Tusting our Trainees: Innovations and Challenges in the Assessment of Competence

Karen Hauer, MD
Professor of Medicine
University of California, San Francisco
May 7, 2014
Disclosure

Funding from American Board of Internal Medicine
Outline

- Supervision
- Trust
  - Individual attendings: meaning of trust in residents in clinical teaching settings
  - Committee level: how clinical competency committees approach their work
Annals of Internal Medicine

Emergency Department

When I was an intern, I would take overnight call every three or four nights. Some nights were routine...

...others were not.

“Missed It” Written by: Michael J. Green, MD, MS • Illustrated by: Ray Rieck

3:00 a.m.

Beep...Beep...Beep...

Hey Mike, it’s Fred. Got a routine COPD patient to admit. No big deal, I’ve worked him up; you just need to tuck him in for the night. Take your time.
Expectations for competence

- Competency based education:
  - focus on what trainees learn rather than what we teach
  - greater accountability to trainees, patients, society
- Milestones
  - provide a rich descriptive, developmental framework for trainees and clinical competency committees
Rethinking workplace-based assessment

- Psychometric approach
  - Find a valid and reliable assessment tool
  - Train, standardize raters

- Alternative approach
  - Performance assessment as a judgment and decision making process

Govaerts, AHSE 2007
EPAs: Supervision based on Trust

Criteria for entrustable professional activities

Part of essential professional work
Require specific knowledge, skill, and attitude
Generally be acquired through training
Lead to recognised output of professional labour
Usually be confined to qualified staff
Be independently executable within a time frame
Be observable and measurable in their process and their outcome
Lead to a conclusion (done well or not well)
Reflect the competencies to be acquired

Ten Cate, BMJ 2006
SUPERVISION
Allowing the progressive independence essential for clinical training
AMEE Guide No. 27: Effective educational and clinical supervision

SUE KILMINSTER¹, DAVID COTTRELL¹, JANET GRANT² & BRIAN JOLLY³

Clinical teaching with minimal and indirect supervision
Ernesto A Figueiró-Filho, Elia J Ribeiro, Danette McKinley, Juan Pérez-

The Quest Toward Unsupervised Practice
Promoting Autonomy, Not Independence

Commentary: Watching Closely at a Distance: Key Tensions in Supervising Resident Physicians
Stewart Babbott, MD
Academic Medicine, Vol. 85, No. 9 / September 2010
# Activities of Supervisors

| Routine          | Planned - rounds, card flipping  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>We meet every day as a team at 8:30.</em></td>
</tr>
</tbody>
</table>
| Responsive       | In response to patient/trainee issues that arise.  
|                  | *I needed to confirm her history of chest pain.* |
| Direct patient care | Supervisor moves from supervision to patient care.  
|                  | *Crashing patient.* |
| Backstage        | Trainee is usually not aware.  
|                  | *Go back to see patient. Review the EHR.* |

Kennedy, JGIM 2007
Supervision - ACGME

- Direct: supervisor with trainee and patient
- Indirect:
  - direct supervision immediately available in house, on site
  - direct supervision available by phone, not on site
- Oversight:
  - supervisor reviews procedures, encounters and give feedback after care is delivered

Whalen T, Wendel G.  
http://www.acgme.org/acgmeweb/Portals/0/PDFs_jgme-11-00-39-45%5B1%5D.pdf
From Supervision to Trust

- Expertise literature
  - Through training, learners should assume increasing ownership for patient care
    - appropriately challenging tasks
    - regular informative feedback
- Trust acts as a gatekeeper to the learner’s increasing level of participation and responsibility in the workplace
TRUST
Supervision and assessment based on entrustment
What is trust?

- Reliance on someone’s character, ability, strength, or truth
  - one in which confidence is placed
  - dependence on something future (Mirriam Webster)

- Develops as an emergent state influenced by
  - Individuals’ thoughts, motivations
  - Interactions, context, situation
Model: how trust enables clinical participation

Hauer et al, AHSE 2013
What factors influence supervisor trust in residents?

