Competence by Design (CBD): Overview

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Disclosures

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Objectives

• Provide a rationale for shifting to competency based medical education (CBME) from the traditional model.

• Explain the key features of competence by design (CBD)

• Discuss potential strategies that residency program can implement in preparation for CBD.
What is Competency-Based Medical Education?

A model to prepare physicians for practice that is:

- oriented to **outcomes** desired in physician
- based on **patient** needs
- **learner-centred**
- more accountability and flexibility
- focused on achieving skills and performance
- not about time-spent in training
- **Beginning with the end in mind**

Competence by Design

• Is the implementation of CBME principles
• Competency-based; outcomes oriented
  • Demonstration and documentation of competence
• Time facilitated
  • Time is a resource for teaching and learning
• Learning and assessment strategy
  • Changes to educational design
  • Strengthened focus on learning and assessment in the workplace (clinical setting)
• Across the continuum of learning and practice
Traditional model  

Curriculum

→ Educational objectives

→ Assessment

B Hodges, Academic Medicine 2010: 85, S34-44
### Health System Perspective

- Physicians must constantly update their skills and transfer knowledge into practice.
- There is a new era of public accountability and patient expectations which require physicians to openly and continuously demonstrate competence and best performance.
- There are increased concerns about readiness to practice.
- Patients and society expect ever-improving high-quality, timely, and safe care.
- There is an increased need to demonstrate maintenance of competence to governing bodies in order to maintain the self-regulation of specialist practice.

### Resident and Educator Perspective

- Educational challenges facing both residents and educators.
- Assessment tools promote inefficient, checklist-style feedback.
- There is concern about the quality and quantity of direct observation/assessment of a resident’s abilities.
- There is an assumption that time-spent in training equals knowledge gained.
- There is increased culture of “failure to fail”.
- Residents spend much of their final year buried in books.
- While this system has, and continues to produce, excellent physicians, there is growing evidence that suggests that Canadian specialist training can be improved.
Changing education for a changing world

Reinventing the wheel. Knowing *when* and *how.*
Oversimplification of current system

• Rotations
  • Rotation specific objectives

• In-training evaluation reports
  • Global assessment
  • Timely?
  • ?linked to clinical activities

• Progression through training
  • Onus to demonstrate lack of progression
Oversimplification of CBD

- Training is sequenced in stages
- Supervisors and residents focus on EPAs designated for that stage
  - Clinical and other training experiences are the basis to acquire the skills to achieve those tasks
- Supervisors document observations of resident’s performance on EPAs
  - Coaching model: what can I do better?
- Competence Committees review progress
  - Residents progress through stages
Old and New

- Objectives of Training Requirements (OTR)
- Specialty Training Requirements (STR)
- Final In-Training Evaluation Report (FITER)
- Specific Standards of Accreditation (SSA)

- Competencies
  - And milestones in Pathway document
- Training Experiences
  - Portfolio (Entrustable professional activities and assessments)
- Specific Standards of Accreditation (SSA)
CBD Key elements

- Identification of required competencies
  - CanMEDS 2015
  - Discipline specific competencies

- Progression of ability over time
  - Stages
  - Milestones – CanMEDS 2015 and discipline specific

- Assessment in authentic environments
  - Entrustable Professional Activities
  - Workplace based assessment
Stages of professional development

- Sequential flow of residency training

- Focus on progression of ability and skill
  - PGY year is a basis for contracts, not learning
  - Progression of responsibility

- Elaborate and explicitly manage transitions across the continuum
  - Future of Medical Education (UG and PG)
  - Regulatory concerns
Stages, Milestones and EPAs
CBD\textsuperscript{1,2} Competence Continuum

