Aquifer is a unique mission-driven non-profit organization dedicated to delivering the best health care education through collaborative development and research into innovative, high-impact virtual teaching and learning methods.

With 12 million virtual patient cases completed since our founding in 2006, Aquifer is the leader in developing clinical learning tools for health professions education.

**TOTAL ANNUAL REACH**

67,186 registered students used

1,387,429 Aquifer cases

**CURRENT PROGRAM USERS**

Used in 95% of U.S. allopathic medical schools,

66% of U.S. osteopathic medical schools, & a growing number of physician assistant, nursing, & international programs

**ANNUAL SUBSCRIBERS**

243 subscribing programs

**2017-18 ASSESSMENT USAGE**

8,943 students completed

909 Aquifer exams
Supporting Academic Advancement Through National Partnerships

Aquifer is proud to provide many of our national organization partners with grants to fund organization initiatives and academic research projects. Working with our partners assures that our grant dollars support initiatives that advance our mission and serve the needs of educators and students around the country. Aquifer also funds individual research grants that align with our mission.

Giving Back

$66,240 AWARDED IN GRANTS THIS YEAR

2017-18 GRANT RECIPIENTS:

Aquifer is excited to deliver Trauma-Informed Care, developed in collaboration with the Office on Women’s Health. The course is designed to improve patient care for individuals affected by trauma through educating a range of healthcare providers. Twelve cases are currently available with more in development.

Investing in Quality & Innovation

Subscription dollars from Aquifer’s courses are invested in the continued development of innovative content and educational technology. Subscriptions fund the critical organization operations that make our courses sustainable—including content updates, maintenance, administration, and support for students and administrators. Aquifer thanks our subscribers for their support of our mission.
Building Bridges Between Basic & Clinical Sciences

The Aquifer Sciences Initiative aims to provide healthcare education programs with the teaching and learning resources they need to ensure all graduates seamlessly acquire and apply basic science foundational understanding to patient care. The new tools will promote cognitive integration and allow students to self-assess and grow their foundational understanding through safe practice in making clinical decisions. Phase One, the Aquifer Sciences Open Curriculum Database, is complete and publicly available at aquifersciences.org. Phase Two is in development, with 12 pilot schools working to develop virtual patient cases and integrated illness scripts to become part of Aquifer’s library of teaching and learning tools.

Optimizing Online Teaching & Learning

Aqueduct, Aquifer’s learning management system, launched in June of 2017. Since then, development work has continued to improve the user experience. The launch of the searchable Case Library, paired with Aqueduct’s custom course feature, allows educators to discover new content, integrate cross-disciplinary cases, and build courses to fit the needs of their program. With the launch of our iOS app, students can now access cases anytime, anywhere—including working offline.

New Assessments Focus on Clinical Decision-Making

Aquifer’s Key Features Exam—the first exam of its kind developed for medical students in the United States—migrated from its original platform to Aqueduct in October 2017 to improve the user experience. The exam takes a novel approach to evaluating clinical decision-making skills, and is designed as a supplemental assessment in the Internal Medicine clerkship. In November 2018, Aquifer announced an initiative to develop innovative formative assessment tools to deliver meaningful and rapid feedback to students to promote self-directed learning. The summative assessment tools for Family Medicine, Pediatrics, and Radiology will transition to this new format in the future. Our assessment teams developed and launched 280 new questions in support of current and future assessments in 2018.

Building an Innovative & Comprehensive Learning System

Looking ahead, Aquifer’s strategic vision is a student-focused learning system that delivers meaningful feedback for comprehensive clinical learning and decision-making. Work is underway to bring our innovation initiatives together, creating a seamless integration of content and assessment.
The Aquifer Educators Consortium is made up of talented educators who come together from across disciplines to push the boundaries of health professions education and create the learning resources that they—and their peers—need to provide consistent clinical education to students.

Experience, Expertise, & Perspective
The Aquifer Educators Consortium includes a series of unique interdisciplinary teams working together to consider major issues and changes in education, and build a cohesive approach to pedagogy, assessment, and teaching across Aquifer’s courses.

Consortium members are expert healthcare educators from across the country—including award winners and leaders in national organizations—who possess the knowledge and skills needed to work collaboratively to create quality virtual case-based courses and assessments.

Building Tools & Community
The Consortium creates Aquifer’s course content, from developing new content and teaching tools to writing and editing virtual patient cases and assessment questions. The result is evidence-based, peer-reviewed, pedagogically sound content that educators and learners can trust.

But beyond the content, the Consortium provides direct strategic leadership to define the Aquifer pedagogy, inform technology development, and address emerging concepts and issues. Consortium members represent Aquifer within their national organizations, acting as ambassadors at national meetings to connect with other users and often presenting their work to the academic community.

