Great imaging takes more than great scanners.



FIVE PILLARS. ONE CONNECTED SYSTEM.



The Five Pillars of Radiology Excellence

Governance • Standardization • Capital planning
AI, PACS & informatics • Workforce strategy

Research and framework by

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Explore at kellyemrick.com →

From departmental management to enterprise imaging stewardship.

THE OPERATING MODEL

Five disciplines. Shared accountability.

An enterprise model connects decisions across sites while preserving clinically justified local adaptations.

PILLAR	EXECUTIVE QUESTION	OPERATING CONTROL
Enterprise governance	Who decides, and who is accountable?	Charter, decision rights, escalation and approved exceptions.
Standardization + variation reduction	Where does variation help care, and where does it create delay or risk?	Common protocols, training, version control and a variation registry.
Capital planning	Which investment resolves the greatest clinical or capacity risk?	Rolling portfolio, asset health, lifecycle cost and enterprise fit.
AI, PACS + informatics	Does the digital workflow create measurable clinical and operating value?	Interoperability, local validation, reliable routing and surveillance.
Workforce strategy	What capability is needed by site, modality, hour and acuity?	Demand-capacity planning, skill mix, retention and development.

The shared outcomes: safety, quality, access, patient experience, workforce resilience and value.

Adapted from Emrick (2026), executive research report, Tables 1-2. This is a proposed management synthesis, not a validated causal model.

ENTERPRISE GOVERNANCE

Make authority visible.

Define decision rights before major technology, standardization or staffing initiatives.

ENTERPRISE COUNCIL	MODALITY COUNCILS	SITE TEAMS
Set strategy, capital priorities, architecture and enterprise standards.	Translate clinical standards into modality protocols, roles and quality controls.	Execute, measure, identify local barriers and escalate exceptions.

WHAT ONE HEALTH SYSTEM OBSERVED AFTER TWO YEARS



> **A governance structure needs an owner for every standard, an approver for every exception and an escalation path.**

Source: Saindane et al. (2026) [5]. One academic health system; observed changes are not universal effects or causal proof. Capacity results concern ultrasound, CT and MRI.

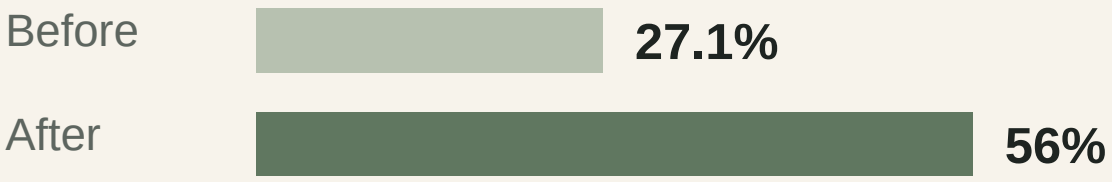
STANDARDIZATION

Improve the pathway around the scan.

Sonographer training and structured reporting supported an ultrasound-first pediatric appendicitis pathway.

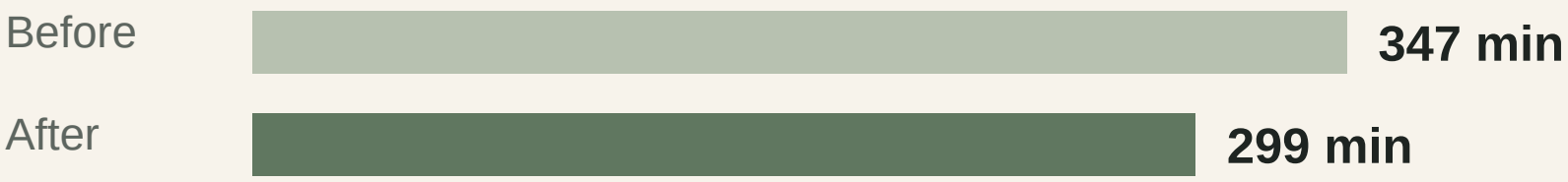
BEFORE AND AFTER THE STEWARDSHIP INTERVENTION

Diagnostic ultrasound rate



Bars start at zero; scale is specific to each measure.

Clinical team time



Bars start at zero; scale is specific to each measure.

Imaging cost per patient



Bars start at zero; scale is specific to each measure.

Standardize clinical intent, translate it to local equipment, train the team, audit results and revise the standard.

Source: Turpin et al. (2026) [8]. Single-center quality improvement. Clinical team time runs from ED room placement to disposition. Costs are study-reported, not national prices.

