Changing Healthcare, Changing Practice, Changing Education

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Virginia Commonwealth University
Disclosures

• I have a conflict of interest around the virtual case system.

• I am or have been funded from the Macy Foundation, the Reynolds Foundation, HRSA, and the Centers for Medicare and Medicaid Services.
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Interprofessional Collaborative Practice Competencies

Accreditation Council for Physical Therapy (2008)
Students must demonstrate the ability to **form professional relationship** with patients/clients, colleagues and **other members of the health care team** in an effort to maximize patient/client outcomes.

Association of the American Medical Colleges (2012)
The curriculum must prepare student to demonstrate understanding of **how patient care and professional practices affect other health care professionals**, health care organizations, and society.

American Association of Colleges of Nursing (2011)
Graduates will **function effectively within nursing and interdisciplinary teams**, fostering open communication, mutual respect, shared decision making, team learning, and development.

Accreditation Council for Occupational Therapy Education (2011)
Students must be prepared to **effectively communicate and work interprofessionally** with those who provide care for individuals and/or populations in order to clarify each member’s responsibility in executing components of an intervention plan.

Accreditation Council for Pharmacy Education (2016)
The curriculum must prepare all students to provide entry level patient-centered care in a variety of practice settings as a contributing member of an **interprofessional team**.
## EXHIBIT ES-1. OVERALL RANKING

### OVERALL RANKING (2013)

<table>
<thead>
<tr>
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### Efficiency

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*Notes: * Includes ties. ** Expenditures shown in US PPP (purchasing power parity); Australian $ data are from 2010.

ACA: Projected workforce needs

January 1, 2014:
• 20-40 million newly insured
• 5,000-10,000 more docs
• 90% in primary care
• Preventive and acute care
ACA vs baby boomers

January 1, 2014:
• 20-40 million newly insured
• 5,000-10,000 more docs
• 90% in primary care
• Preventive and acute care

By January 1, 2025:
• Demographic shift in population
• 40,000-100,000 more docs
• Need across specialties
• Chronic disease management
Figure 1: Healthy Life Expectancy Total Population and Total Healthcare Expenditure/capita, 2003/2006

Size of bubbles indicate percentage share of total health expenditures that come from the private sector.
(Note: Relative differences between countries magnified (raised to the third power) to facilitate chart reading)

Source: OECD Health Database, June 2008 Version; WHO World Health Data 2008. EU-15 average is the GDP weighted average
Health outcomes

Experience of Care

Cost
The Challenge Facing Healthcare:

*How do we improve health, decrease costs, and enhance the experience of care in the setting of unprecedented demographic challenges?*
Possible Solutions

• Improving teamwork
• Incorporating health professions in new roles
• Training practitioners more in-line with community needs
• Integrating social care with health care
• Investing in long-term outcomes
• Changing payment
• Using information better
• Inventing and innovating
A Sliver of Hope: Population-based Payment
Current model of Care

- **Patient/clinical site**
- **Core team** (RN, MD, clerical)
- **Ancillary team** (OT, PT, Speech, nutrition, etc)
- **Support team** (admin, facilities)

Fee for service, ‘value-based’ payment
Fee-for-service

Value-based payment

Provider ↔ Patient

Provider ↔ Patient + Outcomes
New model of Care

- Support team
- Ancillary team
- Population/community
- Core team

Pay for outcomes
Fee-for-service

Value-based payment

Population-based payment

Provider

Patient

Outcomes
Population-based Payment and Health Practitioners

Practitioners may have:

• Increased opportunity to shape how care is delivered
• Greater opportunities for front-line leadership
• More opportunity to practice at the top of their scopes of practice
• More influence on the risks and rewards from practice
• More influence on the health of the community

*How do we train for this future?*
Training Interprofessional Practitioners
Professional Expertise

Collaborative Expertise
Conceptual Framework

Pre-Curricular Experiences

Early Learners
  Foundational Experiences

Practitioners
  Context-Specific Experiences

Advanced Learners
  Profession-Specific Experiences

Pre-Curricular Experiences
Foundational IP Experience

**Interprofessional Case Series**
- ~550 students
- Classroom-based
- Pericurricular sessions
  → full 1-credit course

**Foundations of Quality and Safety**
- ~500 students
- Classroom-based
- Full 1-credit course
2012-2013

Extracurricular Interprofessional Case Series
• Meet your peers
• Learn something (roles)
• Encouraged but not required
• Pizza
• Positive evaluations with suggestions
2012-2013

Extracurricular Interprofessional Case Series
- Meet your peers
- Learn something (roles)
- Encouraged but not required
- Pizza
- Positive evaluations with suggestions

2013-2014

Pericurricular Interprofessional Case Series
- Meet your peers
- Learn something (roles, teams)
- Required*
- Positive evaluations with suggestions
2012-2013
Extracurricular Interprofessional Case Series
• Meet your peers
• Learn something (roles)
• Encouraged but not required
• Pizza
• Positive evaluations with suggestions

2013-2015
Pericurricular Interprofessional Case Series
• Meet your peers
• Learn something (roles, teams)
• Required *
• Positive evaluations with suggestions

2015-2016
Curricular Foundations Course
• Meet your peers
• Learn something (roles, teams, systems)
• Required 1-credit course
IPEC501

Team & Teamwork

GOAL
To develop effective team-based skills for interprofessional collaboration

Professional Roles & Responsibilities

GOAL
To recognize the roles, training, licensure, and typical practice of health professions

