Let's Talk Informatics

**One Person One Record-Clinical Information System & Physician Engagement:
How OPOR leverages technology promoting high-value physician collaboration**

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The **One Person One Record** program is currently operating within a controlled vendor environment.

Please refrain from comments related to the **One Person One Record-Clinical Information System (OPOR-CIS) vendor** procurement process.

What is Informatics?

Informatics is the science of how to use data, technology and information to improve human health and the delivery of healthcare to enabling patients to receive the best possible care.

Informatics is used to provide the best patient care and best possible outcomes.

Clinical Informatics…

is the application of informatics and information technology to deliver health care. AMIA. (2017, January 13). Retrieved from https://www.amia.org/applications-informatics/clinical-informatics

Objectives:

At the conclusion of this webinar, participants will be able to:

- Identify what knowledge and skills healthcare providers need in order to use information now, and in future.
- Prepare healthcare providers by introducing them to concepts and local experiences in Informatics.
- Acquire knowledge to remain current with new trends, terminology , studies, data and breaking news.
- Collaborate with a network of colleagues, establish connections with leaders who can provide assistance and advice for business issues, best-practice and knowledge sharing.

Session Specific Objectives:

01 | Provide overview of the One Person One Record program and role of the Chief Medical Information Officer.

02 | Provide overview of how One Person One Record engages with physicians across Nova Scotia.

03 | Present data collected from physicians across Nova Scotia

04 | Demonstrate tools and technology OPOR uses to facilitate asynchronous collaboration

Conflict of Interest Declaration:

- **OPOR** does not have any affiliation with any pharmaceutical, medical device, health care informatics organization, or other for-profit funder of this program.

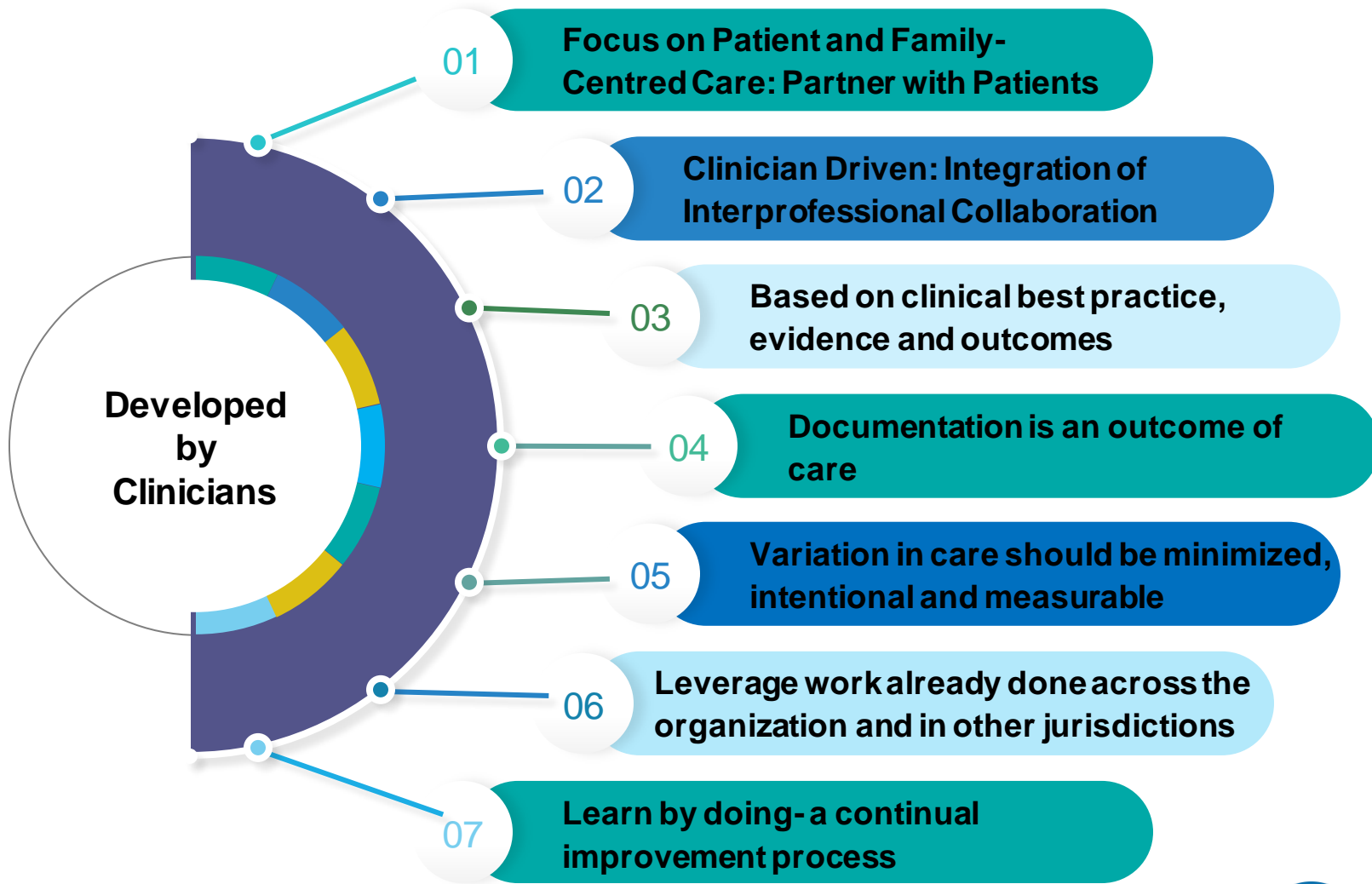- **OPOR** is not involved with the industry and cannot identify any conflict of interest.
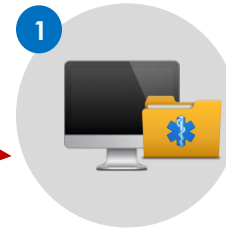
What is One Person One Record?