Factors related to:
- **Supervisor**: experience, skills, accountability
- **Trainee**: competence, knowing limitations, professional development
- **Task**: complexity, common/rare
- **Context**: time of day, census

Social cognitive theory

BEHAVIOR

PERSONAL FACTORS (Cognitive, affective, and biological events)

ENVIRONMENTAL FACTORS
Workplace learning

- Learning in the workplace occurs through participation
- Learners construct knowledge guided by the people and context around them
- Communities of practice

Lave & Wenger 1991; Billett 2000; Dornan 2007
Elements of workplace learning

- Work practice: activities, values, goals
- Individual knowledge, values, conceptions

Affordances ↔ Engagement

TRUST

Billett, 1999
Trainee-supervisor relationship

- Similarity between trainee and supervisor
- Role of affect
  - Facilitate trust building or
  - Interfere with accurate appraisal
- Shared expectations
- Continuity of relationship
Discrepancy in competence expectations

Sterkenberg, Acad Med 2010
MEANING OF TRUST

How do attendings understand trust and change their supervision based on trust?
Study design

- Qualitative study: IM ward attendings
  - 2 sites: Penn, UCSF
  - 43 interviews
  - What is the meaning of trust, how did you trust/not trust your ward resident

- Phenomenography
  - Describes the different ways people understand a phenomenon; variation in perception and experience
Attending trust: findings

- Comparison standard
- Sources of trust
- Pace of trust formation
- Implications of trust for residents, attendings
Comparison standard

- Self: common
  - Similarity to me: what would I have done?
  - Broad, holistic comparison across domains
  - A few acknowledged residents who exceeded what they would have done

[The resident is] an extension of my eyes and ears, when there is that level of trust that it really feels like they are keeping you in the loop and you’re able to have confidence in the information they’re giving you, almost as if you had gone and done it yourself.
Sources of trust

- **Direct experience**
  - Observing patient care
  - Rounds
  - Resident help-seeking

- **Inference**
  - Resident training category
  - Generalizing from other skills
    - Good leader -> good clinician
  - Prior knowledge
    - Reputation, signout
    - Earlier experience
  - Rapport

- **Stakeholders**
  - Team members
  - Patients

I get feedback from the medical students or the interns about how my resident's doing, and so that gives me a better understanding of where I should be focusing in terms of giving my resident more supervision.
Pace of trust formation

- Starting point:
  - Leap of faith
  - Trial and error
  - Testing the resident

Attitude of trust ≠ Act of trusting
How long to develop trust?

- (Hours) to days to 2 weeks
  - Faster with: direct observation on rounds, managing sick patient
  - Slower with: days off, lack of opportunity to observe certain tasks

- Each attending must reassess
  - Prior knowledge often incorrect
  - Signout lacks specificity
Implications of trust for attendings

- Change in role, behaviors
  - I can step back, I can be a teacher, consultant
  - I can sleep at night

Trust is sort of inversely proportionate to the amount of double-checking that I do.

For me, trust means giving the resident latitude to number one be the leader of the team both during rounds and make primary management decisions.
How does attending experience influence trust formation?

- Junior attendings
  - Rules-based supervision
  - Self-perception of micromanagement
  - Backstage supervision: rely on checking EMR
  - Struggle to pull back, tailor supervision

- More experienced attendings
  - Gain skill in ‘reading the signs’
Implications of trust for resident learning

- Attendings are determining trust all the time
  - Individual attending ‘style’
- Critical tasks
  - Computer documentation
  - Family meetings
  - Discharges
Implications of trust for resident learning

- Residents’ multiple roles influence trust:
  - Doctor, communicator
  - Leader, teacher
- Confidence matters
Clinical competency committees

Trust at the committee level
Trust at the committee level

- Clinical competency committees now required in GME
  - How do they understand their charge?
  - How do they synthesize information into judgments of competence?
Clinical competency committee study

- Interviews with 34 program directors
- 5 University of California schools, all specialties

Questions
- Describe your committee’s review of a recent struggling/non-struggling resident
- What is the main purpose of your committee?
- Pros and cons?
## Two paradigms for competency committees

<table>
<thead>
<tr>
<th>Problem identification</th>
<th>Developmental</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Common</td>
<td>• Uncommon</td>
</tr>
<tr>
<td>• Purpose: find and deal with problems</td>
<td>• Purpose: support planned steps toward mastery</td>
</tr>
<tr>
<td>• “Tea-steeping” or “dwell time” view of training</td>
<td>• Residents as learners</td>
</tr>
</tbody>
</table>
We would look through the evaluations. We would probably just maybe briefly talk about this person’s strengths, but mostly almost not with any absolute purpose to it. Sometimes it’s just celebrating and relaxing as a group and then most of the time, for the ones who are meeting targets, it is then saying, putting in the minutes, that they’ve met the requirements and will be graduating on time.
Developmental model

