

Demystifying AI Governance in Long-Term Care: A Practical Roadmap

Christie Bergerson, PhD

Jillian Hillman, PhD

Meet Your Presentors



Jillian Hillman, Ph.D.

Dr. Jillian Hillman is a bioengineer with over 15 years of experience with medical devices. Jillian is currently running the Emerging Technologies group at ECRI, where she leads evaluation, assessment and guidance of cutting-edge medical device technologies.



Christie Bergerson, Ph.D.

Dr. Christie Bergerson is a biomedical engineer with over ten years' expertise in AI-enabled medical devices, drawing on prior roles at Abbott Laboratories and Exponent. At ECRI, she leads projects on governance, risk management, and performance monitoring of AI-enabled medical devices, helping health systems and regulators adopt these technologies safely and effectively. Her background spans in vitro diagnostics, orthopedics, and software development, with AI as a unifying thread. She has published extensively and lectured at institutions such as Johns Hopkins University and Texas A&M University.

ECRI, the Most Trusted Voice in Healthcare



- Independent, nonprofit, mission focused organization
- Committed to improving the safety, quality, and cost effectiveness of healthcare
- Dedicated to patient safety, evidence-based research and testing, supply chain intelligence, and collaboration with the healthcare community

Joel J. Nobel, MD, Founder of ECRI in 1968

Beyond the Buzz: AI Fundamentals Refreshed

Why this matters



Care is increasingly supported by AI-driven tools



AI can save staff time, improve resident outcomes and support compliance



Understanding fundamentals helps you make informed decisions

Cutting through the buzz



AI is not “magic”



AI is a set of tools

- Analyze large amounts of data quickly
- Recognize patterns
- Support human decision making

Core approaches



Rule-based systems

- “If/Then” logic
- Great for structured tasks (medication reminders, scheduling rules, etc.)
- Limited flexibility (doesn’t learn)



Machine Learning

- Learn from data and improves over time
- Finds patterns
- Needs quality data to work well



Deep Learning

- A type of machine learning modeled after the brain’s network
- Excels at complex tasks like speech recognition, image analysis
- Requires large datasets and computer power

Emerging tech trends in healthcare



Generative AI

- Scribes for documentation (visit notes and summaries)
- Family communication



Monitoring AI

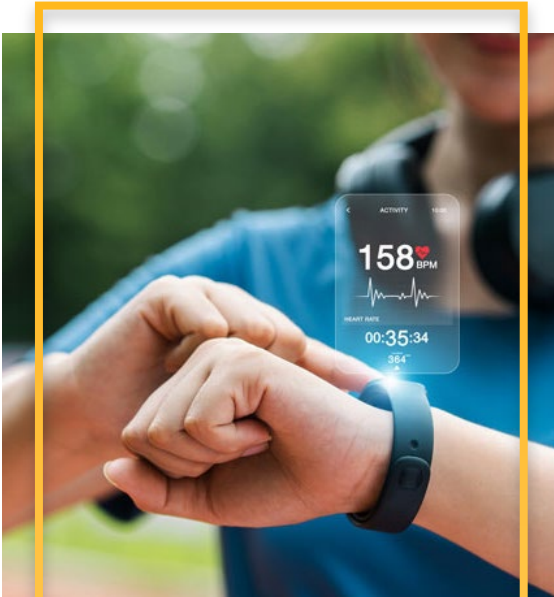
- Devices that analyze data in the room (falls, vitals)