CAPITAL STEWARDSHIP

Buy capacity with a full lifecycle view.

A replacement request should connect clinical value, reliability, access, digital compatibility and staffing.

PROPOSED PRIORITIZATION MATRIX



ASSESS	EVIDENCE TO BRING
Clinical + reliability	Capability gaps, image quality, downtime and cancelled examinations.
Access + digital support	True bottleneck, hourly use, vendor support and cybersecurity exposure.
Economics + strategic fit	Total ownership cost, construction, staffing, service-line value and fleet standards.

Proposed planning tool adapted from Emrick (2026), Figure 3 and Table 5; no measured asset points. Lifecycle foundations: ESR [9], Chakravarty & Debnath [10], Thornander et al. [11].

AI, PACS AND INFORMATICS

Treat the digital layer as clinical infrastructure.

Connect image acquisition to interpretation, communication and completed follow-up.

CLINICAL OUTCOMES
Safety, quality, access, experience and follow-up closure

ANALYTICS + AI LIFECYCLE
Local validation, value assessment and drift surveillance

ENTERPRISE WORKFLOW
Shared worklists, reporting, communication and follow-up

PACS / VNA / VIEWING
Available priors, image exchange and reliable retention

INTEROPERABILITY
DICOM, HL7/FHIR, patient identity and consistent terminology

ACQUISITION
Modality workflow and standardized clinical intent

21 OF 1,879

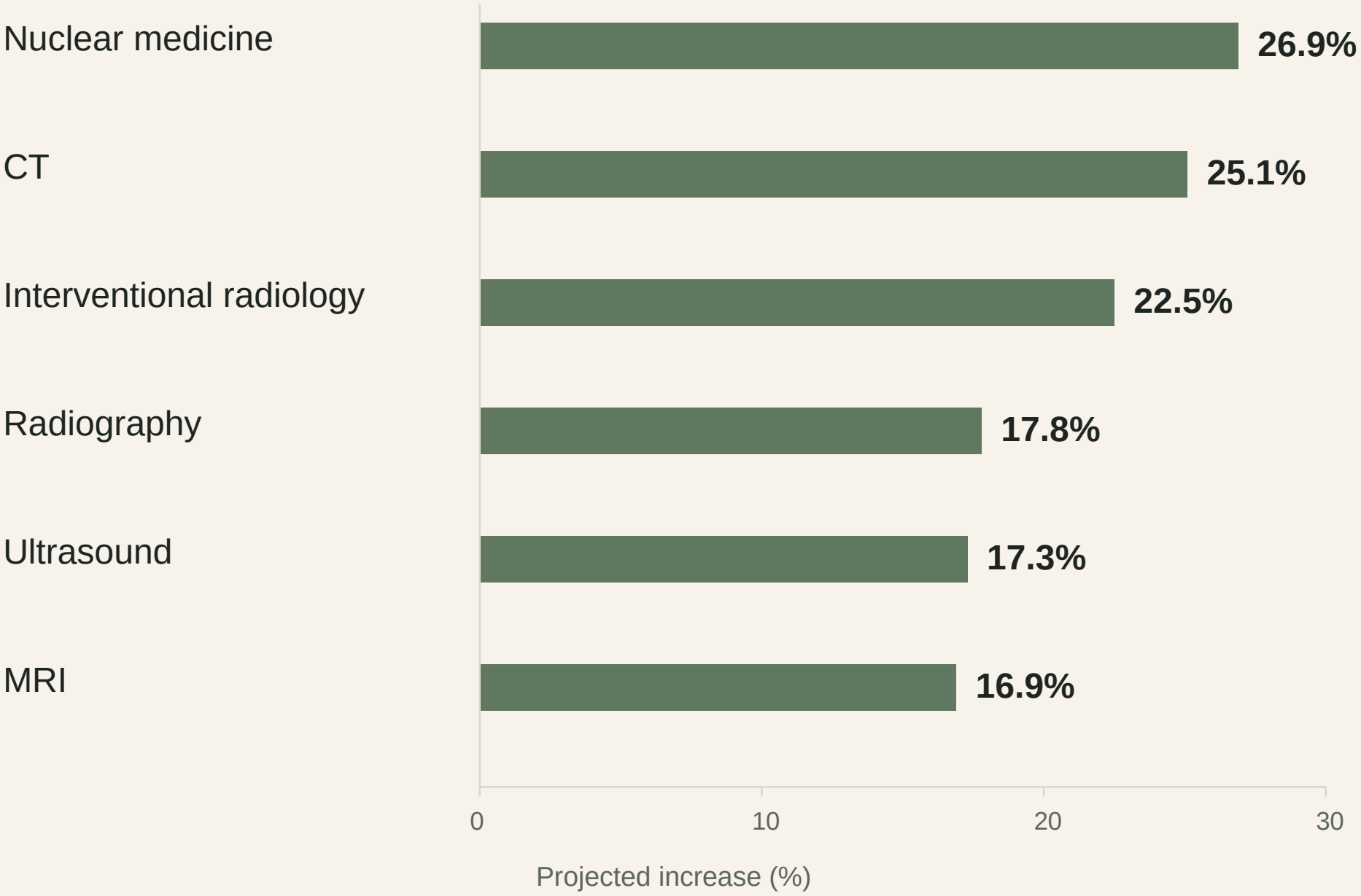
Search results met a systematic review's criteria for quantified economic outcomes. That is about 1.1% of screened records.

