The Use of Standardized Patients in Assessment

John Norcini, Ph.D.
Overview

• Description of standardized patients
  • Example of scenarios, an SP-student encounter, and a post-encounter SOAP note

• Issues in creating an SP exam
  • Blueprint, exam length, station length, scoring, training, recruitment, quality assurance

• Case development exercise
What is a Standardized Patient?

- An individual trained to portray patients with particular conditions
  - Chest pain
  - Shortness of breath
  - Depression
- “Standardized”
  - Portray the same condition, the same way, for all test takers
- Used for teaching and assessment
Signs that Can be Simulated

• Although they are actors, SPs can simulate many signs
• Acute abdomen, headache, phobic disorders, backache, Hoffman's sign, pneumothorax, black eye, imbalance, restricted range of motion, Brudzinski's sign, rigidity, chorea, jaundice, sensory loss, coma, joint tenderness, shortness of breath, confusion, kidney stones, tenderness, congestion, nervousness, TIA signs, COPD, nosebleeds, tremor, dementia, numbness, twitching, depression, panic disorders, vision abnormalities, exhaustion, paralysis, weakness...
What do Standardized Patients do?

• Simulate a real doctor-patient encounter
  • Often consists of a history and physical exam
  • Usually no invasive procedures or lab tests
    – Symptoms are usually simulated but can be real
    – Lab results/procedures are presented in written form

• Standard examinations might include
  • Vital signs, ear/nose/throat, eyes, chest/lung/heart exam, abdominal exam, neurological exam

• An SP always portrays and sometimes provides feedback and scores the performance
What do SPs Assess?

- Does
- Shows How
- Knows How
- Knows

- Action
- Performance
- Competence
- Knowledge
What Skills can SPs Test Best?

• Data gathering skills
  • History-taking
  • Physical exam

• Documentation skills

• Communication skills
  • Interviewing
  • Written communication
  • Language proficiency

• Interpersonal skills
Objective Structured Clinical Exam

- An OSCE is an examination format
  - Circuit or series of stations
  - Round-robin format
    - Examinees rotate to next station at the sound of a bell
    - Can accommodate as many examinees as stations
  - A total score is developed across all stations
- SPs are often used as part (or all) of an OSCE
Structure of a Station

• Before the encounter
  • Examinees are given instructions and background information on the patient

• Encounter
  • Usually observed or videotaped

• Post encounter
  • An inter-station exercise that might be
    – SOAP note: History findings, PE findings, differential diagnoses, diagnostic workup
    – ECG interpretation
    – MCQs...
Before the Encounter

Mark Rose is a 35 y/o male complaining of 3 weeks of cough and fatigue. He had a complete PE 6 mos. ago (including rectal exam which was normal). BP: 130/80 Pulse: 105 Resp: 18 Temp: 38C

Danielle Borden is a 27 y/o in the clinic for "stomach problems" and a prescription refill. She was given a complete physical exam 4 months ago, which was normal except for slight tenderness in the epigastrium. You have 20 minutes to perform a focused history and physical on this patient. BP: 150/90 Pulse: 72 Resp: 15 Temp: 37C

From the standardized patient case development workbook (Northwest Consortium for Assessment of Clinical Performance)
Video of an SP-Trainee Encounter
Post Encounter: A SOAP Note

**HISTORY** - Include significant positives and negatives from history of present illness, past medical history, review of systems, social history, and family history.

**PHYSICAL EXAMINATION** - Indicate only pertinent positive and negative findings related to patient’s chief complaint.

**DIFFERENTIAL DIAGNOSIS** - Write no more than 5 differential diagnoses for this patient’s current problems.

**DIAGNOSTIC WORK UP** - (Immediate plans for no more than 5 further diagnostic studies.)
Research on SPs

• Sizable body of research
  • Validity
    - SPs are accurate in their portrayal and scoring
  • Reliability
  • Equivalence
  • Feasibility
  • Educational effect
  • Acceptability
Issues in Creating an SP Exam

• Development of a plan or blueprint for the examination
  • Ensures that the content is appropriate and the sample of stations is sufficient to cover the domain
    - Test specifications cannot be too complex
      • Limited number of cases per examinee
      • Limited case pool
      • Frequent substitution helpful for security reasons
USMLE Step 2CS Blueprint

• Primary focus on presenting complaints and conditions

• Presentation categories include, but are not limited to
  • Cardiovascular, constitutional, gastrointestinal, genitourinary, musculoskeletal, neurological, psychiatric, respiratory, and women's health

• Balance of acuity, age, gender, and type of physical findings
Issues in Creating an SP Exam

• How long should the stations be?
  • Range from 3 to 40 minutes
  • Most common length is 5-15 minutes
  • Depends on content

• How many stations?
  • Range from 2-52
  • Most common is 6-20
  • 12-20 probably best but check on reliability
Issues in Creating an SP Exam

• Scoring poses two intertwined issues
  • What data are captured?
    ‒ Checklists
    ‒ Global ratings
  • Who captures the data?
    ‒ Doctors
    ‒ SPs
Issues in Creating an SP Exam

• What data are captured?
  • Checklists
    – Recording the occurrence of behaviors
    – Shorter checklists are better (15 or so items)
  • Global ratings
    – Judging the quality of a performance
    – Scale is not very important
  • Ratings vs. checklists
    – Highly correlated
    – Checklists slightly more reliable
    – Ratings slightly more valid
Issues in Creating an SP Exam

• Who captures the data?
  • Non-psychometric considerations
    – Doctors add credibility
    – Doctors are more expensive
  • Psychometric considerations
    – Either doctors or SPs can fill out checklists
    – Global ratings require expertise
      • Doctors are expert in medical matters
      • SPs are expert in interpersonal and communication matters
    – One observer per station is sufficient assuming a different observer at each station
Issues in Creating an SP Exam

• Training the SPs
  • Standardizing people is difficult
    – Often >1 SP per case
    – “Performance drift”
  • It is important to
    – Have a good trainer
    – Videotape for training
    – Monitor performance
    – Adjust scores
Issues in Creating an SP Exam

• Quality assurance is imperative
  • Need to maintain standards over time, between sessions

• It is important to
  • Observe SPs
  • Use double scoring
  • Investigate discrepancies

• Well trained SPs can provide valid and reliable scores
  • Focus on minimizing measurement error

• It is important to
  • Recruit well
  • Simplify tasks and scoring rubrics
  • Give feedback
Case Development Exercise

- Select a presenting complaint
- Fill in the template
  - General patient information—age, gender, setting...
  - Complaint/medical history
  - Health promotion/risk factors
  - SP training directions
  - SP probe and simulating symptoms
  - Doorway information
  - Hx and PE checklists
  - SOAP note