Predictive Analytics/Forecasting

- Staff needs
- Infection spread
- Hospital transfers

AI in medical devices



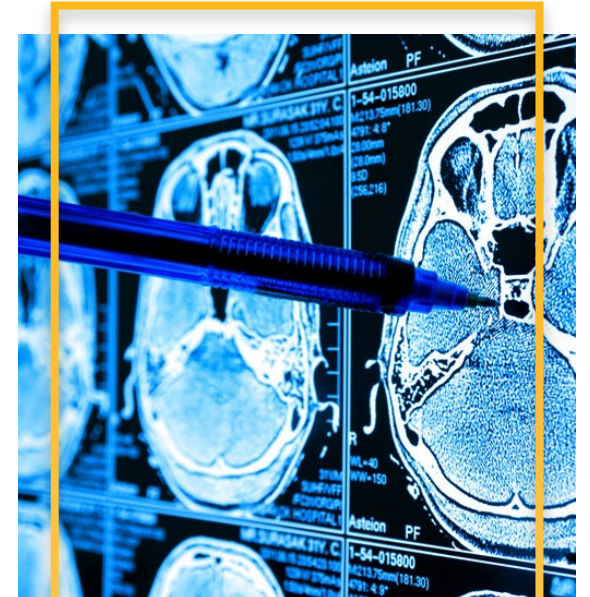
**Heart monitors
detecting
arrhythmias**



**Glucose
monitors with
predictive alerts**



**Smart beds
tracking pressure
and movement to
reduce bedsores
and detect falls**



**Image
analysis to flag
cancer**

ECRI's Position on AI

- ECRI's Goal: Safe implementation and use of A.I. – enabled medical devices
- Advice on data quality, governance and monitoring
 - Resources:

ECRI AI Essentials Page (Members)



ECRI AI Resource Hub (Public)



ECRI AI Position Paper



Incorporating AI into Healthcare

Position Statement

Artificial intelligence (AI) is actively transforming healthcare. The potential to improve clinical outcomes, reduce costs, and minimize healthcare inequities is immense; but so too is the potential for preventable harm. ECRI advises healthcare organizations to define goals with AI systems, proactively assess risk, and monitor AI performance. Ultimately, AI is an advanced tool to assist clinicians and healthcare staff, but human decision-making remains essential.

Summary

AI innovation is rapidly increasing, but AI systems are only as good as the model generated from the data on which they are trained, and the working clinical environment—or total system—in which they are implemented. Shortcomings in any area can lead to an inappropriate AI response that degrades (rather than improves) patient care or that exacerbates (rather than reduces) health inequities, which can lead to patient harm.

So how should healthcare organizations proceed?

- First, recognize that AI is not infallible. AI functionality should be systematically assessed before implementation. This assessment should consider the performance of the AI solution, the ways that the solution will impact other aspects of the healthcare organization, and the human and system factors associated with its use.
- Second, establish an AI implementation plan. This includes identifying the desired outcomes from implementing an AI solution, the patient population in which the AI solution will function, and the risk associated with implementing AI.
- Then, continuously monitor AI performance. This includes periodic assessment of current patient population relative to population at implementation, regular vendor updates per predetermined model control plans, and adverse event reporting and investigation associated with AI technologies.

The information contained in this Position Paper is highly perishable and reflects ECRI's position at the time this document was prepared. This Position Paper is not intended to provide specific guidance for the care of individual patients. ECRI makes no express or implied warranties regarding the products discussed herein, including any implied warranty of merchantability or fitness for a particular use.

ECRI assumes no liability or responsibility for how readers use the information, comments, or opinions contained in Position Papers. All material in this Position Paper is protected by copyright, and all rights are reserved under international and Pan-American copyright conventions.

Real World Case Studies

AI as a New Hire | Onboarding Plan

- **Job description:** Define scope and exclusions
- **Hiring committee:** Governance Team
 - Clinical, operations, IT, compliance, staff, resident voice
- **Supervisor & escalation path:** Oversight and override authority
 - Natural for employee, not always practiced for AI
- **Example success metrics:** Safety, equity, efficiency
- **Probation period:** Pilot with tight monitoring before scale-up

 **ECRI** | The Most Trusted Voice in Healthcare

AI New-Hire Checklist for Long-Term Care Facilities

AI as a New Employee

Think of Artificial Intelligence (AI) as if you were hiring a new employee. Like a new staff member, AI must be carefully onboarded, supervised, given clear responsibilities, evaluated regularly, and—if necessary—coached, promoted, or let go. This mindset helps ensure safe, equitable, and effective AI adoption.

