KPMG

Health Forum

Internal Audit of an Electronic Medical Records System

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What this session will cover....

An EMR system and its objectives

The HIMSS Analytics EMR Adoption Model

Internal audit frame of reference

Considerations for audit process

Auditing practicalities and key governance gateways

An ERM system and its objectives....

Australian landscape

Epic
with the patient at the heart

Cerner

EMR broad objectives
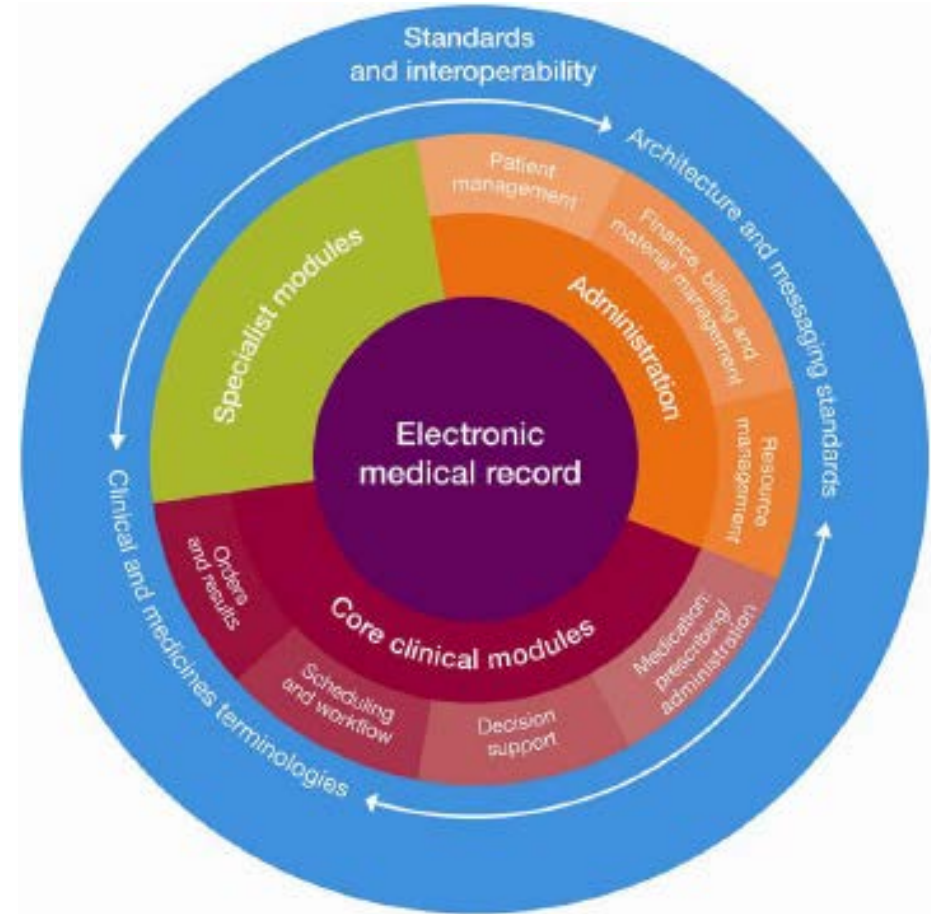
Enhance clinical outcomes

Improve patient experience

Enable broader availability of medical records

Contribute to efficiencies and cost savings

An EMR system

Figure 1 – Victorian Department of Health and Human Services

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The HIMSS Analytics EMR Adoption Model....

- Identifies eight levels of EMR capability

- Capability levels range from limited ancillary department (0) systems through to a paperless and highly integrated EMR environment (7)

- Different levels of maturity result in different risk landscape

- Middle level of maturity creates higher level of risk due to hybrid environment

STAGE	HiMSS Analytics® EMRAM EMR Adoption Model Cumulative Capabilities
7	Complete EMR; External HIE; Data Analytics, Governance, Disaster Recovery, Privacy and Security
6	Technology Enabled Medication, Blood Products, and Human Milk Administration; Risk Reporting; Full CDS
5	Physician documentation using structured templates; Intrusion/Device Protection
4	CPOE with CDS; Nursing and Allied Health Documentation; Basic Business Continuity
3	Nursing and Allied Health Documentation; eMAR; Role-Based Security
2	CDR; Internal Interoperability: Basic Security
1	Ancillaries - Laboratory, Pharmacy, and Radiology/Cardiology information systems; PACS; Digital non-DICOM image management
0	All three ancillaries not installed

