Innovations to attract middle schoolers to health science pathways

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Transfr, Inc.

Who I am....

Reed Elkington
Healthcare Specialist (Southwest U.S.)

Transfr is on a Mission

Transfr is building career pathways for millions of current and future healthcare professionals through hands-on training using immersive technologies.

Why Healthcare?

To train the healthcare workforce

The healthcare industry is in crisis — current professionals are overworked, prospective workers struggle to find pathways to employment, and employers have open positions that are becoming increasingly hard to fill. It will take a combination of human effort and technological solutions to recover from the present crisis and meet future demand. **Transfr wants to help.**

Our primary focus in Healthcare: **Publish industry-leading, evidence-based, educational VR immersion that effectively prepares people for health sciences career pathways.**

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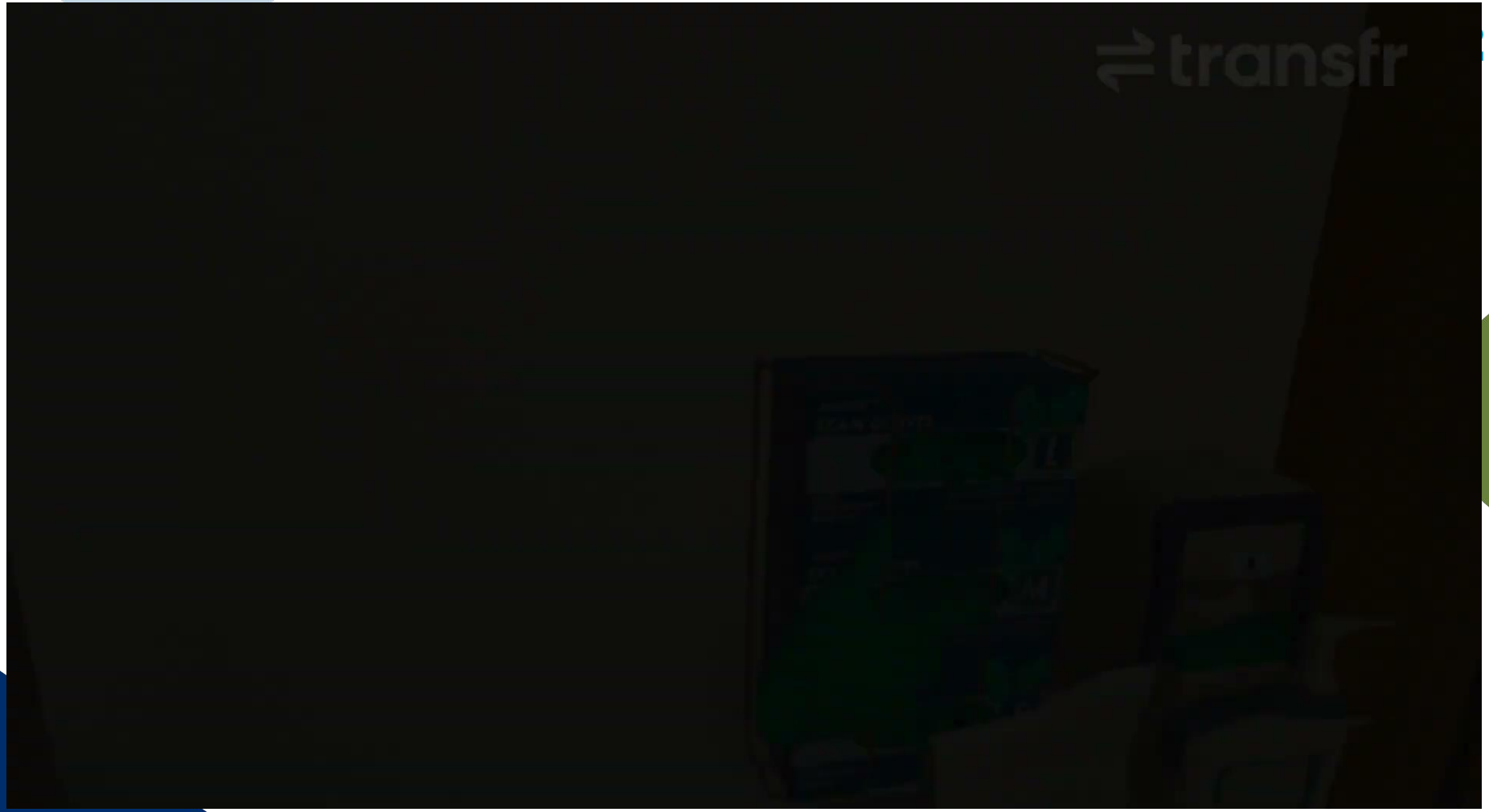
Virtual Healthcare Clinic (VHC)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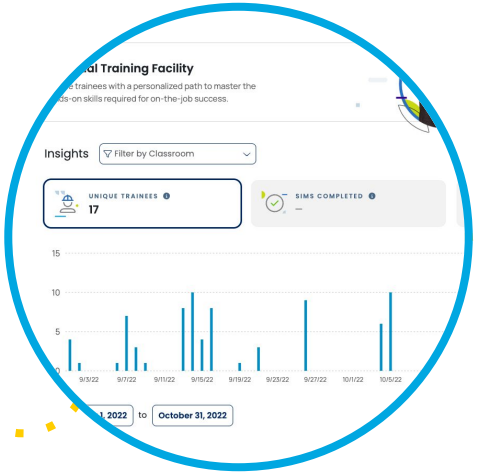
How It Works