This is an evidence-selection rate, not an AI success rate. Local accuracy, workflow fit, examination volume and pricing determine whether value is realized.

Sources: Molwitz et al. (2026) [14], Shah et al. [12], Venugopal et al. [13], enterprise imaging literature [1-4,20]. Stack is conceptual. Review searched studies published through 2024.

Demand is a planning problem.

Baseline projected US imaging utilization increase in 2055 versus 2023, by modality.



Plan across equipment, technologists, radiologists, nursing, preparation and scheduling. The constraint can shift.

Scenario, not certainty: the baseline holds per-person utilization patterns constant. Continuing recent trends through 2030 broadens the cross-modality range to -5.6% to +45.2%.

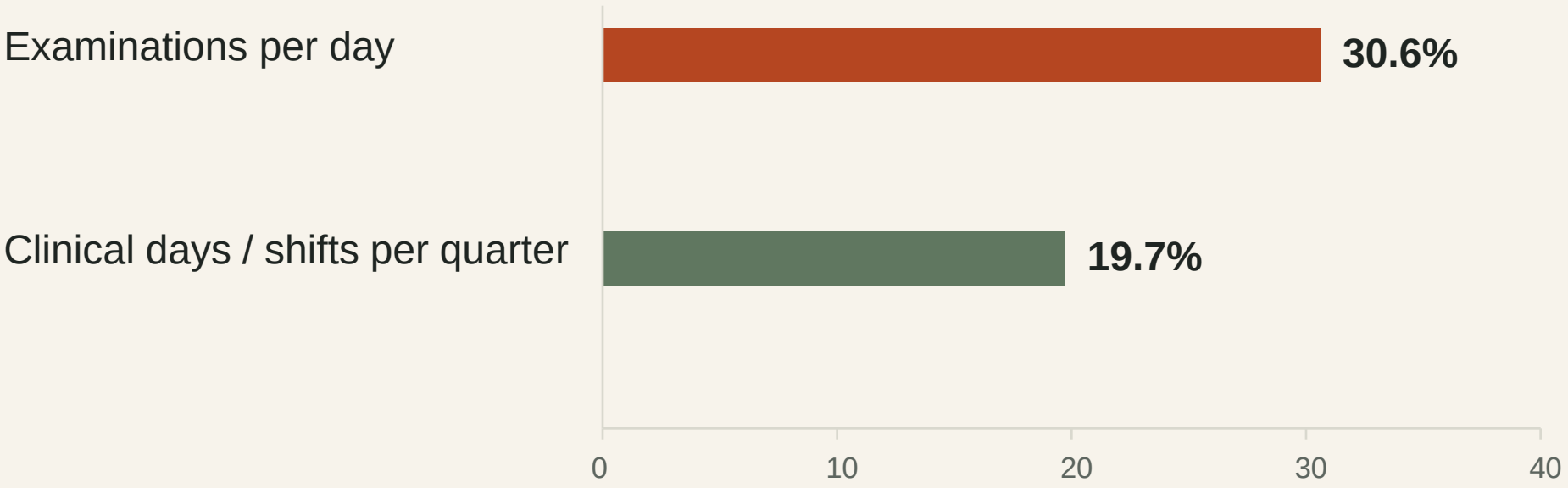
Source: Christensen et al. (2025) [15]; modality values reproduced from the original report Figure 6. Baseline estimates do not establish a universal radiologist shortage. Supply assumptions also matter [16].

WORKFORCE SUSTAINABILITY

Averages can hide concentrated overload.