1. Job Description (Scope & Role) ☐ Define what the AI is hired to do. ☐ Clarify what it must not do. ☐ Identify clinical/operational owner.	6. Probation & Monitoring ☐ Start small (unit/timeframe). ☐ Track performance vs. baseline. ☐ Document issues & corrective actions.
2. Hiring Committee (Governance Team) ☐ Clinical champion, Operations lead, IT/security, Compliance/privacy, Staff rep, Resident/family voice.	7. Performance Reviews (Governance Committee) ☐ Daily/weekly: data feeds, alert volumes. ☐ Monthly/quarterly: accuracy, bias checks. ☐ Annually/after updates: full re-validation with your data.
3. Supervisor & Escalation Path ☐ Who oversees AI performance? ☐ Clinicians/staff have override authority. ☐ Defined process/path to pause/rollback responsibilities if unsafe.	8. Reporting & Incident Handling ☐ Single intake path for issues, fed into governance team. ☐ Tag incidents as: safety, bias, privacy, utility. ☐ Corrective actions developed, enacted and logged.
4. Onboarding & Orientation ☐ Pilot phase = probation period. ☐ Staff orientation: proper use & escalation process if mistakes occur. ☐ Introduce AI to coworkers (educate about role & limits).	9. Vendor Contracts & Rights ☐ Require transparency on data use and collection, updates, limitations. ☐ Advance notice of changes (e.g. PCCP). ☐ Ensure ownership of local data, decide on exit plan if no longer useful.
5. Example Success Metrics ☐ Safety: errors, false alarms, adverse events. ☐ Equity: subgroup performance checks. ☐ Efficiency: time saved, reduced transfers. ☐ Experience: staff & resident feedback.	10. Promotion, Coaching, or Termination ☐ Expand use only after proven safe & effective. ☐ Coach (retrain) as needed. ☐ Retire if unsafe or no longer beneficial.

 **ECRI**

©2025 ECRI | All Rights Reserved. M56925

www.ecri.org

Potential New Hire | Patient Appointment Scheduling Programs

- **Meet your new employee!**
 - Help match patient demand with available appointment slots.
 - Use predictive analytics to anticipate cancellations and reschedule efficiently.
 - Send reminders to reduce no-shows.
 - Aim to improve access, reduce wait times, and make better use of provider capacity.



Potential New Hire | Patient Appointment Scheduling Programs

- **Role:** 'Scheduling coordinator'
- **Use case:** AI-optimized booking, reminders, rescheduling
- **Onboarding:** Guardrails (priority rules, language options, etc.)
- **Metrics:** No-show rates, appointment lead times, scheduling accuracy
- **Safeguards:** Equity checks, manual override path for staff

Potential New Hire | AI as Ambient Scribes

- **Meet your new employee!**
 - Listen to clinician-patient conversations using natural language processing.
 - Automatically draft clinical notes that can be reviewed and signed by clinicians.
 - Integrated with electronic health records to save time.
 - Aim to reduce clinician documentation burden (i.e. pajama time) and increase face-to-face time with patients.



Potential New Hire | AI as Ambient Scribes

- **Role:** ‘Documentation assistant’
- **Use case:** Transcribe patient notes during the encounter
- **Onboarding:** PHI handling, patient consent, review and correction
- **Metrics:** Minutes saved, patient/provider satisfaction, note quality, corrections per note
- **Safeguards:** Review/edit, error feedback loops, downtime SOPs if suddenly unavailable mid-visit

Potential New Hire | AI as Sepsis/Early Deterioration Prediction

- **Meet your new employee!**
 - Continuously analyze vital signs, lab results, and patient histories.
 - Identify patients showing early signs of deterioration, such as sepsis risk.
 - Provide alerts so clinicians can act sooner, aiming towards improving survival.
 - Used in hospitals and increasingly explored in post-acute care environments.



Potential New Hire | AI as Sepsis/Early Deterioration Prediction

- **Role:** ‘Early-warning analyst’
 - Assist, not replace clinicians
- **Use case:** Continuous monitoring of EHR for signs of impending deterioration
- **Onboarding:** Validate data quality, event escalation SOPs
- **Metrics:** True positives, time-to-treatment, transfer rates
- **Safeguards:** Performance drift monitoring, equity audits

Potential New Hire | AI as Fall-Risk Monitoring

- **Meet your new employee!**
 - Use cameras, motion sensors, or pressure mats combined with AI to detect falls in real time.
 - Automatically send alerts to staff so they can respond quickly.
 - Often reduce the time residents spend on the ground after a fall.
 - Can provide incident reports and sometimes short video clips to support staff reviews.



