How to Cheat on Credentialing Exams

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Promoting Regulatory Excellence

Before the Exam
Danny Breidenbach, Applied Measurement Professionals

Security During Examination Development
- Internal vs. External
- Testing company vs. Credentialing organization and Subject Matter Expert (SME)
Security During Examination Development

- Physical Access
- Staffing
- Inventory / Storage
- Other Functions
  - Translation, Printing, Artwork, etc.
- Working with SMEs

Development — Physical Access

- Secure Room/Area
- Vault — Key Access
- Limited Authorized Access
- Print copies vs. Electronic copies
- Chain-of-Custody
- Shredding — including notes/drafts

Development — Staffing

- Staff
- Confidentiality Agreements
- Conflict of Interest
- Audits
Development — Inventory and Distribution

- Printing (internal vs. outsourced, serial #’s, sealed booklets, shrink wrap)
- Shipping (multiple counts, traceable shipping, courier)
- Electronic Transmission
- Web Access

Development — Other Functions

- Translators
- Artwork
- Supplies for Practical Exams
- Printers
- Couriers

Development — Working with SMEs

- Face-to-Face Meetings
- Passwords
- Selective Access Permission
- Specific Time Period
- Read-only, non-print, non-export
- “Screen security”
- Web-conferences
Summary — Security During Development

- Main threat: unintended exposure of materials
- Responsibility must be shared among testing company, credentialing organization, volunteer subject matter experts

During the Exam

Stephen Hennessey, Prometric

Various Types and Levels of Threats

- Single cheater
- Collusion
- Proxy testing
- Item harvesting
- Hackers
Common Cheating Methods

- Copying from other examinees
- Hidden notes
  - in clothes
  - on hands or legs
  - inside books or exhibits
  - underneath hats or taped to brim
  - inside bottle/labels
  - inside food packages
- Accessing notes on a break
- Notes hidden in bathroom
- Bribery of Test Administrator

Facility- Computer Based Testing

- Separate area for check-in & testing rooms
- Window into test room & surveillance system
  - video & audio recording
- Signs posted notifying of recording
- Secure lockers for personal items
- Partitions between workstations or privacy screens
- Surveillance cameras view desktops
- ADA compliant

Facility- Paper Based Testing

- Separate areas for check-in and testing
- All testing materials kept secured by proctor
- Optimum proctor to examinee ratio- no more than 1:20
- Provide storage for personal belongings
- Exam booklets numbered, tracked by examinee
- Maintain examinee seating chart
- Monitor examinees on breaks
Proctors - Best Defense Available

Qualifications
• Background checks- include 5-7 year country criminal search, State Police are an inexpensive option
• Formal training & certification program with annual re-certification required

Monitoring
• Conflict of interest restrictions - proctor agreement
• Examinees monitored at ALL times
• Conduct frequent walk-throughs
• Be vigilant for suspicious

Emerging Threats

Emerging Trends in Detection Technology
• Hand Held Metal Detectors
• Wireless Jamming Devices & Cell Signal Detectors
• Screen Monitor Obfuscation
Biometric Identity Management

Capture examinee's ID
Scan & Validate ID
Capture Fingerprints

The examinee's ID is swiped in the combined magnetic strip and 2D barcode reader which verifies the legitimacy of government-issued ID (North American only).

The ID is then placed on a flatbed scanner which captures an electronic image of the photo ID and scans optical character recognition (OCR), to compare printed data and encoded data.

The examinee then places a finger on the fingerprint scanner, which collects a unique physical characteristic which is then linked to the examinee's identity record.

Day of testing - steps to mitigate risk during test delivery

- Eligibility based exam
- Sign in at receptionist & check ID & roster
- Place items in locker
- Pockets emptied
- Metal detector wanding
- Review forms declaring security procedures
- ID check at TCA desk
- Biometric fingerprinting
- Image check
- Walk to test desk & sign in
- TCA room window
- Biometric walk-through
- Intelligent exam
- DVR live
- DVR audits
- Forensic analysis

After the Exam

Mark Poole, Pearson
Security After the Test

- Data Forensics
- Monitoring Websites
- Item Updating
- Facility Screening
- Audits
- Incident Reporting

After - Data Forensics - Items

- p-value: Percentage of candidates who answer an item correctly
- pbis: Correlation between performance on an item and performance on the overall exam
- option stats: Percentage of candidates who answer each option correctly
- option pbis: Correlation between performance on the options and the overall exam

After - Data Forensics - Items

- p-value: Too high, too low
- pbis: Too low
- options: Distractors with no responses
  Distractors with more responses than key
- O pbis: Distractors higher than key
- Omits: Above expectations
After - Data Forensics - Candidates

Suspicious Candidate Activity

- Test for significant differences in pass rates
- Better performance on harder items
- High scores in low test times
- Suspicious improvement in scores

After - Monitoring Websites

- Cram Schools
- Sample Exams
- False Advertising
- Social Networking

After - Item Updating

- Monitor Item Statistics
- Replace Items
- Add New Items
After - Facility Screening

- Look for Notes in Testing Station
- Screen Restrooms and Hallways

After - Audits

- Test Center Audits
- “Secret Shopper” Programs
- Inventory
- Continuing Education for Proctors

After - Incident Reporting

- Documentation
- Evidence
- Reporting to Client
Examples

• Cheating Incidents

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