

A Structured, AI-Enabled Clinical Research Coordinator Certification Exam Preparation Program to Enhance Clinical Research Workforce Competency and Career Advancement: A Pilot in an Academic Cancer Center

Nicolas Hernandez-Ortega, MPH, CCRC
University of Miami Sylvester Comprehensive Cancer Center

BACKGROUND

Variability in coordinator training and limited access to structured certification preparation remain persistent workforce challenges in oncology clinical research. Professional certifications (ACRP CCRC, SOCRA CCRP) are associated with improved trial quality and regulatory compliance. Artificial intelligence enables personalized, scalable educational interventions targeted to individual performance gaps.

OBJECTIVE

To evaluate an AI-enabled CRC certification exam preparation program that improves competency, identifies domain-specific knowledge gaps, supports certification readiness and career advancement.

METHODOLOGY

Eight CRCs at Sylvester Comprehensive Cancer Center completed a 12-week, six-session pilot with baseline, midpoint, and final assessments. Curriculum combined didactic instruction, ACRP/SOCRA-style practice questions, and AI-enhanced study plans targeting individual knowledge gaps.

87.5% of coordinators met the confidence threshold in 6 weeks. Personalized. Adaptive. AI-enabled. Closing the competency gap one coordinator at a time.

Domain	Baseline	Midpoint	Change
Protocol Deviations & Noncompliance	80%	96%	+16%
Sponsor / CRO / PI Accountability	75%	100%	+25%
Data Integrity & Documentation	75%	100%	+25%
CRC Responsibilities & Escalation	69%	93%	+24%
Informed Consent & Assent	72%	89%	+17%
Regulatory & Ethical Foundations	67%	88%	+21%
IRB Oversight & Continuing Review	50%	78%	+28%

Participant	Baseline	Midpoint	Final
Participant A	50%	80%	100%
Participant B	73%	94%	76% (P)
Participant C	63%	74%	87%
Participant D	69%	87%	93% (P)
Participant E	80%	97%	85%
Participant F	70%	91%	62%
Participant G	63%	86%	60%
Participant H	68%	83%	—

RESULTS

Baseline scores ranged from 50%–80% (mean ~69%), with gaps in safety reporting and protocol deviation management. At midpoint, 87.5% of participants met the 80% confidence threshold (+18 points from baseline). Of seven participants completing the final assessment, 71% scored at or above 80%. Two certifications confirmed to date (ACRP CCRC and SOCRA CCRP) with additional cohort members preparing for credentialing exams.

CONCLUSION

This pilot demonstrates that an AI-enabled CRC certification preparation program is feasible and effective in an academic cancer center. Score progression across all three assessments, certifications across two credentialing bodies, and actionable domain-level diagnostics collectively support the program's workforce impact. These findings support broader adoption of AI-driven strategies to strengthen clinical research competency and improve oncology trial conduct. Future iterations will focus on refining the assessment framework to strengthen predictive validity for certification outcomes.