OPOR is a Vision and Strategy

- **One Person One Record** is a vision and strategy for **health system transformation**.

- The **OPOR** team is facilitating **clinical standardization** to minimize variation in care across Nova Scotia.

- The **OPOR** team is leveraging technology to enable **care delivery redesign** the prioritizes **human factors** considerations.

- The Clinical Information System (**OPOR-CIS**) is only one element of the broader vision and strategy.

Guiding Principles

Developed by Clinicians

01 Focus on Patient and Family-Centred Care: Partner with Patients

02 Clinician Driven: Integration of Interprofessional Collaboration

03 Based on clinical best practice, evidence and outcomes

04 Documentation is an outcome of care

05 Variation in care should be minimized, intentional and measurable

06 Leverage work already done across the organization and in other jurisdictions

07 Learn by doing - a continual improvement process

OPOR
One Person, One Record

NOVA SCOTIA   nova scotia health   IWK Health

Core healthcare IM/IT systems are at the end of their life cycles

1 **Incomplete patient information** poses safety risks and provider frustration

2 **Siloed, highly customized health IM/IT systems** means information cannot seamlessly flow from one provider to another
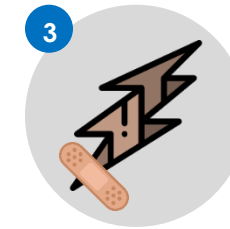
3 **End-of-Life** health IM/IT systems routinely break down and are very expensive to maintain

OPOR
One Person, One Record

NOVA SCOTIA   nova scotia health   IWK Health

One Person One Record-Clinical Information System

01 Modules

- Ambulatory
- Emergency Department
- Behaviour Health
- Long Term Care
- Infection Control
- Fetal Monitoring
- Acute Care
- Critical Care
- Oncology
- Peri-op and Anaesthesia
- Transplant
- Registration
- Scheduling
- Health Records
- Lab
- Diagnostic Imaging
- Pharmacy
- Population Health
- Physician Billing
- Case Costing
- Patient Flow
- Patient portal
- Clinician Portal
- Physician Mobility
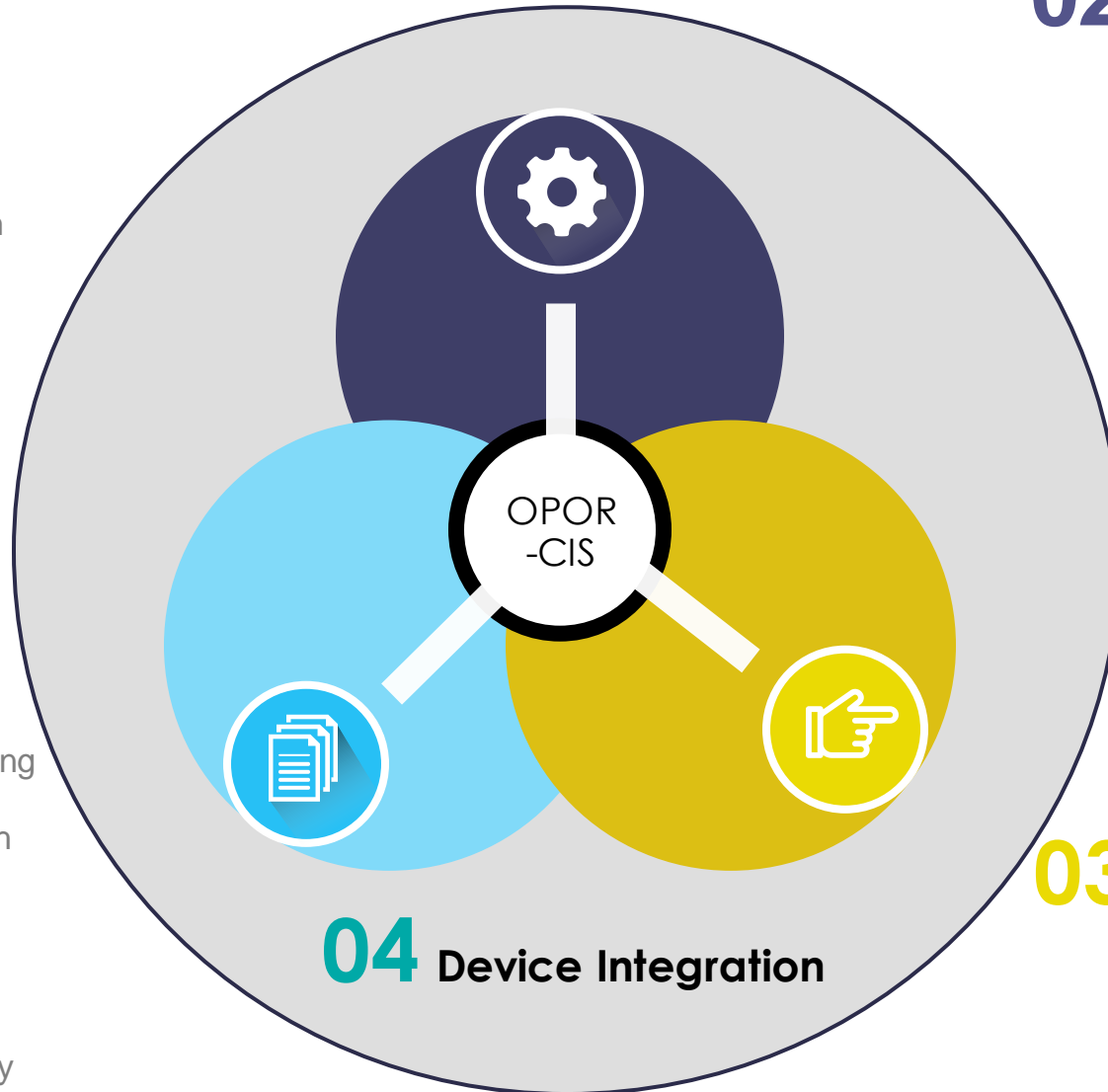
02 Internal Applications

