Transition from Pre-clinic to Clinic:
A Qualitative Comparison of Key Curriculum Components

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How can we assist an effective transition for our dental students?
Objectives

• Provide an overview of the transition criteria from various dental schools’ pre-doctoral curriculum used to establish the readiness of students to provide direct patient care.

• Discuss methods to achieve improvement in the effectiveness of the transition process.
Methods

- Data collection was via a twelve-item survey with questions about preclinical courses, simulation-learning tool used and stages for transition.

- Data obtained from six US dental schools were submitted in a qualitative descriptive approach.

- Tufts University School of Dental Medicine
- University of Maryland School of Dentistry
- East Carolina University School of Dental Medicine
- University of New England School of Dental Medicine
- Meharry Medical College School of Dentistry
- The University of Texas Health Science Center at Houston
## Methods: Survey Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes / No</th>
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<tbody>
<tr>
<td>1. Successful completion of Basic Science Courses?</td>
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<tr>
<td>2. Successful completion of All Pre-Clinical Dentistry Courses?</td>
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<td>3. Successful completion of Some Pre-Clinical Dentistry Courses?</td>
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<tr>
<td>If yes, which courses?</td>
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<tr>
<td>Removable Prosthodontics- Complete Dentures? Removable Prosthodontics- Partial Dentures?</td>
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<td>4. Use of OSCEs to certify readiness to treat patients?</td>
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<td>5. Does the student need to pass the NBDE Part 1?</td>
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<tr>
<td>6. Use of hands-on training sessions (outside of formal courses) to introduce/train/review clinical concepts? If yes, describe.</td>
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## Methods

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<tr>
<td>7.</td>
<td>Is the institution relying on course directors or are they utilizing additional clinic orientation session to deem students &quot;ready&quot; for clinic?</td>
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<td>8.</td>
<td>Are there pre-clinical courses running concurrently with clinical activity? If yes, which ones?</td>
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<td>9.</td>
<td>Is the scope of clinical activity limited?</td>
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<td>10.</td>
<td>Does your institution utilize a Simulation Clinic* in preclinical education? If yes, when is it introduced in the curriculum?</td>
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<td>11.</td>
<td>Does successful performance in Simulation Clinic play a role in determine the readiness for transitioning into clinic?</td>
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<td>12.</td>
<td>When do your students begin clinical activity?</td>
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<td>13.</td>
<td>Does the institution utilize vertical integration of student providers in clinic?</td>
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Results

Successful Completion of All Basic Sciences Courses

Successful Completion of All Preclinical Courses
Results: Is Successful Completion of All Preclinical Courses Required?

- 2 of the 6 schools surveyed required successful completion of all preclinical courses
  - University of Maryland
  - University of Texas- Houston

- In 4 of the 6 schools, there was a variety of preclinical courses that ran concurrently with clinical activity.
  - Which specific discipline/course varied from school to school.
  - All schools required successful completion of courses in radiology, operative, and periodontics prior to progression to clinical activity.
Successful completion of NBDE Part 1 requirement for progression to clinic?

Use of OSCEs to certify readiness to treat patients?

83% of schools surveyed

33% of schools surveyed
Use of hands-on training sessions (outside of formal courses) to introduce/train/review clinical concepts? If yes, describe.

- 33% of schools do not utilize additional training sessions
- 67% of schools surveyed do implement additional training sessions
Use of a Formal Clinic Orientation

- ECU
- MMC
- U of MD

Yes

- UNE
- UT-Houston
- Tufts

No
Simulation Clinics

**Simulation**: something that is made to look, feel, or behave like something else especially so that it can be studied or used to train people.*

**In Dental Education, Simulation Clinic usually consists of:**
- fully-equipped operatory (usually multiple) - computer/device to access the Electronic Health Record
- a mounted typodont with a facial moulage
- virtual patient scenario may be incorporated

*http://www.merriam-webster.com/dictionary/simulation
Does your institution utilize a Simulation Clinic (as defined previously) in preclinical education?

100% answered YES

Does successful performance in Simulation Clinic play a role in determine readiness for transitioning into clinic?
At what point during the curriculum do your students begin clinical activity?

-A shift in the framework of the curriculum in dental education is evident.

5 of the 6 schools evaluated do not follow the traditional 2x2 pattern of a four year dental education institution.

-UNE, ECU, MMC, and UT-Houston begin clinical activity in the 2nd semester of the D2 year.
- Tufts begins clinical activity in the D1 year.

- University of Maryland starts comprehensive patient care at the beginning of the D3 year.
**Vertical Integration Clinic Model**

**Vertical integration** in dental education is the intentional grouping of students in various stages of their academic career.

- Vertical integration can span all four years of dental education
  
e.g. D1-D2-D3-D4
  
or
  - Vertical integration can be implemented at specific points in the progression.
  
e.g. D2-D3-D4
Observations

(1) The use of hands-on training represented by simulation clinics is strongly enforced in all schools.

(2) The use of OSCEs for evaluation of students’ readiness for patient care is not widespread among the six schools evaluated.

(3) The concurrent delivery of preclinical courses with clinical activity is prevalent in 5 of the 6 schools.
Guidelines for an Optimum Transition

- Progression to clinical activity should not occur before the students are able to manage his or her basic manual skills independently of significant faculty input and guidance.

- Over the years some schools have moved entry to clinic earlier in the curriculum in the hopes of bridging the gap between preclinical and clinical instruction with intentional overlap.

  - Occasionally the scenario of a D2 student at the cusp of transitioning to clinical activity, but demonstrating weak skills preclinically.

- To overcome this, one suggestion is that preparation (including extra clinical simulation sessions) must begin well before the anticipated time for progression.
Guidelines for an Optimum Transition

- The transition planning should be a coordinated and inclusive process, including all members of the team-
  - clinical faculty
  - pre-clinical faculty
  - clinical support staff
  - students
Guidelines for an Optimum Transition

- The timing of transition should depend on the student’s developmental readiness (manual skills) and demonstration of foundational knowledge.

- When deficiencies or weaknesses are identified:
  - Supplemental training should be implemented as early as possible to assist the student.
  - Transition to clinical practice should be delayed until the student demonstrates the level of readiness deemed necessary.
Further research is needed to identify common problematic areas for dental students new to clinic.

An educational tool may be developed to assess and allow for self-assessment of a student’s readiness for progression to clinic.
THANK YOU