Increased complexity, highly integrated, easy to use

Lower complexity, limited modules, record scanning
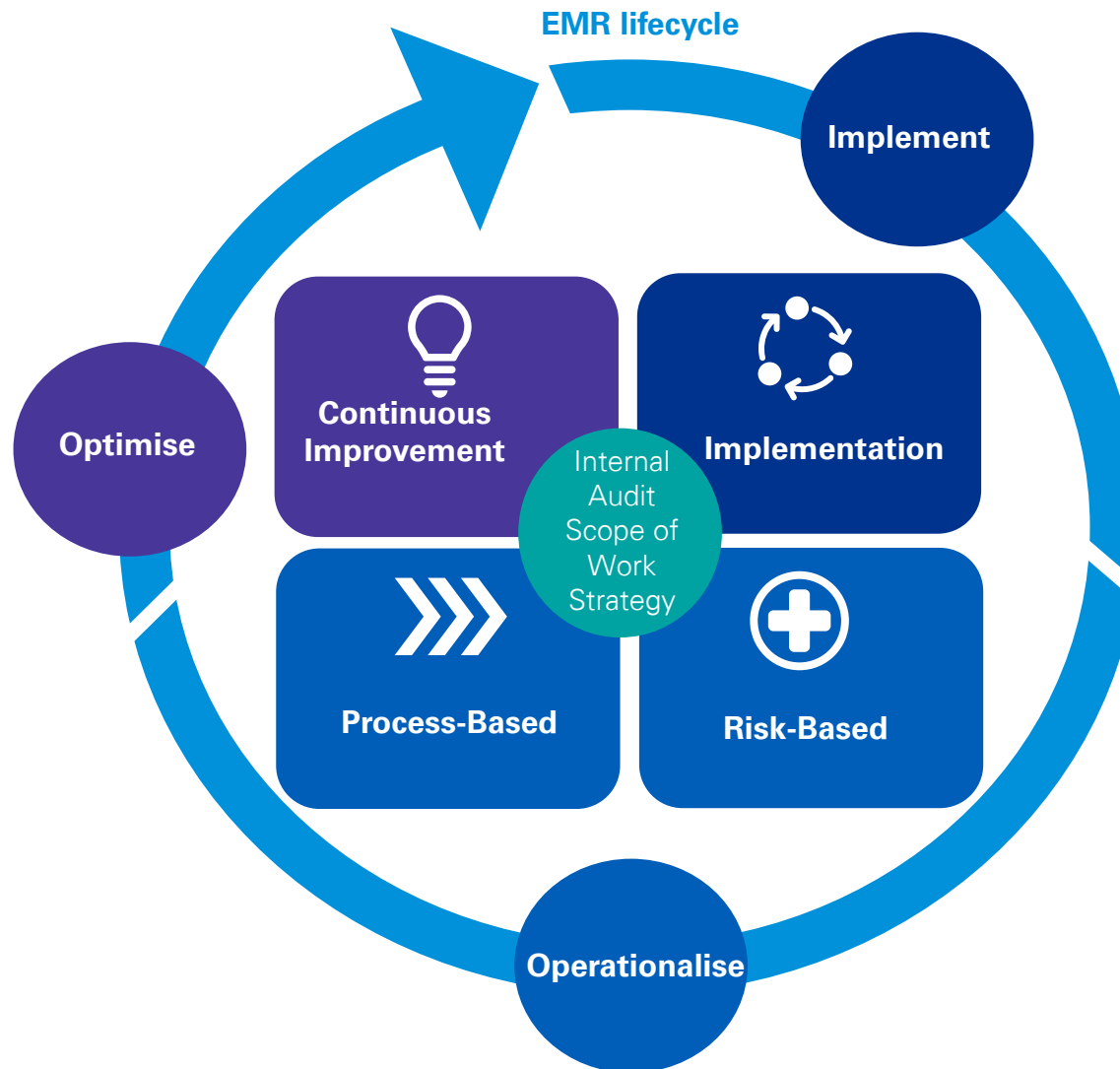
Risk funnel
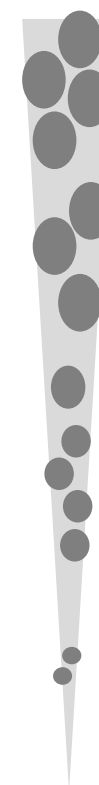
Figure 2 – HIMSS Analytics

Internal audit frame of reference....