Experience, Expertise, & Perspective

**70+ CONSORTIUM MEMBERS**
**4 ACADEMIC DIRECTORS**
**16 ACADEMIC COUNCIL MEMBERS**
**3 CROSS-DISCIPLINARY WORKING GROUPS**
**8 COURSE BOARDS**

Congratulations
We’re proud of our Consortium and all of their impressive achievements! In addition to many academic presentations and publications, Aquifer congratulates our members who were recognized by their national organizations this year:

**National Award Winners:**
- David Harris
  IAMSE Early Career Award for Excellence in Teaching & Innovation
- Andrew Olson
  CDIM Early Career Medical Student Educator Award
- Amit Shah
  AGS Mid-Career Clinician Educator of the Year Award

**Currently elected to a national leadership position:**
- AAIM/CDIM:
  - James Nixon
  - Shobhina Chheda
  - Katherine Chretien
- IAMSE: Ann Poznanski
- AGS: Mandi Sehgal

The Educators Consortium is the reason that Aquifer’s course content is the most informative, up-to-date, and trusted source of clinical learning in healthcare education.
Wellspring
The Aquifer Annual Meeting

The Aquifer Educators Consortium gathers each year for several days of intensive interdisciplinary collaboration and brainstorming, professional development, and hands-on course development work. This year’s meeting focused on student engagement, interprofessional collaboration, continuous course improvement, and initial work on the curriculum mapping and assessment redesign.

Student Engagement: Race & Culture Project

This project began in 2017 with the goal of improving the way race and culture are presented and taught in Aquifer cases. Led by Dr. Stephen Scott and Dr. Katherine Chretien, a group of fourth-year medical students created a structured guide for reviewing Aquifer cases to identify key areas for improvement. Phase Two of the project, completed in 2018, included a second group of students using the guide to review cases in Aquifer Family Medicine, Internal Medicine, Geriatrics, and Pediatrics and making recommendations for improving the cases.

The Phase One work was presented at AAMC’s 2018 Learn Serve Lead meeting, and will be published in an upcoming edition of Academic Medicine. The Phase Two students (pictured above) presented their work at Wellspring to an engaged and receptive Aquifer Educators Consortium.

THANK YOU SHOU LING

One of our original virtual course developers, Dr. Shou Ling Leong, stepped down from the Aquifer Family Medicine board in October 2018. As one of the key innovators of the family medicine course, her work led to 3,217,061 CASE COMPLETIONS to date. Shou Ling continues her work at Penn State as the newly appointed Assistant Dean of Pathways Innovation.
2017-18 Academic Contributors

The Aquifer Educators Consortium is supported by a talented group of educators and students who write, review, and edit virtual patient cases and assessment questions, and develop the Aquifer Sciences Initiative.

**Case Reviewers**

- Vikas Agarwal
- Nimat Alam
- Valli Annamalai
- Dolapo Babalola
- Franklyn Babb
- Timothy Baker
- Andrew Barnes
- Chris Bergsman
- Darshita Bhatia
- Aimee Biller
- Harold Bland
- Bruce Britton
- Cara Bryan
- Constantine Burgan
- Rebekah Burns
- Harris Burstin
- Lavjay Butani
- Jeffrey Chipman
- Catherine Coe
- Joan Connell
- Sara Curtis
- William Cutrer
- MariaSyl delaCruz
- Erin Devone
- Monica Edwards
- Suzanne Eidson-Ton
- David Ganetzky
- Khuram Ghumman
- Jon Gold
- Randy Goldberg
- Brian Good
- Scott Grumley
- David Gugliotti
- Suzanne Harrison
- Bill Hay
- Susan Haynes
- Kristen Hood Watson
- Bill Huang
- Sarah Hutto
- Elizabeth Kaplan
- Sheevaun Khaki
- Stella King
- Marta King
- Katherine Klein
- Fred Kobylarz
- William Krantz
- Amalia Landa-Galindez
- Ibiyonu Lawrence
- Allison Macerollo
- Bob Mallin
- Melissa Manzer
- Erin McMaster
- Olivia Mittel
- Cathy Morrow
- Ronda Mourad
- Betsy Murray
- Maria Natividad Kelly
- Bill Nika
- Iclal Oacak
- Amimi Osayande
- Christine Osborne
- Wilbur Pan
- Larissa Peguero
- Thomas Presenza
- Jacob Prunuske
- Pattie Quigley
- Amanda Raff
- Temple Ratcliffe
- Alexis Reedy-Cooer
- Aaron Reiter
- Anuja Riles
- Sarah Rosenberg
- Mary Rubino
- Mitzi Scotten
- Ankur Segon
- Jessica Servay
- Shyam Shabat
- Meera Shah
- Leigh Simmons
- Meenu Singh
- David Smith
- Cheryl Smith
- Lacy Smith
- Augustine Sohn
- Marjorie Stein
- Heather Taylor
- Tapas Tejura
- Nina Terry
- Rachel Thompson
- Chandler Todd
- Carla Vázquez Santos
- Mumtaz Virji
- Daphne Walker
- Anne Walsh
- Flint Wang
- Jacqueline Weaver-Agostoni
- Adam Weinstein
- Joanne Williams-Cooper
- Jim Winger
- Jay Zimmerman