It’s just really hard with 20 milestones and as we tried to do it for 8 residents in that one hour committee, we realized that there’s not nearly enough time to be able to do it, nor do we have enough information to be able to accurately rate where our residents are in the milestones.
Committee procedures

• Challenge to synthesize performance data
  • Formal evaluations can raise “red flags”
  • Informal information: hallway conversations, committee discussion add data: ‘usually about a problem, not something that's positive’

• Decision-making implied
## Implications of committee procedures

<table>
<thead>
<tr>
<th>Faculty perspective</th>
<th>Resident perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commitment to the process</td>
<td>Stay under the radar</td>
</tr>
<tr>
<td>Pride in residents</td>
<td>Feedback signals a problem</td>
</tr>
<tr>
<td>Questions about how milestones can help</td>
<td></td>
</tr>
</tbody>
</table>
Conclusions: Incorporating trust into our assessments

Improving assessment of physician competence
# Recommendations for supervision based on entrustment

<table>
<thead>
<tr>
<th>Training</th>
<th>Supervisors receive training in clinical supervision, feedback, assessment, trust</th>
<th>Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual tailoring</td>
<td>Trainees intentionally entrusted with tasks as they meet milestones and given increased opportunity for unsupervised practice</td>
<td>Task</td>
</tr>
<tr>
<td>Inviting supervision</td>
<td>Climate encourages trainees to seek appropriate supervisory support</td>
<td>Trainee, context</td>
</tr>
<tr>
<td>Climate of reflection</td>
<td>Foster culture of self-reflection, self-assessment and lifelong learning in trainees and supervisors</td>
<td>Trainee, context</td>
</tr>
<tr>
<td>Longitudinal relationship</td>
<td>Clinical schedules facilitate longitudinal contact</td>
<td>Context, relationship</td>
</tr>
<tr>
<td>Graded responsibility</td>
<td>Trainee assessment aligns with developmentally sequenced competencies</td>
<td>Supervisor, task</td>
</tr>
<tr>
<td>Entrustment decisions</td>
<td>Entrustment decisions informed by multiple sources of evidence</td>
<td>Interplay of factors</td>
</tr>
</tbody>
</table>

Hauer, AHSE 2013
<table>
<thead>
<tr>
<th>Training</th>
<th>Supervisors receive <strong>training</strong> in clinical supervision, feedback, assessment, <strong>trust</strong></th>
<th>Supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual tailoring</td>
<td>Trainees <strong>intentionally entrusted with tasks as they meet milestones</strong> and given increased opportunity for unsupervised practice</td>
<td>Task</td>
</tr>
<tr>
<td>Inviting supervision</td>
<td>Climate encourages trainees to seek appropriate supervisory support</td>
<td>Trainee, context</td>
</tr>
<tr>
<td>Climate of reflection</td>
<td><strong>Foster culture of self-reflection, self-assessment</strong> and lifelong learning in trainees and supervisors</td>
<td>Trainee, context</td>
</tr>
<tr>
<td>Longitudinal relationship</td>
<td>Clinical schedules facilitate <strong>longitudinal contact</strong></td>
<td>Context, relationship</td>
</tr>
<tr>
<td>Graded responsibility</td>
<td>Trainee <strong>assessment aligns with developmentally sequenced competencies</strong></td>
<td>Supervisor, task</td>
</tr>
<tr>
<td>Entrustment decisions</td>
<td><strong>Entrustment decisions</strong> informed by multiple sources of evidence</td>
<td>Interplay of factors</td>
</tr>
</tbody>
</table>

Hauer, AHSE 2013
Assessment based on trust

- Anesthesia: need >60 mini-CEXs for adequate reliability to rate competence
  - 0/331 residents below expected competence

- Changing rating scale to independence (supervision amount):
  - adequate reliability with 9 assessments

<table>
<thead>
<tr>
<th>Level of Independence</th>
<th>Supervisor required in the theatre suite</th>
<th>Supervisor required in hospital</th>
<th>Supervisor not required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>What level of supervision did the trainee require for this case?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
AM Last Page: What Entrustable Professional Activities Add to a Competency-Based Curriculum

Olle ten Cate, PhD, professor and director, Center for Research and Development of Education, University Medical Center Utrecht

Definition and rationale. Entrustable professional activities (EPAs) are tasks or responsibilities that faculty entrust to a trainee to execute, unassisted, once he or she has obtained adequate training, EPA are executable within a given time frame, acceptable and measurable, and suitable for focused entrustment decisions. EPAs are units of work (e.g., anesthetic care of an uncomplicated patient), while competencies describe people abilities (e.g., knowledge, professional attitude, communication skills). Units of work and abilities of persons can be viewed as two dimensions of a grid. Competencies remain theoretical if not grounded in practice.