Defining scope of work for an EMR audit – lifecycle approach

EMR lifecycle

Implement

Optimise

Continuous Improvement

Implementation

Internal Audit Scope of Work Strategy

Process-Based

Risk-Based

Operationalise

5

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Considerations for audit process....

Why

Identify and mitigate risks that could impact EMR being successfully embedded and objectives achieved
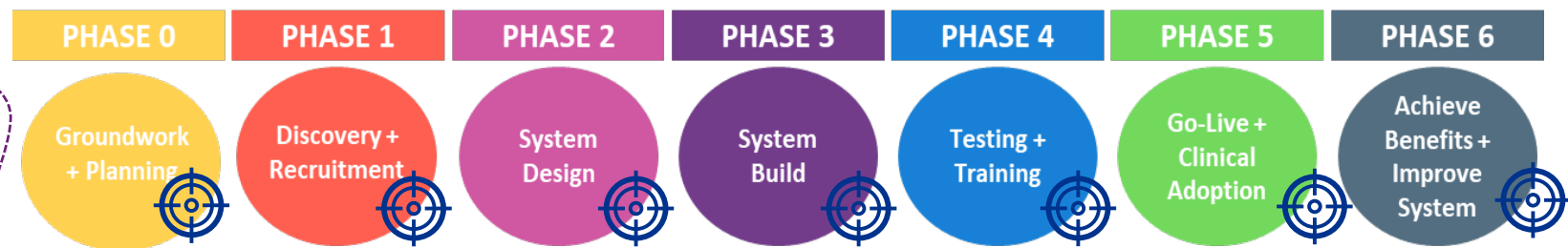
How

- Ongoing assurance through point in time checks, not rated

What

- Governance, risk management, achievement of intended outcomes

Indicative EMR implementation phases – ongoing point in time checks along the way.....

PHASE 0	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6
Groundwork + Planning	Discovery + Recruitment	System Design	System Build	Testing + Training	Go-Live + Clinical Adoption	Achieve Benefits + Improve System

Areas of focus.....

- System integration
- Clinician engagement and buy-in, education and training
- Go-live management
- Benefits realisation, capture and management
- Talent management
- Celebrating success

Learning from others.....

- Healthcare transformation expertise
- Key risks and issued faced
- Implementation key challenges
- Post mortem lessons learnt
- Feedback and tips for implementation
- Critical success factors and key benefits

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Considerations for audit process....

Risk-Based

Why

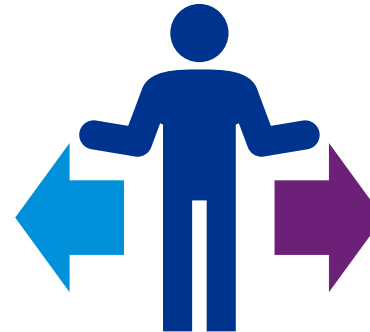Risks are not compromising EMR success, reputation and performance

How

- Deep dive cyclical review, rated

What

- Test design and operating effectiveness of risk mitigations
- Identification of other risk exposures

Technology Risks

- Access and security
- Data integrity
- Business continuity
- Disaster recovery
- Privacy

Human Intervention Risks

Clinical Risks

- Medications prescribing and administration
- Clinical decision support

Considerations for audit process....