Potential New Hire | AI as Fall-Risk Monitoring

- **Role:** 'Observer'
- **Use case:** Continuous monitoring of patient for falls with ability to immediately alert staff
- **Onboarding:** Validate with local populations; alert thresholds, presence of quiet hours
- **Metrics:** Falls/1000 resident-days, alarm fatigue, sleep disruption
- **Safeguards:** Bias checks, family education, effective without disruption

Potential Benefits of Your New AI Hires

- **Fall prevention**

- Smart detection technologies cut fall incidence by ~28% in older adults (meta-analysis, 6 trials; n=978).¹

- **Faster sepsis treatment**

- Early warning AI linked to an 18.7% relative mortality reduction when alerts acted on within 3 hours²; and detected 80% of septic patients 3.7 hours prior to sepsis onset.³

- **Reduced clinician burnout**

- Ambient documentation tools significantly reduced burnout rates by 24.4% at Stanford Health Center after 3 months of use⁴; significantly reduced after-hours work time by 30%⁵.

- **Improved scheduling & care coordination**

- Predictive scheduling programs cut no-show rates by 51%⁶, and AI-augmented discharge planning reduced 30-day readmissions by 21% in older adults⁷.

Takeaway: When governed well, AI can improve safety, outcomes, efficiency, and provider satisfaction in elder care.

**ECRI Excellence
Award – AI for
Staffing Shortages**



**ECRI Excellence
Award Finalist – AI
for Follow-Ups**



Potential Harms If Governed Incorrectly

- **Safety Hazards**

- Mismatched data/alarm fatigue; one fall detection program had a 73% false positive alert rate before retraining⁸.

- **Outdated Model**

- The first version of the Epic Sepsis Model's AUC-ROC was 0.70. The second version's AUC-ROC was 0.90.⁹

- **Mismanagement**

- Ambient scribes can reduce clinician burnout, but only if time savings are preserved.

- **Privacy Risks**

- Ambient tools record sensitive interactions

- **Equity Concerns**

- Poor rollout of scheduling algorithms can disadvantage patients lacking internet or tech literacy.

- **Bias Propagation**

- Many organizations warn AI may perpetuate biases, creating disparities for underrepresented groups.

Takeaway: Without governance, AI becomes a liability—undermining safety, equity and trust.

Benefits/Harms References

- **Fall Detection & Prevention**

- Lui, Y., Xing, C., et al. (2025). Effectiveness evaluation of smart home technology in preventing and detecting falls in community and residential care settings for older adults: A systematic review and meta-analysis. *Journal of the American Medical Directors Association*, 26(1), 105347. <https://doi.org/10.1016/j.jamda.2024.10.012>
- Scheurer, S., Koch, J., Kucera, M., Bryn, H., Bärtschi, M., Meerstetter, T., Nef, T., & Urwyler, P. (2019, March). Optimization and Technical Validation of the AIDE-MOI Fall Detection Algorithm in a Real-Life Setting with Older Adults. *Sensors*, 19(6), 1357. <https://doi.org/10.3390/s19061357>

- **Sepsis / Deterioration Prediction**

- Adams, R., Henry, K.E., Sridharan, A. et al. Prospective, multi-site study of patient outcomes after implementation of the TREWS machine learning-based early warning system for sepsis. *Nat Med* 28, 1455–1460 (2022). <https://doi.org/10.1038/s41591-022-01894-0>
- Moor, M., Bennett, N., Plečko, D., Horn, M., Rieck, B., Meinshausen, N., Bühlmann, P., & Borgwardt, K. (2023). Predicting sepsis using deep learning across international sites: A retrospective development and validation study. *eClinicalMedicine*, 62, 102124. <https://doi.org/10.1016/j.eclinm.2023.102124>
- Currey, D., & Tarabichi, Y. (2025, July 24). External validation of a widely available, localizable sepsis early detection model in the emergency department setting. *The American journal of emergency medicine*, 97, 147-151. <https://doi.org/10.1016/j.ajem.2025.07.056>

