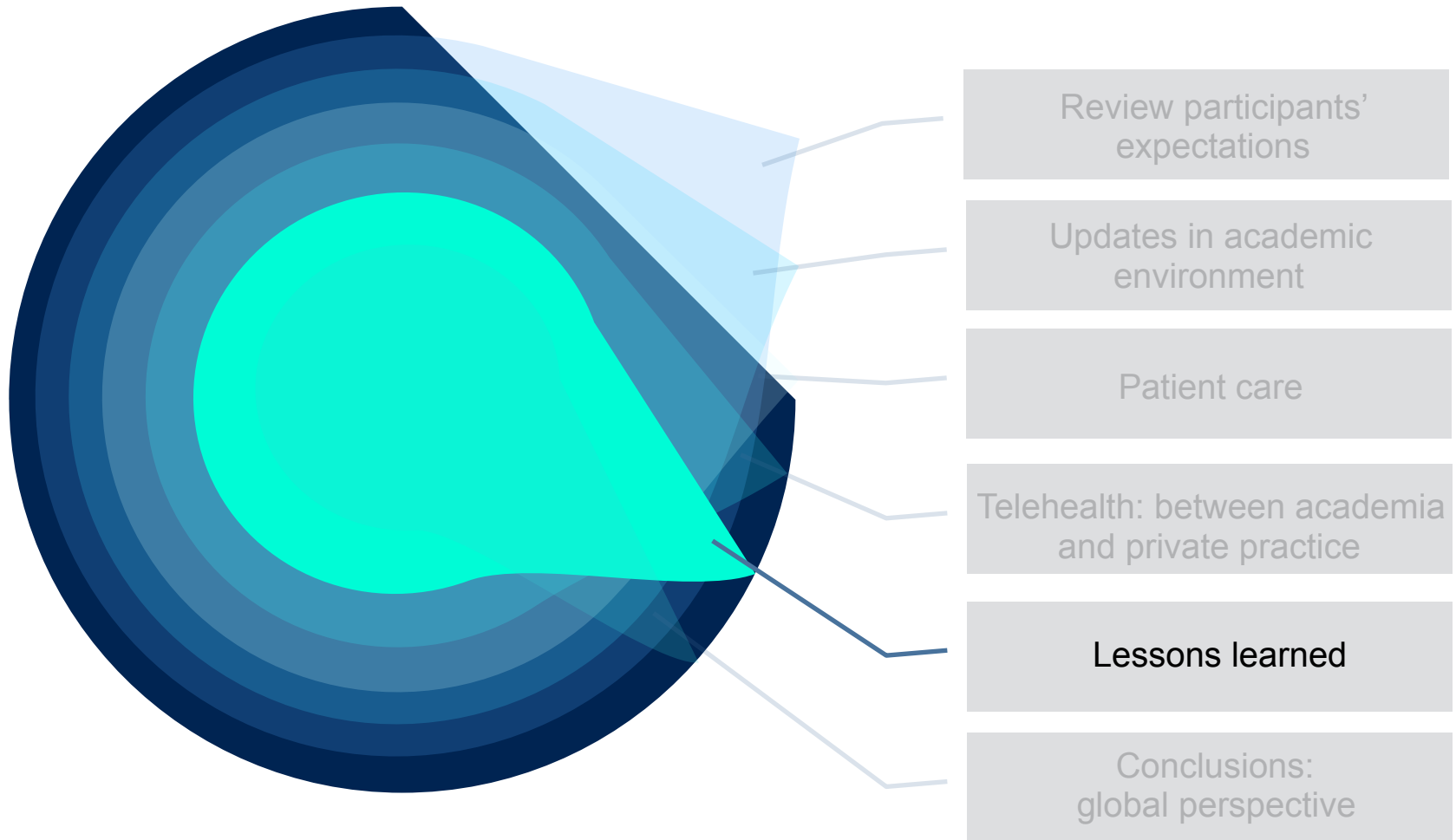
Results

Patient participation was 84%. An algorithm has been created to identify post-treatment complications in order to improve faculty evaluations and student learning. Clinically relevant information guided clinical decision making.

Conclusion

This was the first time the 'mobile monitoring' service was applied in an educational institution. This service allowed a reliable and secure collection of patient post-treatment outcomes in a timely fashion. This patient outcome tracking system created learning opportunities for students and facilitated faculty evaluations.