A virtual coach guides learners through a supervised tutorial with tools and environments that replicate a healthcare setting, helping to expand educator capacity.

Scalable, portable simulations allow for standardization and consistent training that provides a safe environment for learners to practice and master new skills. Modules can assist in upskilling existing staff for redeployment/reassignment to meet emerging organizational needs.



Transfr's dashboards provide educators with a group- and individual-level view into progress, performance, and insights into shared learning challenges.

Use Case - **Recruit**

Boost interest and engagement in Healthcare careers amongst younger students

Barriers to Middle School Career Exploration

- Discouragement of off-site activities due to safety concerns
- Lack of resources for middle schools vs. high schools
- Shortage of school counselors to assist with exploration
- Less school time for electives
- Parental stigma towards certain occupations

Overcoming Barriers to Middle School Career Exploration

1. Incorporate career-related project-based learning in the classroom.
2. Design projects and activities to develop employability skills.
3. Be flexible when offering exploratory and introductory CTE courses.
4. Facilitate academic and career planning with scalable online tools.
5. Enable short-term interactions with business and community leaders.
6. Provide opportunities for CTSO participation, including financial support when needed.

Transfr can support middle school career exploration opportunities that meet students needs while overcoming challenges such as lack of funding, overburdened staff and tightly-packed school schedules by:

- Exposing students to employability skills by immersing them in realistic work environments and scenarios
- Providing flexible learning experiences for students (on-demand and portable)
- Allowing students to provide feedback so instructors can understand their interests
- Introducing students to a variety of careers in a low-stakes way

Currently available Career Exploration Simulations

1. Emergency Medical Technician
2. Medical Assistant
3. Pharmacy Technician
4. Registered Nurse
5. Surgical Technologist
6. Radiology Technologist (coming soon)

66% of the roles above were identified by the Texas Workforce Commission as high-growth jobs in Texas for the next decade

Recruitment Programs

- Various different options including:
  a. HOSA Future Health Professionals
  b. Summer Camps
  c. Career Fairs
  d. AHECs
  e. Community Health Workers programs
  f. **Texas Workforce Solutions**

Use Case -

Skills Training

An engaging and autonomous way to learn, practice and master fundamental skills

Patient Care Foundations

The first step of many professional roles in healthcare begins with the basics of patient care. Patient Care Foundations includes basic education for healthcare personnel, applicable to multiple roles, settings, levels of experience and expertise.