**Assessment Contributors**

- Vikas Agarwal
- Gauri Agarwal
- Sarah Ahrens
- Jonathan Appelbaum
- Dolapo Babalola
- Fatuma Barqadle

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**CONSORTIUM AT WORK: ACADEMIC OUTREACH**

- **10** national meetings attended
- **15** Aquifer-related academic presentations

**CONSORTIUM AT WORK: THE MOST UP-TO-DATE CONTENT**

- **326** Academic Contributors reviewed, edited, & updated
- **123** cases & **170** questions

*Continued on back...*
2017–18 Academic Contributors (Continued)

Laurie Belknap
Paul Bergl
Chris Bergsman
Christopher Bruti
Cara Bryan
Laura Cashin
Jeffrey Colburn
Vanessa Curtis
Karen Cutts
Anthony Dambro
Catherine Derber
Deborah DeWaay
Philip Dittmar
Nicholas Duca
Vijay Duggirala
Binay Eapen
Peter Ellis
Beth Emrick
Alla Fayngersh
Siddhartha Gaddamanugu
Roderick Go
Adam Gray
Scott Grumley
Rema Gupta
Emily Haury
Harland Holman
Nadia Ismail
Harish Jasti
Melissa Osborn Jenkins
Jennifer Koay
William Krantz
Cynthia Ledford
David Lindholm
Mai Mahmoud
Dana Mazuru
Patricia McBurney
Susan Merel
Archanu Mishra
Grace S. Mitchell
Jorge C. Mora
Deepa Nandiwada

AQUIFER Sciences Faculty
Mayada Akin
Judith Aronson
Michael Bradbury
Patricia Canfield
Angela Cantrell
Rob Carroll
Susan Cline
Bonny Dickinson

Ashwini Niranjana-Azadi
Maureen Novak
Kehinde Odedosu
Melissa Olken
Chavon Onumah
Christine Osborne
Joel Papak
Magdalena Pasarica
Jennifer Pascoke
Jennifer Plant
Meena Raj
Jennifer Readlunn
Nicole Restauri
Michael Rotblatt
Jill Rudkowski
Lee Sanders
Ankur Segon
Neel Shah
Kedar Sharbidre
Lonika Sood
Judy Squires
Shobha Stack
Abdul Rahman Tarabishy
Kimberly Tartaglia
Bipin Thapa
Katie Twist
Kristi VanDerKolk
Amy Weinstein
Sara Wikstrom
Jennifer Wright
Parekha Yedla

Sherry Downie
Anna Edmondson
Eve Gallman
Tom Gest
Melphine Harriott
David Harris
Nancy Hayes
Mary Johnson
Jessica Jones
David Kaufman
Julie Kerry
Regina Kovach
Janet Lindsley
Jeremy Lipman
Jeffrey McClean
Veronica Michaelsen
Michele Monteil
Shashi Venkatesh Murthy
Olivera Nesic-Taylor
Bruce Newton
Anthony Paganini
Vicki Park
Kevin Phelan
Amy Prunuske
Bill Rampa
Amy Rapkiewicz
Peter Rubenstein
Donna Russo
Janice Schwartz
Leah Sheridan
Clive Slaughter
Howard Steinman
John Szarek
Geoffrey Talmon
Kathryn Thompson
Rick Vair
Nagawami Vasan
Barbara Winterson
Jonathan Wisco
Kerstin Honer zuBentrup

AQUIFER Sciences Students
Ryan Christian Augustin
Jonathan Buerger
Puja Chabra
Sophie Clark
Rebecca Goodwin
Dominic Grimberg
Polly Haught
Jessica Jones
Michael Kahn
Jennifer Ludgin
Elora Majumder
Rezana Mara
Dominique McKeever
Veronica Michaelsen
Ashley Mills
Nana-Yaa Misra
Michele Monteil
Patrick Osterkamp
Nathan Pham
Ria Roberts
Meaghan Smith
Rebecca Surrey
Courtney Thomas
Karen Wai
Samantha Weate
Ryan Whiting

Race & Culture Project
Nkemdi Agwaramgbo
Stephanie Bi
Priyal Gandhi
Aparna Krishnan
Rose Milano
Natalia Perez
Molly Rabinowitz
Michelle Suh

Trauma-Informed Medicine
Sheela Raja
Shairi Turner

Aquifer Board of Directors
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