A registry cohort covered 46.4 million examinations at 167 US radiology facilities, 2017-2024.

CHANGE FOR TOP-QUARTILE RADIOLOGISTS



Percent change versus the first quarter of 2018

A SECOND SIGNAL: RADIOLOGIST TURNOVER

5.3%
2013

8.5%
2022

National claims-based turnover. Change in practice participation is broader than retirement alone.

Leadership response: inspect workload distributions, schedule volatility, overtime, retention and cross-training alongside volume. Build capacity around real arrival patterns and case complexity.

Sources: Zamani et al. (2026) [17] and Parikh et al. (2026) [18]. Selected-facility registry results are not nationally representative causal estimates. Retention and bottleneck guidance: [19,21,23].

THE EXECUTIVE SCORECARD

Measure the result and its consequences.

Every metric needs a definition, accountable owner, review cadence and escalation rule.

DOMAIN	LEADING SIGNAL	OUTCOME	BALANCING CHECK
Governance	Decision cycle time; exception age	Risks resolved; actions closed	Meeting burden; local escalation
Standards	Protocol concordance; training	Repeat / reject rate; pathway time	Clinical complexity; justified exceptions
Capital	Asset risk; downtime; support horizon	Equipment cancellations; access; lifecycle cost	Maintenance; construction; staffing
Digital / AI	Routing reliability; adoption; drift	End-to-end cycle time; follow-up closure	False alerts; workarounds; downtime
Workforce	Demand-capacity ratio; overtime	Turnover; access; engagement	Errors; fatigue; schedule volatility

Review outliers before averages. For each red measure: identify the constraint, assign a countermeasure and check its effect next month.

Adapted from Emrick (2026), Table 8. Proposed management scorecard, not a validated scoring instrument. Outcome comparisons require stable definitions and case-mix context.

IMPLEMENTATION

Build a system that keeps learning.

Maturity is demonstrated by repeatable behavior, transparent decisions and learning from results.

1
FRAGMENTED
Site-defined methods

2
COORDINATED
Shared forums + metrics

3
STANDARDIZED
Binding standards + owners

4
INTEGRATED
One resource portfolio

5
LEARNING
Monitored change + reinvestment

PROPOSED 24-MONTH ROADMAP

WHEN	REQUIRED PROGRESS
First 90 days	Approve mandate and decision rights. Inventory assets, protocols, people and software. Baseline shared measures. Choose up to three pilots.
Months 3-12	Publish priority protocols, establish asset-risk scoring, validate a demand-capacity model and integrate the shared scorecard.
Months 12-24	Scale what works, rebalance workload and investment, monitor AI value, reassess maturity and retire low-value work.

Start with a 90-minute design session: agree on the mandate, the five decision domains, three measurable variation problems and the data needed to baseline them.

Proposed maturity model and roadmap adapted from Emrick (2026), Figures 8-9 and implementation appendix. Timing should reflect local risk, readiness and capital cycles. Learning approach informed by [22].

Evidence and further reading 1/2

Numbering matches the original report and the source notes in this visual brief.

1. Roth CJ, Lannum LM, Joseph CL. Enterprise Imaging Governance: HIMSS-SIIM Collaborative White Paper. J Digit Imaging. 2016;29(5):539-546.
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5. Saindane AM, Benson L, Smith DA, Roesch L, Moore K, Reich S, Dexter H. Two-Year Impact Following Transformation Into an Enterprise-Wide Imaging Modality-Based Radiology Management Structure. J Am Coll Radiol. 2026;23(6):1067-1071.
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Visual brief prepared October 20, 2026. The live password-protected webpage could not be verified; the original report supplied the substantive framework. No organization-specific performance data are implied.

RESEARCH TRAIL

Evidence and further reading 2/2

Numbering matches the original report and the source notes in this visual brief.

13. Venugopal VK, Khubchandani SA, Liew CJY, Kitamura FC, Takhar R, Lip G. Postdeployment Monitoring and Surveillance Methods, Guidelines, and Possibilities for AI in Radiology. RadioGraphics. 2026;46(7):e250173.
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About this edition. Visual adaptation of Kelly Emrick's August 2026 executive report, which reviewed evidence through August 15, 2026. The original report is an executive synthesis, not a systematic review. Selected headline numbers were checked against primary publication records for this edition. Proposed tools remain management frameworks. Cover scenes are AI-generated editorial illustrations, not study participants.

Visual brief prepared October 20, 2026. The live password-protected webpage could not be verified; the original report supplied the substantive framework. No organization-specific performance data are implied.