- Transition out of professional practice
- Continuing professional development (maintenance of competence and advanced expertise)
- Certification
- Transition to practice
- Royal College Examination
- Core of discipline
- Foundations of discipline
- Transition to discipline (orientation and assessment)
- Entry to residency
<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transition to Discipline</td>
<td>This “new” stage emphasizes the orientation and assessment of new trainees arriving from different medical schools and programs (including outside Canada).</td>
</tr>
<tr>
<td>Foundation</td>
<td>This stage covers broad-based competencies that every trainee must acquire before moving on to more advanced, discipline-specific competencies.</td>
</tr>
<tr>
<td>Core</td>
<td>The core competencies that make up the majority of a discipline</td>
</tr>
<tr>
<td>Transition to Practice</td>
<td>In this stage, the senior trainee should demonstrate readiness to make the transition to autonomous practice.</td>
</tr>
</tbody>
</table>
A defined, observable marker of an individual’s ability along a developmental continuum

- Marker of achievement
- Generic from CanMEDS 2015
- Adapted and added to by discipline
The work that is done by a specialist

1. Professional activity
2. Stage specific
3. Progression
4. Entrustment
Typically, each EPA integrates multiple milestones.
The **key difference** between EPAs and milestones is that EPAs are the tasks or activities that must be accomplished, whereas milestones are the abilities of the individual.
Training Experiences

- Not time-based
- Documented for each stage
- Training activities
  - required, recommended, optional
- Clinical training activities
- Activities that support acquisition of competence
  - inpatient, on-call, lab, clinic, longitudinal, distributed
- Includes non-clinical experiences
  - projects, journal club, simulation, OSCE, mock trials
Work based assessment
How will that work?

- Specialty Committee = designers
- Competence Committee = deciders
- Supervisors = coaches and collectors
1. Assessment for learning – the “coach”

2. Assessment for demonstration of competence

3. Assessment for progression/promotion

4. Assessment for certification – the exam!
New competency-based assessment based on observations

Has trainee successfully completed EPA?

- Yes
  - Move onto next EPA

- No
  - "Unpack" EPA into component milestones. Review individual milestones performance to identify problem area
  - Address learning difficulty

EPA Competence
### Form 1

#### EPA/IM Stage:
(populated from EPA/IM)

#### Learner:
(pre-populated if PA/Learner requested OR drop down based on Observer Program affiliations)

#### Date of Assessment:
(default today, may click on a calendar icon to pick alternate month/day/year)

#### EPA/IM Title:
(pre-populated)

**Context 1:** (drop down)  
**Context 2:** (drop down)  
**Context 3:** (drop down)

#### Complexity:
- [ ] Low  
- [ ] Moderate/ Medium  
- [ ] High

#### Overall Assessment:
- [ ] EPA/IM in progress  
- [ ] EPA/IM achieved/met

**[+] Milestones associated with this EPA:**  
The following Milestones were demonstrated:

1. Milestone
2. Milestone
3. Milestone
4. .... (to max number)

#### Feedback to Resident:
(text)

**....**

**Professionalism and Patient Safety:**
- Do you have any concerns regarding this Learner’s professionalism?  
  - [ ] No  
  - [ ] Yes
- Do you have any concerns regarding Patient Safety?  
  - [ ] No  
  - [ ] Yes

**Description of concern:**
(text)
Narrative Form

Learner Stage: Transition to Discipline
Learner: Angela Greig
Date of Observation: 06/16/2016

Feedback to Resident:

Professionalism and Patient Safety:
- Do you have any concerns regarding this Learner's professionalism? [ ] No [ ] Yes
- Do you have any concerns regarding Patient Safety? [ ] No [ ] Yes
- If yes, description of concern:

Cancel  Next  Submit
# Procedural Form

**EPA/IM Stage:** Transition to Discipline

**Learner:** Agrican Learner 23

**Date of Observation:** 06/09/2016

**EPA/IM Title:** Identify, verify, and validate non-verbal cues on the part of patients and

**Complexity:**

**Framing:**

Based on this Observation, this EPA is: In Progress

**Criteria associated with this Procedure:**

<table>
<thead>
<tr>
<th>The following criteria were demonstrated:</th>
<th>1. I had to do</th>
<th>2. I had to talk them through</th>
<th>3. I needed to prompt</th>
<th>4. I needed to be in the room</th>
<th>5. I didn’t need to be there</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preprocedure plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparation</td>
<td></td>
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<tr>
<td>Efficiency and Flow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feedback to Resident:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Professionalism and Patient Safety:**