Process Based

Why

EMR processes are being deployed as expected

How

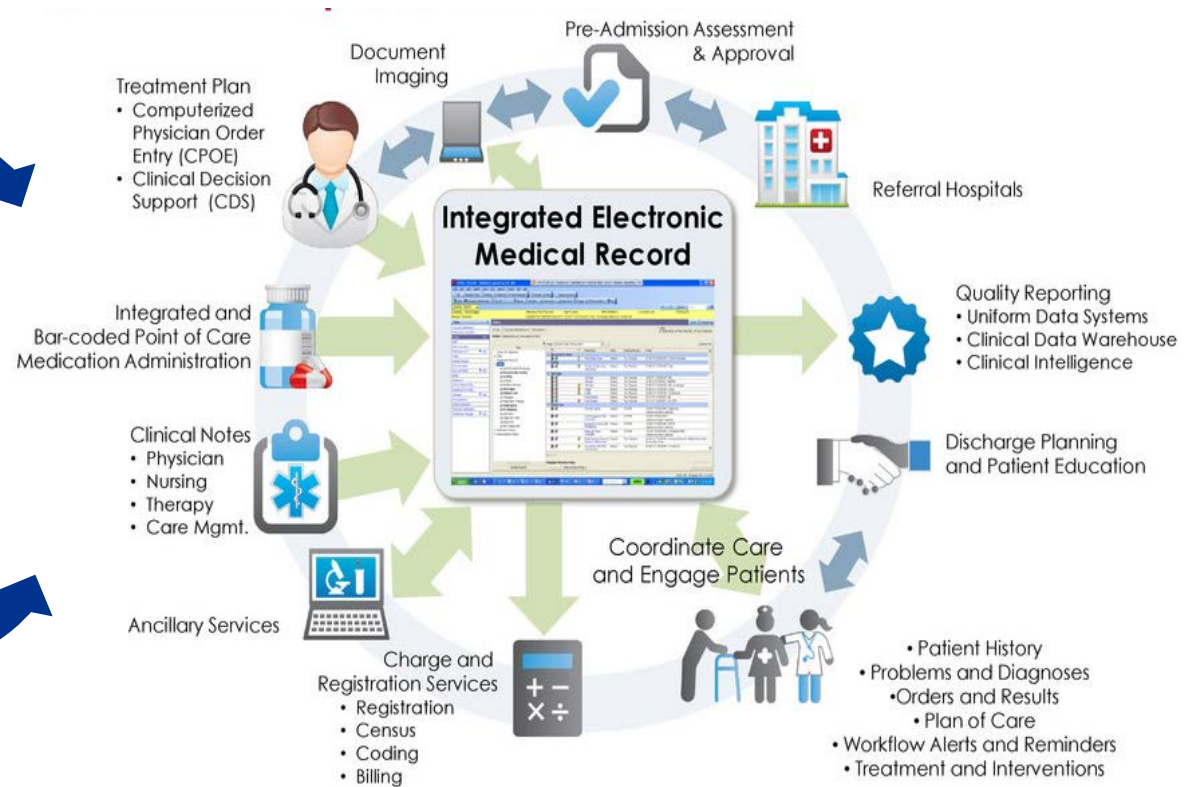- End-to-end process review, rated

What

- Compliance with policy, procedures and guidelines
- Process improvement opportunities

⚠ High risk CRAFT groups – ICU, ED, Theatre, Perinatal

⚠ EMR maturity – hybrid maturity increases risk

Treatment Plan
- Computerized Physician Order Entry (CPOE)
- Clinical Decision Support (CDS)

Document Imaging

Pre-Admission Assessment & Approval

Referral Hospitals

Integrated and Bar-coded Point of Care Medication Administration

Integrated Electronic Medical Record

Quality Reporting
- Uniform Data Systems
- Clinical Data Warehouse
- Clinical Intelligence

Clinical Notes
- Physician
- Nursing
- Therapy
- Care Mgmt.

Discharge Planning and Patient Education

Ancillary Services

Coordinate Care and Engage Patients

Charge and Registration Services
- Registration
- Census
- Coding
- Billing

- Patient History
- Problems and Diagnoses
- Orders and Results
- Plan of Care
- Workflow Alerts and Reminders
- Treatment and Interventions

* Figure 3 – Healthsouth, ACE IT

Considerations for audit process....

Continuous Improvement

Why

EMR capability is being fully optimized and is a successful enabler of healthcare outcomes, clinical practice and efficiencies