- PACS
- Radiation Oncology
- Cardiology
- Cardiac Cath
- Endoscopy
- Breast Milk Bank
- LMS
- SAP
- Nutrition and Food Services
- HLA Lab
- Renal
- Transcription
- Coding and Abstracting
- Archiving
- Data Warehouse
- DIS

OPOR-CIS

04 Device Integration

03 External Applications

- EHS
- Panorama
- EMR 1 & 2
- Community Pharmacies
- Vital Statistics
- Blue Cross

Chief Medical Information Officer (CMIO)

What is the role of the CMIO?

OPOR and Physician Engagement

Physician Engagement
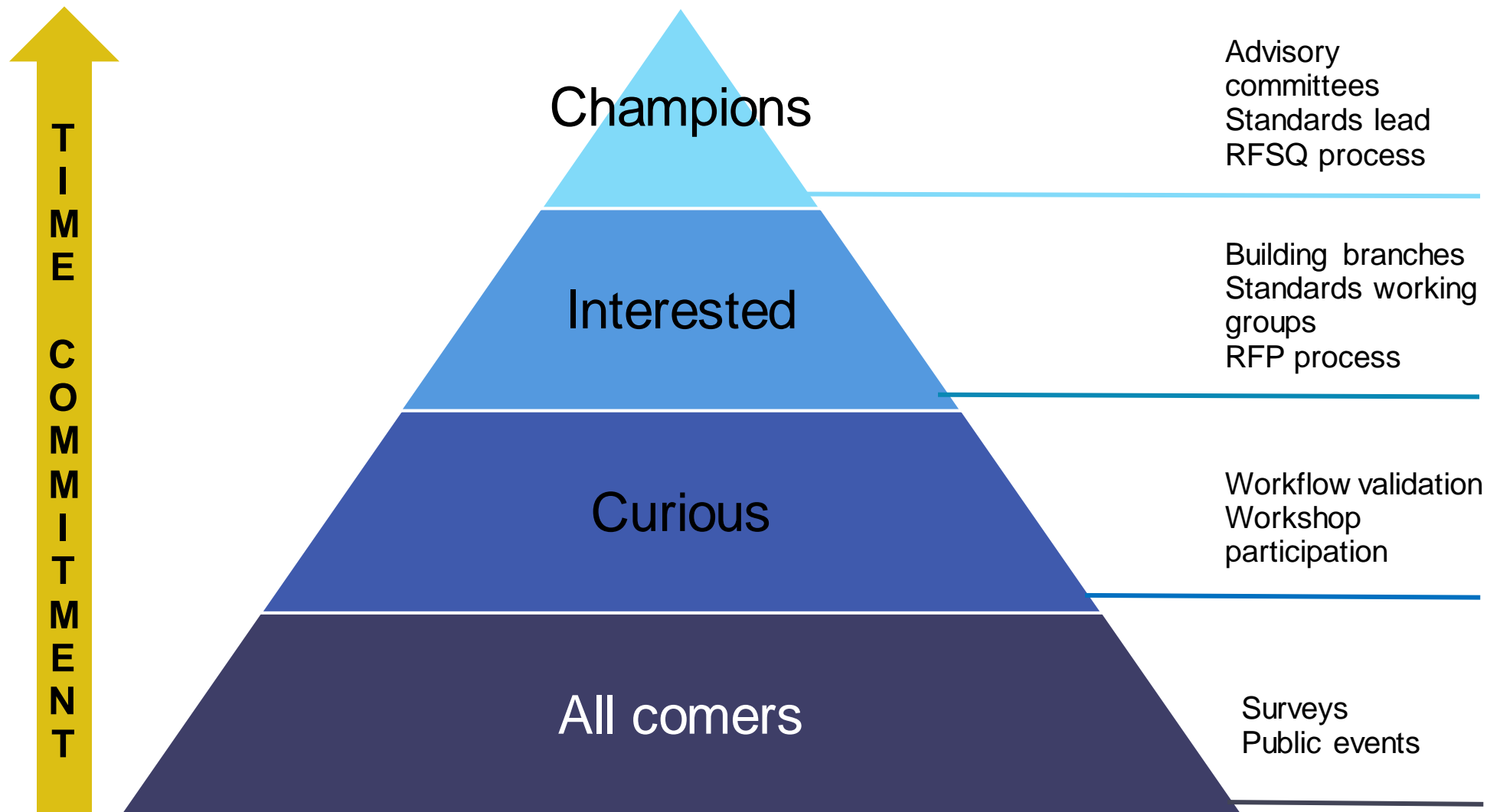
Physician Engagement Strategy