Healthcare Systems

GOAL
To characterize strengths and opportunities for improvement in the healthcare system
Team & Teamwork
- Four Types Assessment
- Collective Orientation

Professional Roles & Responsibilities
- What Professional Do
- Standard, Interprofessional Practice *
- Team/Learning Contract

Healthcare Systems
- Ecology of Care
- Capstone Video-essay: Barriers and Solutions to Interprofessional Collaborative Care

Patient Interview: Summary
Patient Interview: Analysis *
Student Assessment Approach

**Major components**
- Peer evaluations
- Faculty grading of team work products
- Knowledge scores

**Minor components**
- Attendance
- Completion of assignments

**Not components**
- Faculty evaluations of individuals
Conceptual Framework

- Pre-Curricular Experiences
- Early Learners Foundational Experiences
- Context-Specific Experiences
- Practitioners Context-Specific Experiences
- Advanced Learners Profession-Specific Experiences
- Pre-Curricular Experiences
Profession-Specific Experiences: Simulations

Interprofessional Critical Care Simulations
• All BSN4s and M4s (320 students)
• Three two-hour sessions around simulators: how do you manage a patient with an acute clinical deterioration?
• Critical care and interprofessional learning objectives
Effect Sizes between Retrospective Pre and Post Ratings by Item

All comparisons significantly different at $p < 0.01$.

Cohen’s $d$ Effect Size:
- Small: 0.2-0.49
- Medium: 0.5-0.79
- Large: $\geq 0.8$

= interprofessional objectives
= critical care objectives
Profession-Specific Experiences: Interprofessional Virtual Case

- Homegrown case system for asynchronous collaboration
- ~600 participants annually from medicine, nursing, pharmacy, social work
- Three years of internal data
- Several external users

Overall Goal for Students
Embedded Learning Process

1. Receive individualized information
2. Enter synopsis in system
3. Answer individual questions
4. Collaborate on group questions
5. Evaluate peers
Case Construction Process

Define case content and objectives → Create overarching case and questions → Develop profession-specific perspectives → Load content into case system → Launch

Example

Geriatric as defined by the AAMC competencies → A 73 year old woman with complex medical problems and worsening functional status → Nursing: Home health data, Medicine: Office data, Pharmacy: Med fill data → Load content into case system → Launch
Learning Outcomes: Assessment Approach

**Major components**

- Case activity
- Peer evaluations
- Faculty evaluations
- Knowledge scores in content area
## Case Activity Measures: Medians and Ranges

<table>
<thead>
<tr>
<th>Case activity measures</th>
<th>Medical Students (n=194)</th>
<th>Nursing Students (n=146)</th>
<th>Pharmacy Students (n=60)</th>
<th>Social Work Students (n=122)</th>
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<td><strong>4. Individual Message</strong></td>
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<td><strong>6. Team Score</strong></td>
<td>0.18*</td>
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Peer Evaluations: Budget-based Approach

Non-Budget Based
Rate each peer on a scale of 1-4 for 3 teamwork domains (idea generation, communication, situation monitoring)
Total = Sum of ratings

Budget based
Total points to distribute = number of peers multiplied by 6.
Rate each peer on a scale of 0-10 for 2 interprofessional domains (communication, collaboration)
Total = Sum of ratings for each unit
Virtual Case Peer Evaluations

- Peer ratings are highly correlated with faculty ratings ($r = .60$)
- Peer ratings are moderately correlated with case activity measures ($r = .39$)
Conceptual Framework

Pre-Curricular Experiences

- Practitioners
- Context-Specific Experiences

Early Learners
- Foundational Experiences

Advanced Learners
- Profession-Specific Experiences

Pre-Curricular Experiences
Context-Specific Experiences

Richmond Health and Wellness Program

- Community-focused care coordination in an indigent setting
- “Hotspotting”
- Nursing, Pharmacy, Social Work, Medicine, Psychology
- HRSA-funded
- Patient and student impact
Context Specific Experience: Center for High Blood Pressure

Patient Presents to Clinic → MD visit → PharmD visit

Complex Follow-up

Routine Follow-up
### Mean Number of Visits between 2010 and 2013

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<th>Patients with Stage 2 Hypertension (n=84)</th>
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<td>Physician (Range)</td>
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### Mean Blood Pressure through 2013 (n=172)

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Conceptual Framework

Pre-Curricular Experiences

Early Learners
Foundational Experiences

Practitioners
Context-Specific Experiences

Advanced Learners
Profession-Specific Experiences

Pre-Curricular Experiences
Example in Nursing

- Pre-Curricular Experiences
- Foundational Health Professions Experiences
- Profession-Specific Experiences

BSN Graduate
- Richmond Health & Wellness
- IP Critical Care Simulations
- IP Geriatrics Virtual Case
- IP Quality & Safety
- Foundations of IP Practice

Entering Student

Example in Nursing

- Pre-Curricular Experiences
- Foundational Health Professions Experiences
- Profession-Specific Experiences

BSN Graduate
- Richmond Health & Wellness
- IP Critical Care Simulations
- IP Geriatrics Virtual Case
- IP Quality & Safety
- Foundations of IP Practice

Entering Student
Conclusions and Beginnings

• Great momentum for interprofessional education and practice
• Consider a developmental approach...
  ...but we have little evidence for the best approach (IOM, 2015.)
• Consider your strengths and challenges
• Mid-level leadership is key
• Think proactively about assessment
Questions and Discussion
alan.dow@vcuhealth.org