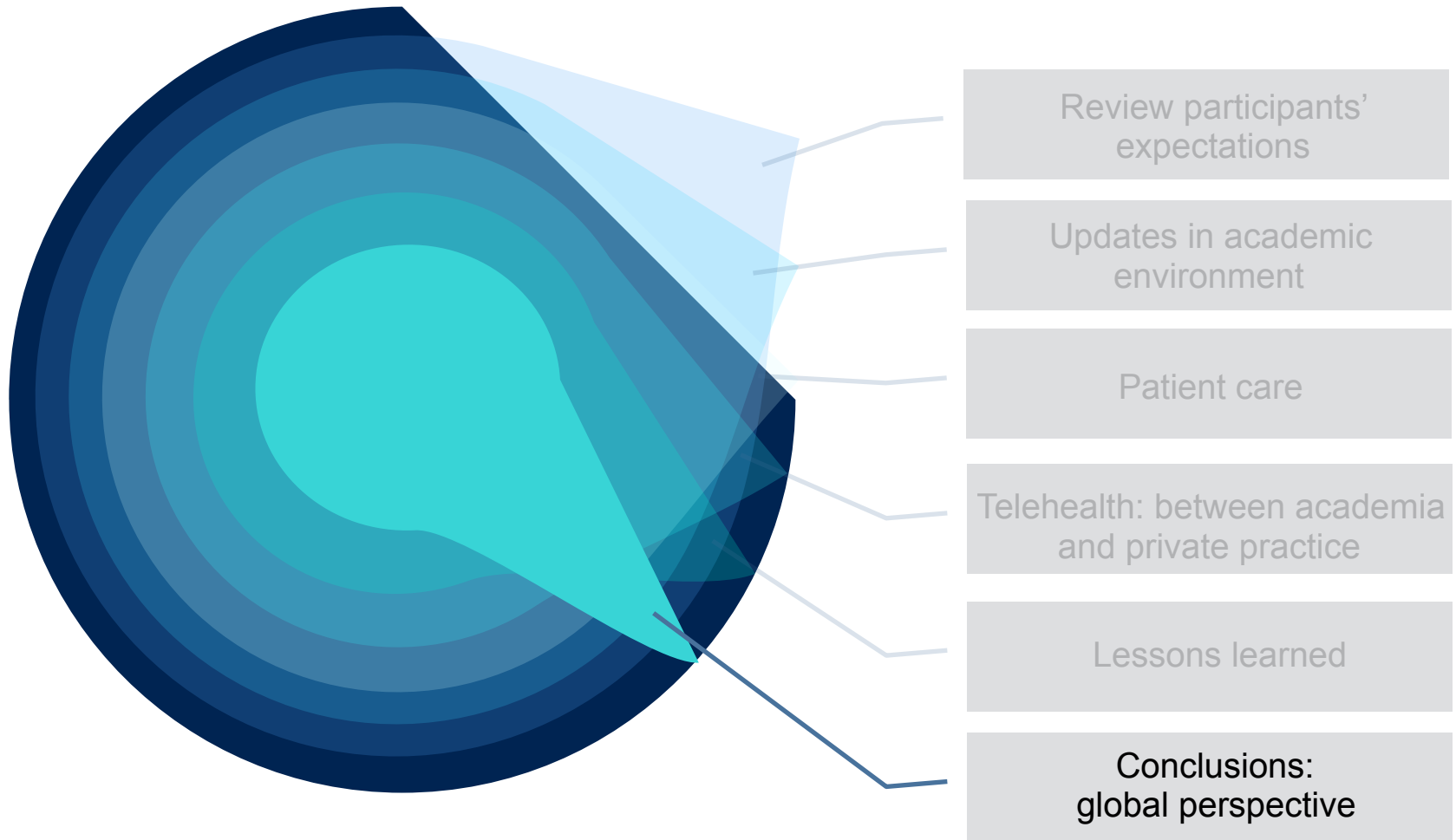
OUTLINE



LESSONS LEARNED

- Set clear and realistic goals
- Have an end date
- Support for faculty must be provided; include it in a priori cost analysis
- Find a non-IT champion
- Buy before build; its cheaper
- Don't start if you won't be able to finish
- Communicate, communicate, communicate