Content Overview

Safety practices

- **Infection control**
  - Standard precautions
  - Transmission based precautions
- **Prevention of adverse events**
  - Fall prevention
  - Aspiration precautions
  - Skin breakdown prevention
  - Oxygen use and safety measures
  - Reducing risk of venous thromboembolism (VTE)

Technical skills

- **Data collection**
  - Vital signs
  - Input and output
  - Obtaining height and weight
- **Activities of daily living**
  - Personal hygiene
  - Nutrition
  - Elimination
  - Positioning and mobilization

The National Consortium for Health Science Education Endorses Transfr's VR Health Sciences Simulations

NCHSE
National Consortium for Health Science Education

"NCHSE is proud to partner with Transfr in their efforts to design new and unique resources for health science. NCHSE believes Transfr's health sciences VR simulations and training will serve to promote students' interest in health professions, increase their performance on national certifications, and provide them with the skills needed to secure a job in the healthcare industry"

Nancy H. Allen - *NCHSE Executive Director*

NCHSE Standards	Does Transfr align?
Academic Foundations	✓
Communications	✓
Systems	✓
Employability Skills	✓
Legal Responsibilities	✓
Ethics	✓
Safety Practices	✓
Teamwork	✓
Health Maintenance Practices	✓
Technical Skills	✓
Information Technology in Healthcare	✓

NCHSE Certifications	Does Transfr align?
Foundations of Healthcare Professions	✓
Essential Healthcare Practices	✓
Human Structure, Function, and Disease (A)	✓
Human Structure, Function, and Disease (B)	✓
National Health Science Certificate	✓

"The virtual hands-on application fills a serious void that many teachers face when health science expertise and classroom constraints inhibit student participation in healthcare skills"

Cindy LeCoq - *NCHSE Certificate Program Mgr*

"Virtual reality is immersive and is available to all. Students can review the healthcare skill(s) and with return demonstration achieve competency all completely independent of the health science instructor. This VR demonstration, practice and assessment of skills gives the student more confidence and knowledge to step into most healthcare practicums with ease"

Cindy LeCoq - *NCHSE Certificate Program Mgr*

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Alignment with the Nursing Assistant Skills Requirements in Texas

- **96%** alignment to the requirements of the Nursing Assistant skills evaluation
- We can provide a crosswalk between our simulations and the state requirements

Curricular Alignment

Transfr's Healthcare Simulations are designed to align to standards from state, national, and international associations; regulatory, accrediting, and credentialing bodies; and industry- or role-specific guidelines including:

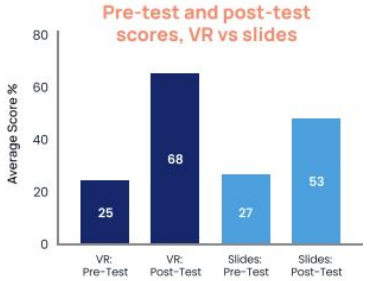
- Accreditation Commission for Education in Nursing (ACEN)
- Accreditation Council for Occupational Therapy Education (ACOTE)
- Accrediting Bureau of Health Education Schools (ABHES)
- American Association of Colleges of Nursing (AACN) The Essentials: Core Competencies for Professional Nursing Education
- American Medical Technologists (AMT)
- American Registry of Radiologic Technologists (ARRT)
- American Society of Health-System Pharmacists (ASHP)
- American Society of Radiologic Technologists (ASRT)
- American Speech-Language-Hearing Association (ASHA)
- ApprenticeshipUSA
- Association for Career and Technical Education (ACTE)
- Code of Federal Requirements (CFR) for Nurse Aide Training and Competency Evaluation Programs (OBRA-87)
- Commission on Accreditation for Respiratory Care (CoARC)
- Commission on Accreditation in Physical Therapy Education (CAPTE)
- Commission on Accreditation of Allied Health Education Programs (CAAHEP)
- Commission on Collegiate Nursing Education (CCNE)
- Commission on Dental Accreditation (CODA)
- Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP)
- Council for Standards in Human Services Education (CSHSE)
- International Education Collaborative (IPEC)
- International Nursing Association for Clinical Simulation and Learning (INACSL) Healthcare Simulation Standards of Best Practice™ (HSSOBP™)
- Joint Review Committee on Education in Diagnostic Medical Sonography (JRCDMS)
- Joint Review Committee on Education in Radiologic Technology (JRCERT)
- Joint Review Committe on Educational Programs in Nuclear Medicine Technology (JRCNMT)
- National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)
- National Consortium for Health Sciences Education (NCHSE)
- National Council of State Boards of Nursing (NCSBN)
- National Emergency Medical Services (NEMS)
- National Highway Traffic Safety Administration (NHTSA)
- National Nurse Aide Assessment Program (NNAAP)
- Occupational Safety and Health Administration (OSHA)
- Patient Safety Movement Foundation Patient Safety Curriculum (PSMF-PSC)
- Pharmacy Technician Certification Board (PTCB)
- Quality and Safety Education for Nurses (QSEN) Institute
- The Joint Commission National Patient Safety Goals (TJC NPSG)