Multi-Modal

OPOR wants to engage with physicians based on their preference

Proactive

Action high-priority, low-complexity items right away

Physician time is valuable

Minimize time commitment, remuneration framework

Leverage technology

Promote asynchronous opportunities by utilizing modern technology

Engagement Activities

Physician Engagement Activities

Activity	Number of Physicians Involved
Request for Supplier Qualifications (RFSQ) stage	(5 physician icons)
Vendor selection process: Request for Proposal (RFP) stage	(10 physician icons) **+39**
Current State Rounding	(10 physician icons) **+61**
In-Person Engagements (Building Branches, Presentations, Meeting Attendance)	(10 physician icons) **+100s**
Family Medicine CME needs assessment survey (asynchronous)	(10 physician icons) **+110**
Royal College specialties CME needs assessment survey (asynchronous)	(10 physician icons) **+200**
Workshops (asynchronous)	(10 physician icons) **+ Ongoing**
Clinical Standards Working Group Leads	(3 physician icons) **+ Ongoing**
Collaboration Platform Members	(10 physician icons) **+ Ongoing**
Physician Advisory Committee Members	(10 physician icons) **+11**
Clinical Practice Advisory Committee Members	(3 physician icons)

Initial Engagement

Physician Engagement in Project Planning
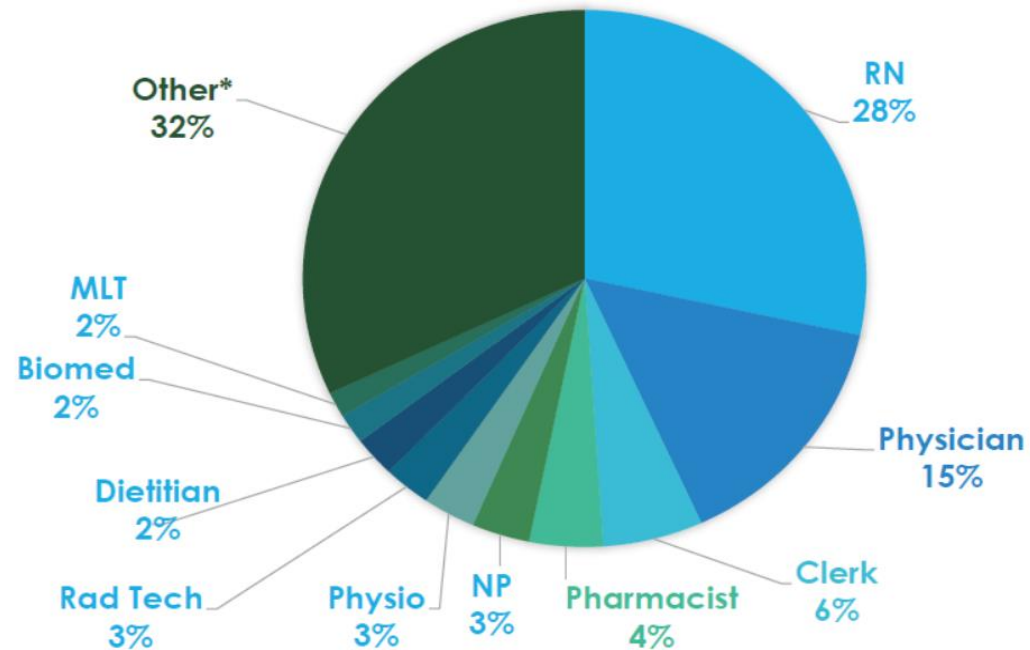
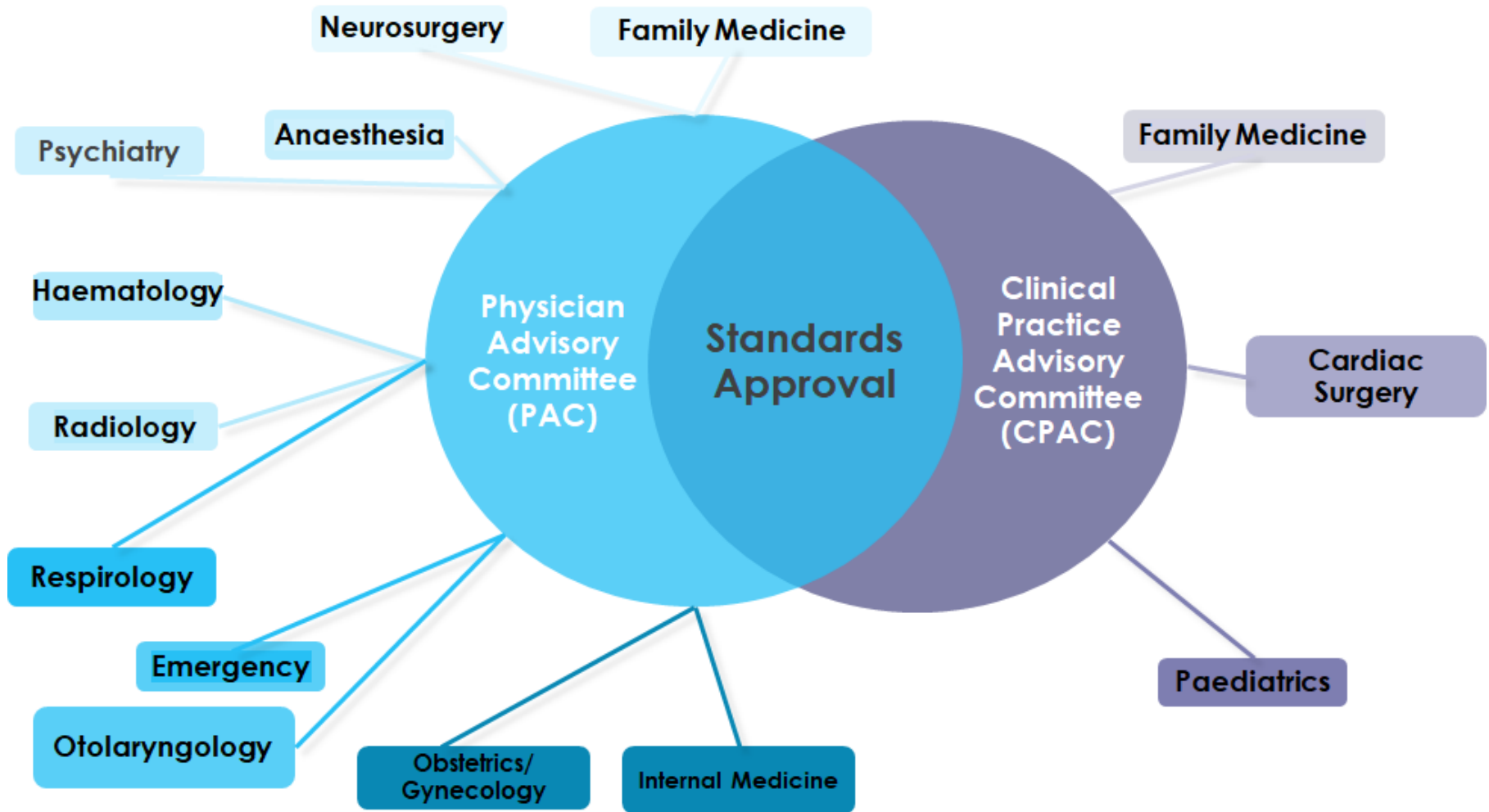| Vendor Selection Process	# Physicians Involved
Request for Supplier Qualifications (RFSQ) stage (in-person)	5
Request for Proposal (RFP) stage (in-person)	49