- Do you have any concerns regarding this Learner’s professionalism? No
- Do you have any concerns regarding Patient Safety? No
- If yes, description of concern: 

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**Additional Features:**

- Close
- Save
- Next
- Close
- Submit
Linking EPAs to Assessment
Assessment strategies

A simple model of competence

![Diagram showing levels: Knows, Knows how, Shows how, Does.]

- Direct observn: DEC, STACER, MSF
- Indirect: clinical markers, logbooks
- OSCE’s, simulation
- Orals
- MCQ’s, SAQ’s

Direct observation: Physician

- Focused assessment of a specific clinical activity/task (or portion thereof)
  - DEC – daily encounter care
  - Mini-CEX - clinical evaluation exercise
  - STACER – structured assessment of clinical evaluation report
  - DOPS - direct observation of procedural skill
- Good for
  - Medical Expert skills: clinical, procedural
  - Communication and collaboration skills
- Requires supervisor observation
Indirect observation: clinical markers

- Documents produced in the course of clinical work that can provide evidence of performance
  - Pathology reports, consult notes, dc summary
  - Chart audit/review
  - Completed forms, advocacy letter
- Good for:
  - Decision-making: investigations, management
  - Written communication
  - Leader
  - Professional
  - Health Advocate
- Requires supervisor review
Logbooks and Portfolios

- Collection of activities performed
  - Procedures, Case mix
  - Teaching activities

- Good for:
  - Breadth of experience
  - Prompt for self-reflection, learning plan

- Requires:
  - Method for tracking
  - Supervisor review and guidance
Simulated activities

• Teacher generated activity simulating clinical work
  • Crisis Resource Management, Simulation scenarios and/or modules, standardized patient, mock trials

• Good for:
  • Rare clinical presentations
  • Critical clinical skills

• Requires:
  • Significant preparation and time
  • Equipment, space – but can be low tech as well
Assignments

- Submissions generated outside of clinical workplace
  - e.g. scholarly project, reflective critique/essay

- Good for:
  - Scholar
  - Health Advocate
  - Professional

- Requires:
  - Supervisor review with a marking scheme
Implementation Strategies

Residency Program Committee continues to exist

CBD^1,2 Competence Continuum

- Transition out of professional practice
- Continuing professional development (maintenance of competence and advanced expertise)
- Transition to practice
- ROYAL COLLEGE EXAMINATION
- Core of discipline
- Foundations of discipline
- Transition to discipline (orientation and assessment)
- Entry to residency

How will that work?

- **Trigger of assessment for progression**
  - Competence committee
  - Routine review (minimum q 6 months)
  - Expected end of stage
  - Red flags
  - Earlier decision to review at specific time
Assessment of EPA Achievement

EPA/IM Assessment Encounters
- Point in time
- Single rater
- Specific context

EPA/IM Competence

EPA/IM Achievement
- Multiple times
- Multiple raters
- Multiple contexts

Assessment achievement of EPAs/IMs
- Review Learner EPAs/IMs
- Approve changes to Learner Status:
  - Promote Learner to next Stage
  - Request RC Certification
  - Modify Learner Program Plan
  - Monitor Learner (on track)

Program Competence Committee
Log in to ePortfolio
e-Portfolio

- Track resident’s learning and achievements
- Organized by stages and EPA’s
- One-stop shop for
  - Learning plan
  - Assessment
- Available to:
  - Trainee
  - Supervisor (designated EPAs)
  - Program director and administrator
  - Post-graduate dean
Changing the timing of certification exams

- The exam will continue to exist, but its timing will shift, and it will be moved to the end of the “Core of Discipline” stage.