Benefits/Harms References

- **Ambient AI Scribes**

- Shah, S.J., Devon-Sand, A., Ma, S.P., Jeong, Y., Crowell, T., Smith, M., Liang, A.S., Delahaie, C., Hsia, C., Shanafelt, T., Pfeffer, M.A., Sharp, C., Lin, S., & Garcia, P. (2025, February 1). Ambient artificial intelligence scribes: Physician burnout and perspectives on usability and documentation burden. *Journal of the American Medical Informatics Association : JAMIA*, 32(2), 375-380. <https://doi.org/10.1093/jamia/ocae295>
- Duggan, M.J., Gervase, J., Schoenbaum, A., Hanson, W., Howell, J.T., Sheinberg, M., & Johnson, K.B. (2025, February 3). Clinician Experiences With Ambient Scribe Technology to Assist With Documentation Burden and Efficiency. *JAMA network open*, 8(2), e2460637. <https://doi.org/10.1001/jamanetworkopen.2024.60637>

- **Appointment Scheduling & Care Coordination**

- AlSerkal, Y.M., Ibrahim, N.M., Alsereidi, A.S., Ibrahim, M., Kurakula, S., Naqvi, S.A., Khan, Y., Oottumadathil, N.P., & Mavragani, A. (2025, January 6). Real-Time Analytics and AI for Managing No-Show Appointments in Primary Health Care in the United Arab Emirates: Before-and-After Study. *JMIR Formative Research*, 9, e64936. <https://doi.org/10.2196/64936>
- Brown, Z., Bergman, D., Holt, L., Miller, K., Frownfelter, J., Bleau, H., Flynn, A., & Ball, T. (2023, July). Augmenting a Transitional Care Model With Artificial Intelligence Decreased Readmissions. *Journal of the American Medical Directors Association*, 24(7), 958-963. <https://doi.org/10.1016/j.jamda.2023.03.005>

Building and Enriching Your AI Inventory

New Hire HR Paperwork: AI Inventory

- **Identity:** Product, version, intended use
- **Risk:** Harm severity, autonomy, workflow criticality
- **Data:** Inputs, sources, area/scope of use, sharing agreements
- **Performance:** Metrics, monitoring, owner
- **Change-control:** Update mechanisms, rollback plans, etc.



HHS ONC HTI-1 Final Rule (2023): Mandates transparency with CDS, inventory reporting requirements.

New Hire HR Paperwork: AI Inventory

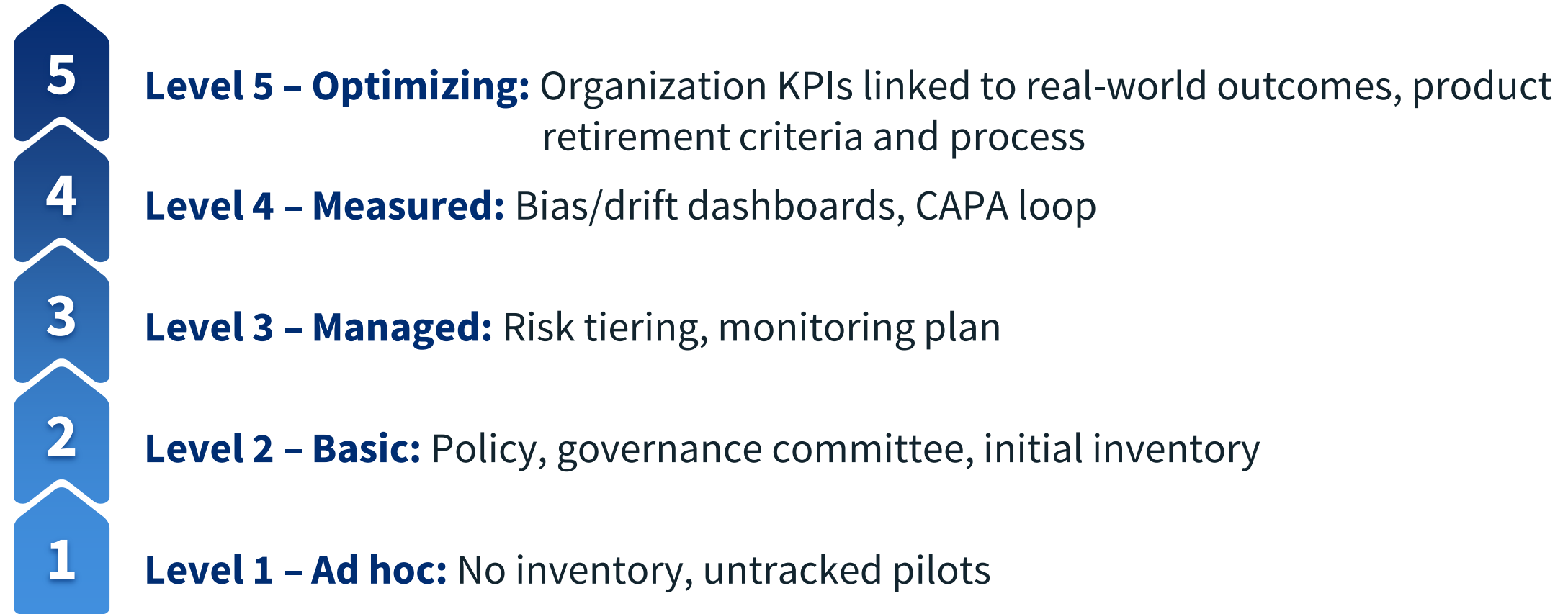
- Example inventory spreadsheet
 - Each row = one AI tool