Governance
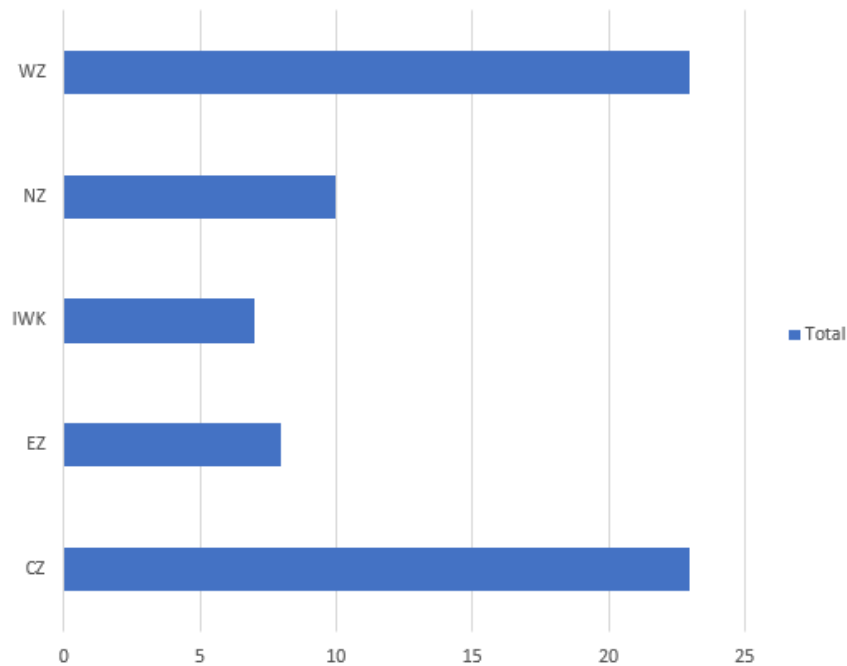
Physician Engagement - Governance

Current State Rounding

Current State Rounding

- OPOR visited **12** hospitals across Nova Scotia
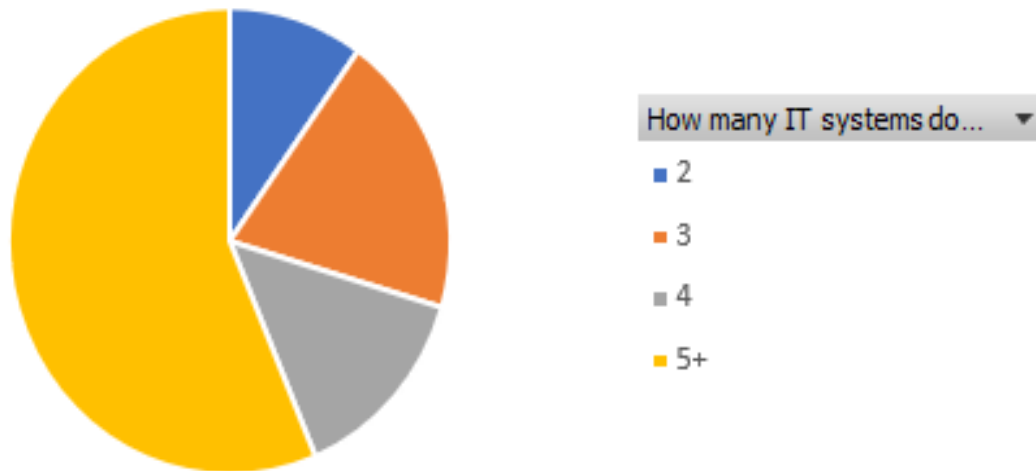- OPOR connected with **71** physicians

OPOR visited:
- Yarmouth
- South Shore
- Valley
- IWK
- HI
- VGH
- Dartmouth General
- Colchester
- Cumberland
- Aberdeen
- St. Martha's
- Cape Breton Regional

Current State Rounding

OPOR asked: How many systems do you use per shift for your role?

How many IT systems do...
- 2
- 3
- 4
- 5+

56% of physicians are using 5+ systems to perform role.