Evidence Base

VR provides novice learners a better way to learn and engage with Healthcare careers

Virtual Reality learning gains beat traditional methods

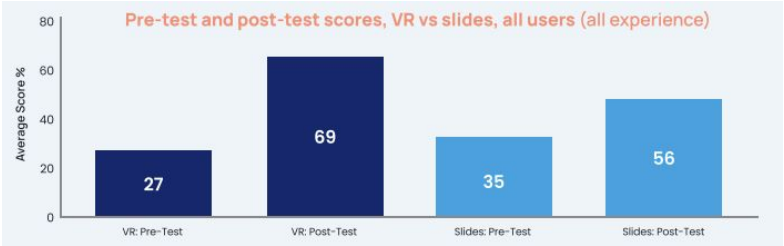
Novice users show more learning gain with VR



This study indicated that the 43% learning gain in the VR group was significantly higher than the 26% learning gain / improvement observed from studying the slide instructions

Participants without prior healthcare training were given a pre-test before engaging with the instructional materials (VR or slides) and a post-test afterward with the goal of measuring the learning gains achieved in each group (VR and slides). The results of the Welch two-sample t-test showed a statistically significant difference in learning gains / improvements between the VR and slide groups, with the t(46.5) = 2.56, p = 0.01

VR learning gains greater regardless of healthcare experience



The test users in each group (VR and slides, with and without healthcare training) were given a pre-test before engaging with the instructor materials (VR or slides). A post-test was then administered after completing after completing the VR simulations or slides to measure the learning gains. The results of the Welch two-sample t-test indicated a statistically significant difference in learning gains between the VR and slide groups. The 42% learning gain in the VR group was significantly higher than the 21% learning gain observed from sgtudying the slide instructions (t(45.06) = 3.04, p < 0.01)

[Link to efficacy study]

Use Case -
Connect

Strengthen the healthcare community

Who Do We Partner With

- K12 (CE and dual credit programs in high schools)
- Community Colleges & Universities with Health Sciences Programs
- Agencies focused on Health Sciences Workforce (AHEC)
- State Government Departments
- Healthcare Systems (Hospitals, Physician Practices, Urgent Care Centers, Long-term Care Facilities, etc.)

Securing Funding

- In-house grant writing team is a **free** service
- We also find funding sources for partners
- We have extensive experience writing grants with K12 programs, K12 districts, dual enrolment partnerships, Colleges (2yr & 4yr) and all manner of other partners
- We are happy to chat, at any time, about funding options

Next steps

Both of the below options will be made available to all of you:

1. **Zoom call with us, you and any of your colleagues**

Individualized discussion to discuss specifics around how a partnership with us might work in your program

2. **Onsite demo**

Have one of our team members come onsite to your program and run a demo of our technology for you and your colleagues

Questions?

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Thank you!