<table>
<thead>
<tr>
<th>EPA examples</th>
<th>Competency domains</th>
<th>Medical</th>
<th>Patient care</th>
<th>Interpersonal skills &amp; communication</th>
<th>Professionalism</th>
<th>Practice-based learning &amp; improvement</th>
<th>Systems-based practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consulting new ambulatory patients</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Providing first treatment of mild traumas</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Leading an inpatient ward</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Initiating cardio-pulmonary resuscitation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Discussing medical errors with patients</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Multiple competencies are at stake with most activities. The dots show the most relevant competency domains for each example EPA. EPAs that are most relevant to work, EPAs can serve as the primary focus of competency-based training. Supervisors can observe trainees executing an EPA, but through a lens of competencies.

Supervision. Mastery of an EPA is marked by a formal entrustment decision for unsupervised practice. It is competency-based, rather than time-based, and different trainees in different settings may reach levels of unsupervised practice. Clinical oversight is sufficient once trainees are cleared for an earlier decrease of supervision. Each trainee is authorized to act. Level 4 is the proficiency level that must be documented (e.g., as Statement of Assigned Responsibility (SAR)).

Graded supervision allows for:
1. Observing the activity
2. Acting with direct supervision present in the room
3. Acting with supervision available within minutes
4. Acting unsupervised (i.e., under clinical oversight)
5. Providing supervision to junior

EPA design. EPAs should be chosen and elaborated carefully to create maximum clarity; they should refer to a "job to be done," and they should not be too detailed. Clarity is served with a two-page text. A title should be supplemented with a description of what is included and its limitations. The most relevant competencies (e.g., see grid above) should guide the entrustment decision process. Trainees should know what knowledge and skills are expected of them to be awarded a SAR, and specific information sources should guide assessment and the decision to entrust trainees to act unsupervised. An elaborated EPA can serve as a mini-curriculum for the trainee. See reference 3 for a worked example.

A curriculum with EPAs. A manageable number of EPAs for all trainees in a full postgraduate program is 20 to 30. Each EPA includes more detailed activities (see EPA design). EPAs can serve as building blocks for portfolios. Time-in-training to attain level 4 (unsupervised practice) can be adapted upon monitoring of the trainee, marking the shift to a competency-based approach. Current examples of curricula with EPAs are available for pediatrics, internal medicine, family medicine, and psychiatry.

Portfolio of: Thomas Jones

<table>
<thead>
<tr>
<th>EPA</th>
<th>PGY1</th>
<th>PGY2</th>
<th>PGY3</th>
<th>PGY4</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPA a</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>EPA b</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>EPA c</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>EPA d</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

References:

Author contact: O.TenCate@cumc.umc.nl

Academic Medicine, Vol. 89, No. 4 / April 2014 691
**Graded supervision allows for…**

1. Observing the activity
2. Acting with direct supervision present in the room
3. Acting with supervision available within minutes
4. Acting unsupervised (i.e., under clinical oversight)
5. Providing supervision to juniors
Conclusions

• Incorporating trust into assessment offers promise because supervisors already do this
  • assessment based on checklists and competencies can fail to capture what we really want to know
  • need to accept that there is variation based on supervisor, context, task, relationships
Potential solutions

- New assessment tools that incorporate trust
- Reinforce value of direct observation
- Better procedures for assessment of a resident across attendings (‘signout’)
Acknowledgements and thanks

- Patricia O’Sullivan, EdD
- Olle ten Cate, PhD
- UCSF RaDME team and doctoral students
- Robert Baron, MD
- Joanne Batt
- Christy Boscardin, PhD
- Ben Chesluk, PhD
- Eric Holmboe, MD
- Bill Iobst, MD
- Jennifer Kogan, MD
- Sandra Oza, MD
- Corrie Stankiewicz, MD