"There is no access to the patient past history.   It is difficult and time consuming to acquire this information.   You don't have access to information when you are not directly associated with the patient. No single source to access patient information."
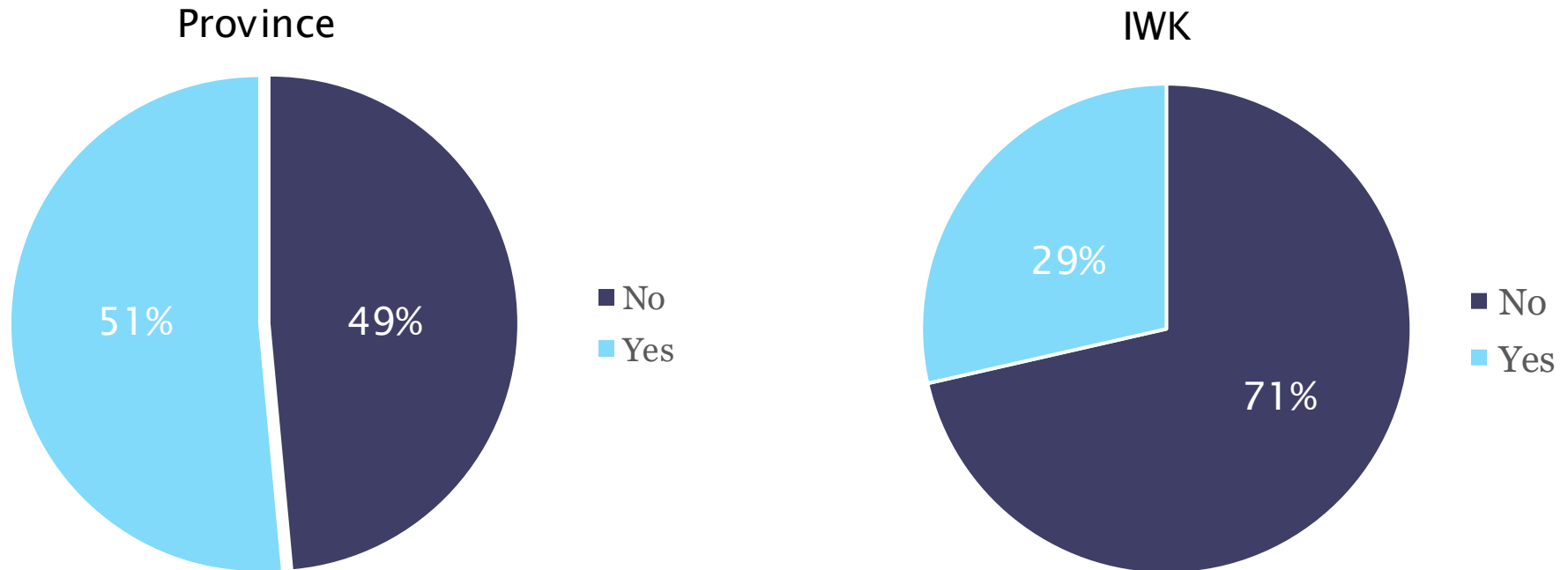**Physican- Aberdeen**

"Too many systems, too many passwords - clinical portal too slow"
Physician – QEII

Current State Rounding

Do you find it easy to find information required for your role?
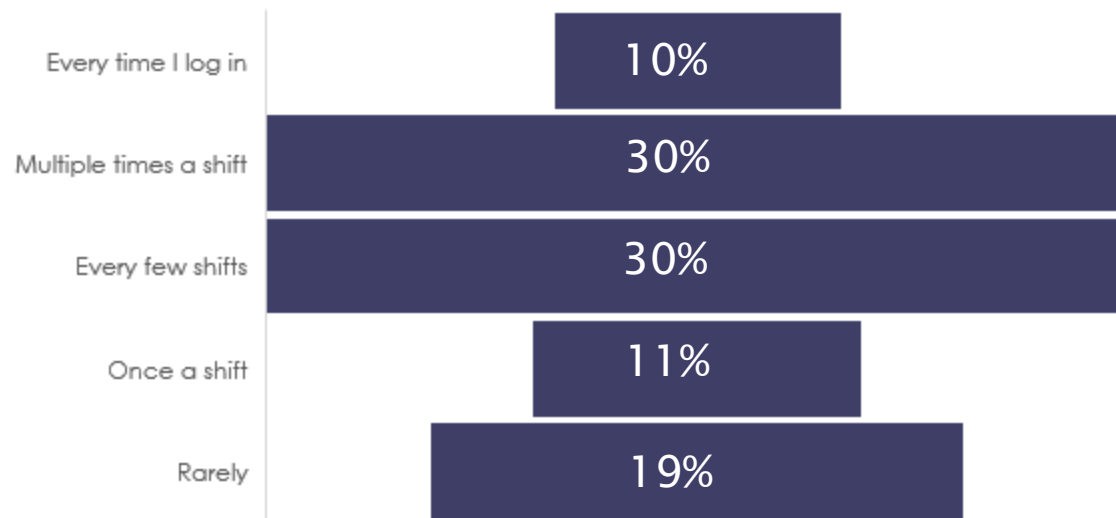

Province

51% Yes
49% No

IWK

29% Yes
71% No

"Flipping back and forth between applications, time it takes to login, 10-12 steps to get to the patient information, lots of spots to stall. Spinning circle/blank screen. Accessing multiple computers/closing out system."
Emergency Physician - Valley

Current State Rounding

How often do physicians have issues?

| Category	Percentage
Every time I log in	10%
Multiple times a shift	30%
Every few shifts	30%
Once a shift	11%
Rarely	19%

80% physicians surveyed report experiencing regular issues

"Multiple systems, scanning of charts behind, not getting typed reports anymore, handwritten reports hard to read, dictated reports not active chart and need to use paper and system for full patient story." **Physician - Aberdeen**