OUTLINE



GLOBAL PERSPECTIVE

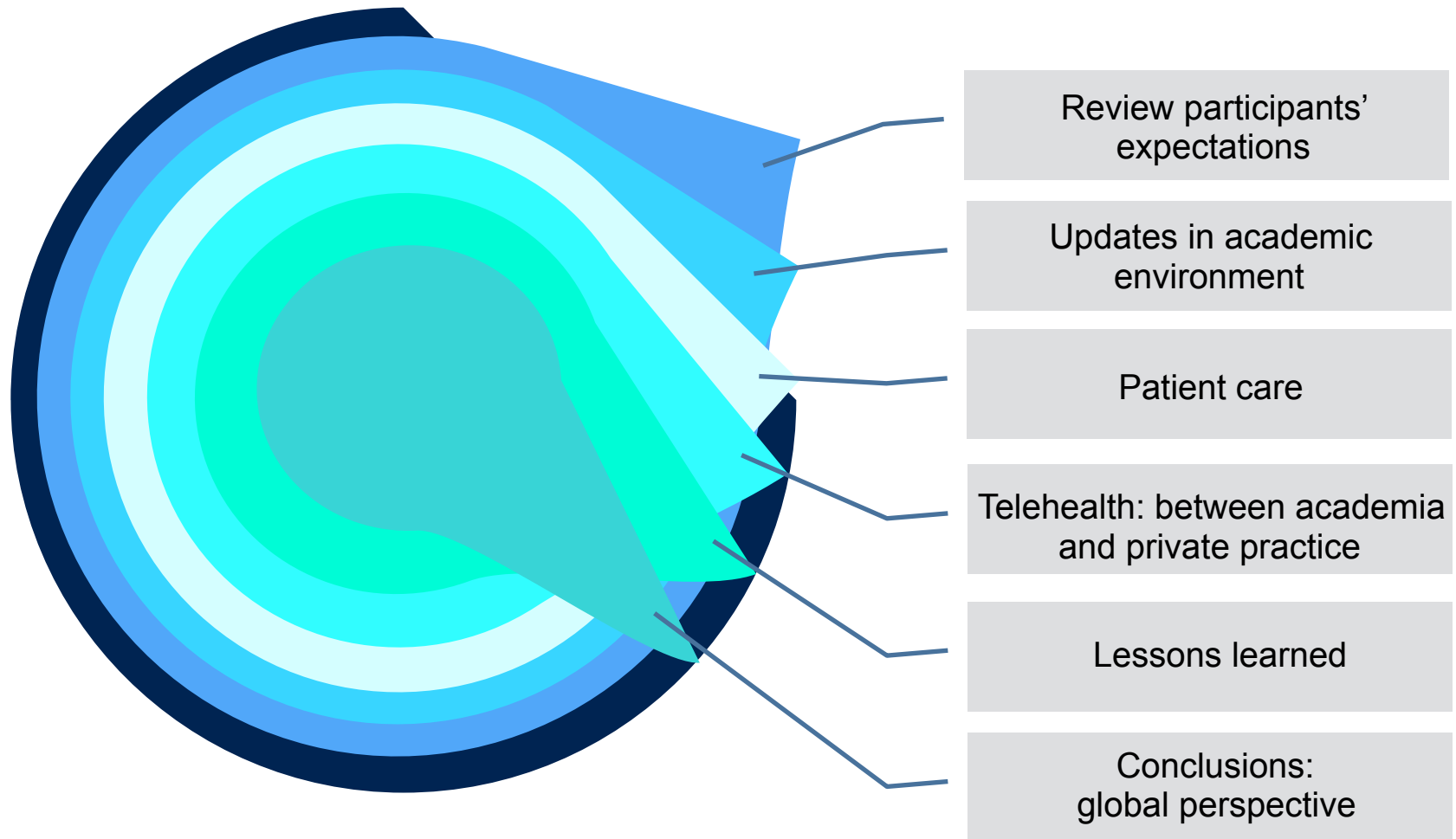
Internet availability

- 2002: 3% of world's population
- 2017: 50% of world's population

Open Access: Free & unlimited access to materials

- Reward faculty for placing teaching materials in open access forums
- Rationalize the copyright process to encourage open access
- IFDEA: Was a leader in collecting quality content and making it available worldwide

OUTLINE





Thank you!

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GROUP GROUND RULES

- Listen to understand
- Respect each other's thinking
- Stay open to new ideas
- One speaker at a time
- Everyone participates; no one dominates
- Ask “What is possible?”



10-YEAR PROSPECTIVE ACTIVITY

1. Break into groups: Each group has a Recorder and Reporter
2. Answer the following questions: **In 2027, what technologies will be used routinely in dental education and patient care?**
 - Didactic Education Technologies
 - Pre-clinical Education Technologies
 - Patient Care Technologies
 - Telehealth



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10-YEAR PROSPECTIVE ACTIVITY

3. Determine the top **2** technologies that are most likely to be used in each technology area.

- Didactic Education Technologies
- Pre-clinical Education Technologies
- Patient Care Technologies
- Telehealth

4. Why are these **2** technologies important?





Thank you!

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