

visualdx® Benefits to Medical and Residency Education

The Need

There is a significant need for improved training in visual diagnosis for medical students and residents.

Typical medical school curricula only dedicate 6-8 hours of teaching in dermatology and visual diagnosis during the 4 years of medical school. Similarly, residents in primary care specialties usually receive no formal dermatology training unless they choose an elective experience.

With an estimated 20-25% of ambulatory primary care patient encounters having a skin or oral lesion complaint, there is a clear need to improve the ability of the learner to visually recognize and diagnose.

The curricula are already overloaded, and it is unlikely that dermatology and other visual specialties will be allocated more time. As medical education and student evaluation transitions from a memory-based paradigm to an information-assisted environment, training in point-of-care knowledge tools and decision making is essential.

VisualDx, a health information technology (HIT) company affiliated with the University of Rochester School of Medicine, has developed a sustainable educational program and integrated information system to support education and lifelong learning for visual diagnosis of the skin, eye, oral mucosa, and genital mucosa.

In addition to covering the 18 core clinical dermatology curriculum topics recommended by the American Academy of Dermatology (AAD) in VisualDx, the VisualDx Educational Program replaces “flipping through atlases” with training describing visual clues and the use of an online information database. The technology helps fill a significant information gap in underrepresented areas in many curricula:

- Dermatology and visual diagnosis
- Diagnostic error
- Disaster preparedness
- Travel medicine
- Ophthalmology
- Oral disease
- Infectious disease
- Chest radiology

AMA Recommendations and AAMC Educational Goals Dovetail with VisualDx

The American Medical Association (AMA) recommends implementing information support systems within medical education. As health care moves toward greater reliance on HIT, training in clinical decision support and other HIT tools is a key directive for medical education. Real-time decision support systems improve practice efficiency, help physicians work through problems, and assist them in decision making.

The American Association of Medical Colleges (AAMC) has identified 3 educational goals in which computer-aided instruction could assist:

- Basic knowledge acquisition
- Improved decision making
- Enhancing perceptual variation

Tools to assist in point-of-care decisions that are based on evidence help avoid the common diagnostic pitfalls of relying on memory or the human tendency to jump to a diagnostic conclusion. ~ AAMC

Improved quality of care is another mission of the AAMC for medical education. Tools to assist in point-of-care decisions that are based on evidence help clinicians avoid the common diagnostic pitfalls of relying on memory and the human tendency to jump to a diagnostic conclusion based on what conditions have most recently or most often been seen.

In addition, training in rare but serious diagnostic areas, such as emerging and re-emerging infectious disease and bioterrorism, can be difficult to fit in to an already full medical school curriculum. Training with clinical decision support systems can help fulfill these goals and lighten the burden on faculty and curriculum development.

ACGME Mandated Competencies

VisualDx addresses 3 of the 6 categories of competencies mandated by the Accreditation Council for Graduate Medical Education (ACGME). As a point-of-care clinical decision support system with heavy emphasis on pattern recognition, the technology addresses the following competencies:

- Patient care
- Medical knowledge
- Practice-based learning

The VisualDx Integrated Education Program

The VisualDx Educational Program is an integrated training system designed to bring visual diagnostic skills to students, residents, and other health care learners.

Lecture and Online Tutorial: Education in the core skills of the skin exam and morphology and distribution terminology. For further information, please see:

http://www.skindsight.com/info/for_professionals/rash-rashes

VisualDx Clinical Decision Support: The VisualDx point-of-care decision support system helps clinicians identify and manage common visually identifiable diseases, recognize and begin the initial assessment of serious conditions, and recognize indications for referral of skin and other visually diagnosable disorders of the eye, mouth, genital area, and nails as well as adverse drug reactions.

Unlike other resources, which must be searched by diagnosis name – VisualDx constructs a patient-relevant visual differential diagnosis as clinicians enter visual clues, signs, symptoms, and other patient findings.

An image-rich system, VisualDx helps teach the wide spectrum of presentations and variation:

- Variations of classic presentations
- Severity of disease (mild versus severe)
- Course of disease (early versus late)
- Skin color (unlike any other electronic or print resource, special emphasis is placed on diagnosis in people of color)
- Age
- Immune status
- Rare conditions

VisualDx Advantage

- Point-of-care, patient-based/case-based learning
- Quick access within the workflow to reliable and up-to-date information
- iPhone, iPad, and Android platforms for “in the pocket” reference

The VisualDx technology sets up a logical method of clinical reasoning that fosters good habits for lifelong learning:

- Improves pattern-recognition skills
- Increases knowledge of variations in presentation – not just the classic presentation
- Fosters transition from memory-based practice to evidence-based decisions
- Brings atlases, textbooks, and Google image searches into one peer-reviewed, problem-oriented resource
- Integrates with the EMR
- Can be used to provide simultaneous educational benefits during “store and forward” teledermatology consultations to primary care physicians

VisualDx has been licensed nationwide by the Veterans Health Administration, by more than 35 medical schools including Cornell-Weill School of Medicine, Harvard Medical School, the University of California at both Los Angeles and Irvine, the University of Southern California, and the Universities of Iowa, Oklahoma, and Rochester and by over 1,300 hospitals, residencies, and public health departments.

Additional free educational tools have been developed and are in widespread use in multiple medical schools. These are available upon request and include over 20 case-based interactive online vignettes, problem-based learning (PBL) cases, and information on the important concepts of diagnostic error and cognitive bias.



VisualDx co-founder and Editor-in-Chief is Lowell A. Goldsmith, MD, Dean Emeritus of the University of Rochester College of Medicine. Dr. Goldsmith is an editor of the definitive text Dermatology in General Medicine.

For further information about VisualDx for Medical and Residency Education, contact us at:

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