- Specific timing will be determined by each specialty and sub-specialty.

- This will ensure trainees are not lost to textbooks in their final year.

- Within the new CBD world, passing the exam at the end of the “Core of Discipline” stage will not lead to certification. The examinations becomes a milestone in achieving and demonstrating competence.

- The Royal College will only grant certification once the resident has successfully completed the “Transition to Practice” stage and has received sign off from the Competence Committee.
CBD Proposed Rollout
What Does CBD Discipline Rollout Mean?

1. Creation of new version of specialty specific documents in CBD format
2. Royal College approval of new version of specialty standards
3. Training programs begin applying new standards to a group of residents
   - Residents trained under new standards interact with Royal College
   - Program faculty teach and assess using CBD standards
   - PGME offices and programs apply CBD policies and procedures
4. Residents trained in CBD system enter CPD
# Anatomical Pathology

## Proposed timeline

<table>
<thead>
<tr>
<th>Specialty specific educational design</th>
<th>Submit documents for approval</th>
<th>Implement CBD at some/all programs</th>
<th>Residents reach end of training</th>
<th>Graduates start CPD phase</th>
</tr>
</thead>
</table>

### Faculty Development needs

- **CanMEDS 2015**
  - Specialty Suite template
  - In training assessment tools and templates
- **SSRC approval**
- **Portfolio to track milestones +/- logbook**
- **Faculty start teaching and assessing**
- **Credentials process for eligibility**
- **Exams new process**
- **Affirmation of Competence**
- **Tools for CPD**
Anatomical Pathology
Specialty Committee

What are the stages in Anatomical Pathology?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transition To Discipline</td>
<td>Foundations</td>
<td>Core</td>
<td>Transition To Practice</td>
</tr>
<tr>
<td>Martin Bullock</td>
<td>Steven Rasmussen</td>
<td>Henrike Rees</td>
<td>Monalisa Sur</td>
</tr>
<tr>
<td>Annie Belisle</td>
<td>Altaf Taher</td>
<td>Mark W. Lee</td>
<td>Jacqueline Parai</td>
</tr>
<tr>
<td>Michele Weir</td>
<td>Jason Karamchandani</td>
<td>Will Chen</td>
<td>Ion Popa</td>
</tr>
<tr>
<td>Aaron Haig</td>
<td>Christopher Davidson</td>
<td>Shahid Islam</td>
<td>Sameh Geha</td>
</tr>
<tr>
<td>Van-Hung Nguyen</td>
<td>Heidi Sapp</td>
<td>Snezana Popovic</td>
<td>Danh Tran-Thanh</td>
</tr>
</tbody>
</table>

Chelsea Maedler-Kron
**Stage 1 – Transition to Discipline**

**Time frame:** 1-3 mos

**General goals:**
- Orientation to and general overview of specialty
- Orientation to CBD
- Gain an understanding of the role of the anatomical pathologist in the healthcare system
- Orientation to the hospital(s) and university where training will occur
- Supply residents with basic tools for further progression in specialty
- Meet other residents, staff in pathology
- Learn where/who to go to for help and info

**Activities and learning experiences**
- Introduction to gross room & accessioning, including:
  - familiarity with specimen requisitions, required patient information prior to processing, inkling and opening selected large specimens, supervised simple case submission (e.g., small biopsies or routine gallbladder)
  - Observe intraoperative consultations
  - Participate in sign out with pathologists (observational, minimal responsibility)
  - Participate in selected multidisciplinary rounds
  - View autopsies, emphasizing clinicopathological correlation, review of gross anatomy and basic physiology
  - Basic normal anatomy (?)
  - Learn histology lab basics (tissue fixation, processing)

**Stage 2 – Foundations of Discipline**

**Time frame:** 1 year

(Split with 6 months of clinical and 6 months of AP. Discussion of which occurs first. Could this be a blended model)