How

- Continuous monitoring / diagnostic, non-rated

What

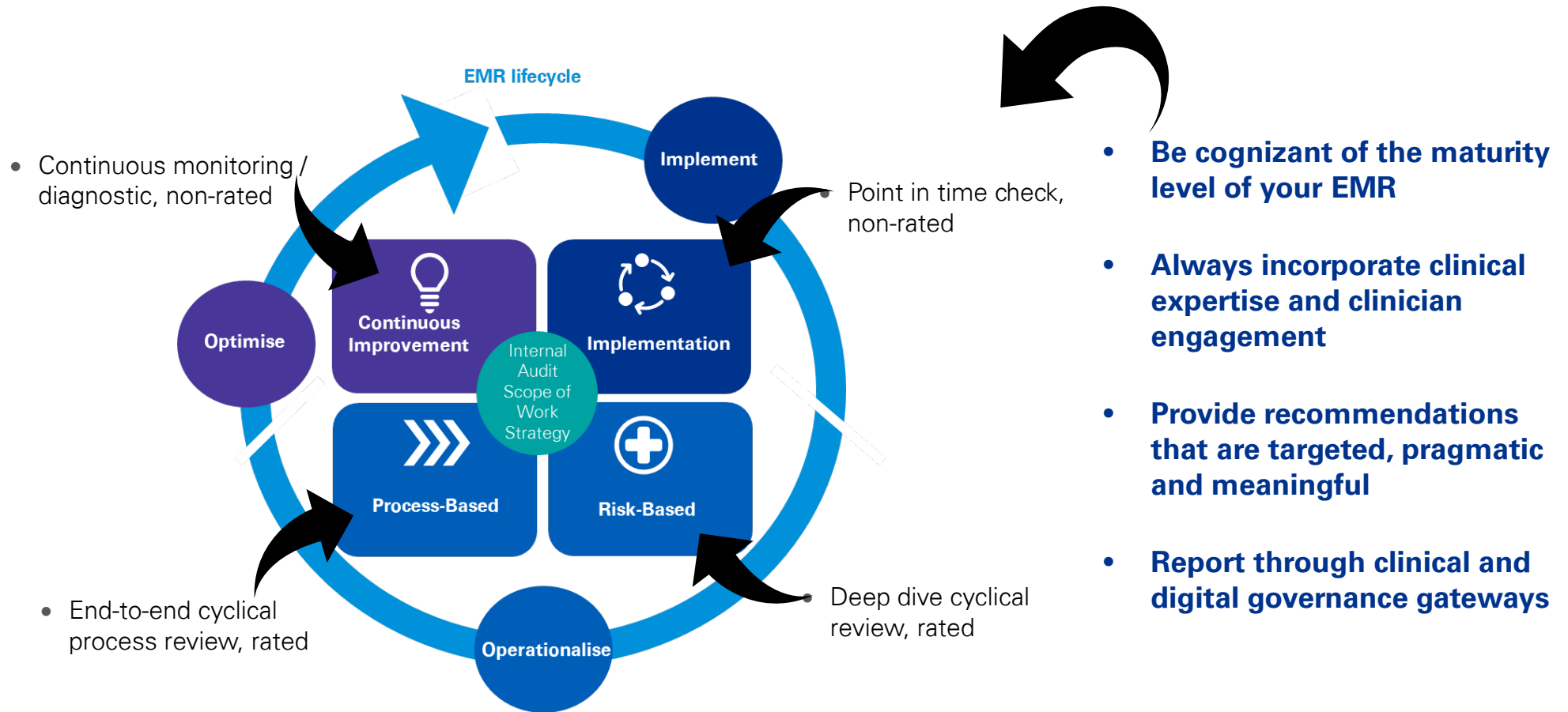- Benchmark of performance against targets with further analysis

EMR targets and benchmarks – patient safety and operational efficiency....

- Improved drug order to administration times
- Decreased cost of paper forms
- Improved quality of coding
- Improved documentation quality
- Pharmacist time savings
- Clinical cost reduction
- Length of stay reduction
- Reduction in drug use and / or cost
- Nursing staff time savings
- Increased use of preventative care

- **Patient experience**
- **Supports research**
- **Evidence base practice**
- **Extends access to information**
- **Excellent care**

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Auditing practicalities and key governance gateways....

Ongoing lifecycle approach, but must leverage subject expertise ◆

EMR lifecycle

- Continuous monitoring / diagnostic, non-rated

Optimise

Continuous Improvement

Internal Audit Scope of Work Strategy

Implement

Implementation

Point in time check, non-rated

Process-Based

Risk-Based

- End-to-end cyclical process review, rated

Operationalise

Deep dive cyclical review, rated

- **Be cognizant of the maturity level of your EMR**

- **Always incorporate clinical expertise and clinician engagement**

- **Provide recommendations that are targeted, pragmatic and meaningful**

- **Report through clinical and digital governance gateways**

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