Category	Clinical Owner	Risk Tier	Data Inputs	Performance Metrics
Non-regulated safety tech	Nursing Director	2 – Advisory	Motion sensors, camera feeds	Sensitivity 92%, false alarm 8%
SaMD (FDA-cleared)	Medical Director	3 – High Impact	Vitals, labs, patient history	AUROC 0.81, mortality ↓18%
Non-regulated workflow tool	Chief Medical Officer	2 – Advisory	Clinician—patient conversations	Burnout ↓20%, edit time +15 m

Governance at the Next Level

Governance Maturity Roadmap Hire:

What's Your Management Style?



Vendor Due Diligence & Contract Clauses

- **Transparency:** Purpose, limitations, data sources
- **Access:** Right to performance data, validation, logs
- **Change-control:** Update notices, rollback options
- **Safety & equity:** Monitoring obligations, periodic reporting, incident resolution
- **Exit:** Data return/destruction, decommissioning plan



Governance Resources

ECRI AI Governance Guidance



ECRI AI Governance Policy and Procedure Builder



ECRI AI PCCP Guidance



ECRI Governance Human Factors Implementation Guidance



NIST AI Playbook: Govern/Manage/Map/Measure



Operationalizing Responsible AI

Training, Workflow & Exception Reporting

- RACI (role assignments) & SOPs for AI use
- Change management with update announcements
- Exception reporting with single intake path
 - Build psychological safety so staff feel comfortable reporting AI errors early



Just Culture Company

Monitoring & Re-validation: One-on-One Check-Ins

- **Daily/weekly:** Data health, alert volumes
- **Monthly/quarterly:** Accuracy, utility, equity checks
- **Annually:** Performance drift, full re-validation, retirement checks
- **Auditability:** Versioned performance snapshots and history of logs



**ECRI AI Risk Management
and Monitoring Guidance**

90-Day 'New-Hire' Plan

- **Technology:** Pick your product (desired benefits, acceptable limitations)
- **People:** Governance team, supervisors/staff champions
- **Process:** AI inventory, risk tiers, onboarding go/no-go checklist
- **Probationary Pilot:** Start small with clear metrics and stop-rules



**HAIP AI Implementation
Guide**

ECRI's AI Governance Accelerator

You've Got This (And ECRI Has Your Back)

- AI is a 'new employee': onboard, supervise, coach, document
- Administrators already excel at continuous oversight (QAPI, med safety)
- ECRI can help with inventory, vendor contracts, testing, monitoring
- Use Your Resources: Templates, checklists, monitoring metrics

ECRI AI Risk FAQs



ECRI AI Pro Tips





Thank you! Questions?