Early warning systems – US Market Quick Review and Summary

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The UK's initiative is a global first in deploying centralized, AI-powered real-time surveillance for healthcare safety issues *with formal inspection authority baked in*. The U.S. has foundational programs and technologies best studied for design versus data lifecycle; we are not great at data integrity.

Summary: Why ADT Feeds Matter for Early Warning

- Real-time visibility: ADT is often the earliest signal of patient instability.
- Workflow automation: Automates triggers for nurse outreach, telehealth visits, RPM enrollment.
- Value-based impact: Helps close care gaps and reduce total cost of care.
- Minimal lift: Doesn't require complex AI/ML—basic logic rules + ADT is often enough.

If the U.S. were to replicate this, it would require:

- Expansion of TEFCA to include real-time safety data feeds,
- Central AI governance (e.g., AHRQ + ONC + CMS + CMMI collaboration),
- A unified data platform (similar to NHS Federated Data Platform),
- Legal protections akin to the UK's public accountability and rapid inspection mandate.

- **Admit, Discharge, and Transfer (ADT) solutions** are foundational components in healthcare early warning, remote monitoring, and value-based care ecosystems. While often seen as basic plumbing, when *strategically leveraged*, ADT feeds enable real-time risk identification, coordination of care, and proactive outreach—especially for:

  - High-risk Special Needs Plans (SNPs)
  - Care Gap Closure
  - Hot spotters, ADT
  - Maternity and well child
  - Readmission prevention
  - Transitional care management (TCM)
  - Value-Based Care programs
  - Health Information Exchanges (HIEs)
  - Hospital/provider quality programs

ADT messages are HL7-standard notifications that track patient status: **A01:** Admit, **A03:** Discharge, **A08:** Update, **A04/A05:** Registration / Pre-admit, **A11/A13:** Cancel admit / discharge

ADT feeds bridge the gap between clinical events and administrative action:

- Trigger **care coordination** within the golden 48-hour window for TCM billing
- Feed **risk adjustment workflows** to support HCC coding capture

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- Power **report cards** and dashboards in accountable care environments
- Enable **shared accountability** across network partners, post-acute, and payers
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U.S. Programs with Partial Alignment

U.S. Program / Agency	Function & Scope	Related to UK's NHS AI Safety Initiative?
AHRQ – Patient Safety Organizations (PSOs)	Collect and analyze patient safety events under privilege and confidentiality protections.	Focused on safety, but **retro**, not real-time or AI-driven.
FDA – Total Product Life Cycle (TPLC) & AI/ML Action Plan	AI in medical devices and software with focus on post-market surveillance.	Regulates AI tools but **not focused on real-time patient safety alerting**.
CMS – Quality Improvement Organizations (QIOs)	Contracted entities that help improve quality and safety across Medicare.	Some proactive work, but **not tech-driven surveillance** at scale.
ONC – Trusted Exchange Framework and Common Agreement (TEFCA)	Building nationwide interoperability for health data exchange.	**Enabling infrastructure**, but **not a direct safety surveillance system**.
CDC – National Healthcare Safety Network (NHSN)	Tracks infections, adverse events, antimicrobial use/resistance.	Closest for epidemiologic surveillance, but **not AI-powered pattern recognition**.
VA AI & Machine Learning programs	Veterans Health Admn using AI to predict risks (e.g., suicide, sepsis).	Advanced, but **within a closed system (VA only)**.
NIH/NCATS – Bridge2AI, AIM-AHEAD	Research into AI for equitable and safe healthcare.	**Foundational R&D**, not deployed in clinical alerting systems.

Notable U.S. Gaps

- No **centralized AI system** for detecting and escalating patient safety concerns.
- No **federated national data platform** operational at the scale of the NHS FDP.
- Regulatory enforcement is **fragmented across states, CMS, accrediting bodies**.
- Most patient safety monitoring is **reactive** or **manual**.