**Activities and learning experiences**
- Chart review (recognizing the need for specific questions from clinicians)
- Seeing disciplines from the other side
- Endoscopy: the gross pathology of GI specimens
- Exposure to medical and surgical and radiology conditions
- Imaging interpretation
- Observe a clinician communicating pathology findings with patients/families
- See how other specialties do QA,
- What happens in OR and follow the specimen; enhance collaboration and contact with clinicians
- Ensure reports are clinically relevant
- Recognize the roles of clinicians, actually experience their practice.
- Critical analysis of med lit, learning how to teach

**Knowledge:**
- Pathology, microbiology, chemistry, hematology
- Understanding team approach to medicine, team interactions
- Understand the role of pathology, lab medicine
- Understand the clinical implications of path reports, and their impact on management

**Stage 3 – Core of Discipline**

**Time frame:** At least 2 years – up to three years

**General goals:**
- Gain experience and depth of understanding in Core areas of Pathology (see below)
- Teaching, Research, QA, Lab and Practice Management
- Universal precautions
- Critical values, Communication with colleagues and clinicians
- Intradepartmental and external consultation
- Completing Reports (integrated, and synoptic, revised/amended/addendum/supplementary reports)
- Selection, triaging and interpretation of ancillary studies
- Trouble shooting
- Turnaround Time (TAT)
- Recognize normal and abnormal findings
- Tissue release, Tissue banks and tissue for research
- Storage/disposal of specimens/tissue/slides/blocks/requisitions/reports

**Pediatric and perinatal pathology**

**Neuropathology**

**Molecular pathology**

**Gross pathology**

- (uses of lab equipment and photography)
- Specimen triage, Specimen ID (patient and tissue), Specimen preparation/fixation guidelines in preparation for grossing (CAP guidelines) and trouble shooting
- Recognize and describe in a report gross relevant findings in common and complex

**Stage 4 – Transition to Practice**

**Time frame:** minimum of 6 months

**General Goal:**
Function as an independent Junior Staff/consultant

**Experiences and Responsibilities:**
- Manage the daily workload of an anatomical pathologist in the domain of surgical pathology including frozen sections, cytology and forensic pathology and supervision of junior residents and lab staff/PAs
- Aim to Comply with TAT (turn around time) of your institution and other performance indicators
- Act as a liaison with clinicians to communicate critical values and other clinicopathologic questions
- Understand and be aware of your own diagnostic limitations and when to ask for a 2nd opinion and use of ancillary tests within and other facilities
- Be aware of various practice models (academic versus community vs private labs) and implement in career planning
- Be aware of code of conduct/professionalism in your workplace/institute
- Actively participate in lab management activities in your workplace
- Act as a consultant and participate/present in a Multidisciplinary team including tumour boards and...
Role of the Program Director

1. Responsible for the overall administration to drive the success of the residency program

1. In this capacity, s/he will ensure that the program meets all **NEW** accreditation standards mandated by the relevant accrediting college and regulatory bodies (e.g. Royal College of Physicians and Surgeons of Canada, College of Family Physicians of Canada and College of Physicians and Surgeons of Ontario)

1. Ensure trainees thrive in the learning environment, resulting in a superior educational experience (RC-Creating Document Suits, Faculty engagement, collaboration with PGME/Faculty of Medicine)
Resource Requirements:

In order to adequately perform the duties of this role, the program director must have:

• Adequate protected time to carry out the responsibilities required.

• The support of the Department / Division Chair to ensure adequate resources are provided and that professional development opportunity are made available to the program director.

• Appropriate administrative support – program administrator (PA).

• Appropriately located and equipped office space in proximity to residents, the program administrator and resident files.
Summary

- Enhanced flexibility in training
- Learner-centred
- Supervisor = coach
- Assessment for learning; low stakes
- Issues identified early
- Opportunity for innovation
- Transparent; standards well-described
- Standardization between training sites
- Resident promotion doesn’t rest with the PD
Where can you find resources?

http://www.royalcollege.ca
Competence by Design (CBD): Overview

Thank You