Current State Rounding

What kinds of issues do physicians have?
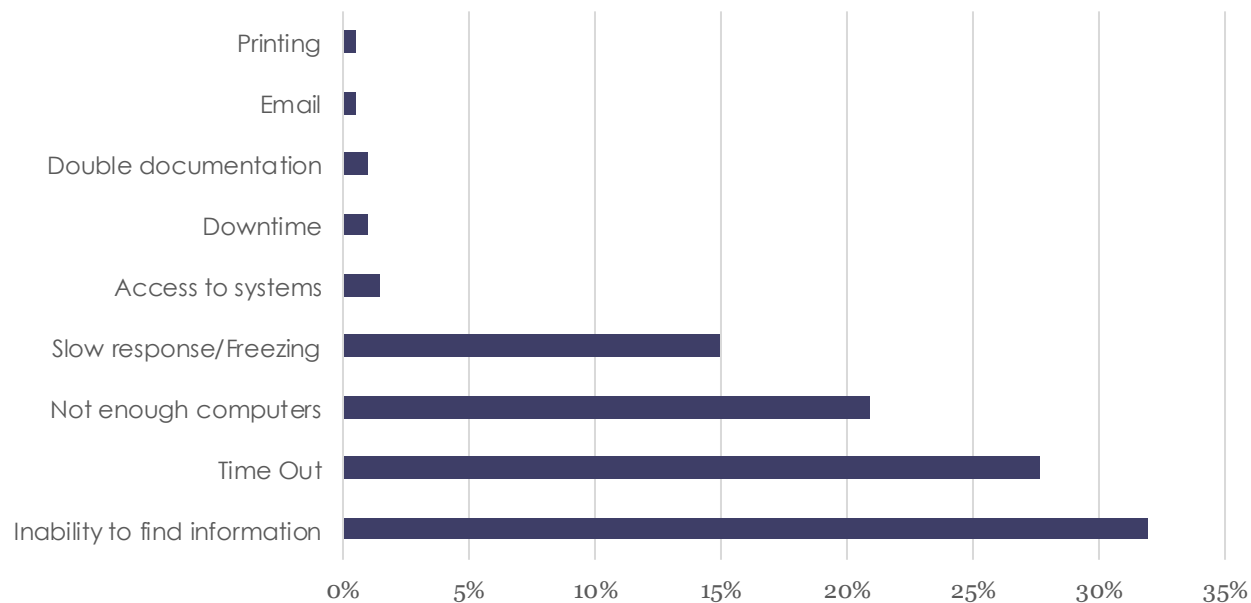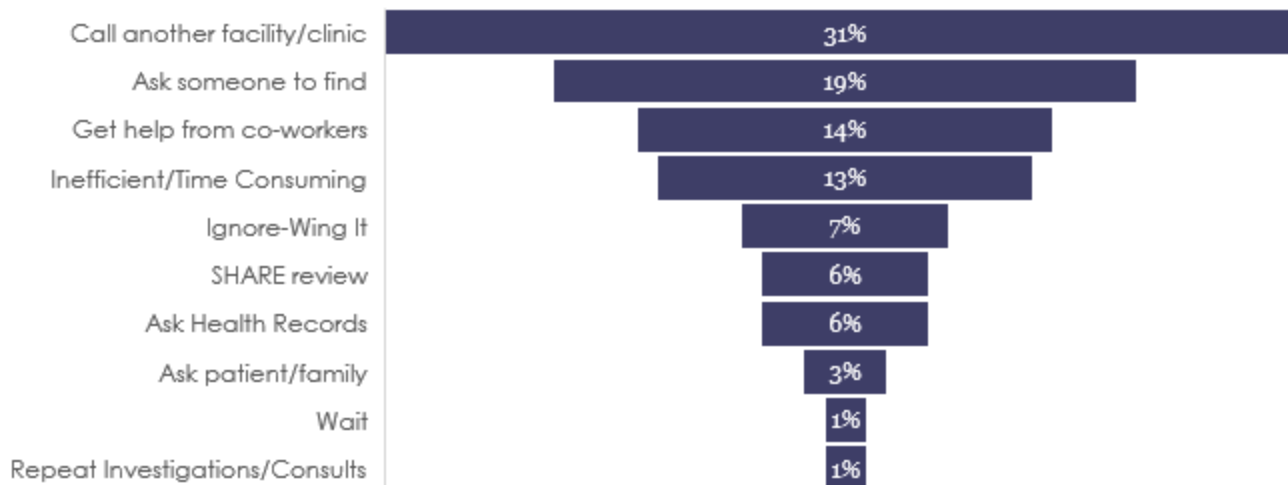

Physician- St. Martha's *"Multiple systems have caused massive problems; Inability to find information you need"*

Physician- Cumberland *"inaccuracy of data entry, unstandardized documentation for prescriptions"*

Current State Rounding

What do physicians do if you don't have/can't find the information you need to perform your role?

We have ~600k emergency visits a year.

If 31% of the time we call another facility and on average it takes ~30 minutes to get information from another facility, we have **~93,000 hours** of **wasted time** per year in the emergency department

"Progress notes and medication orders are still not online. the time I spend trying to find the nurse with the paper chart is crazy. Can't find the meds, notes, etc."
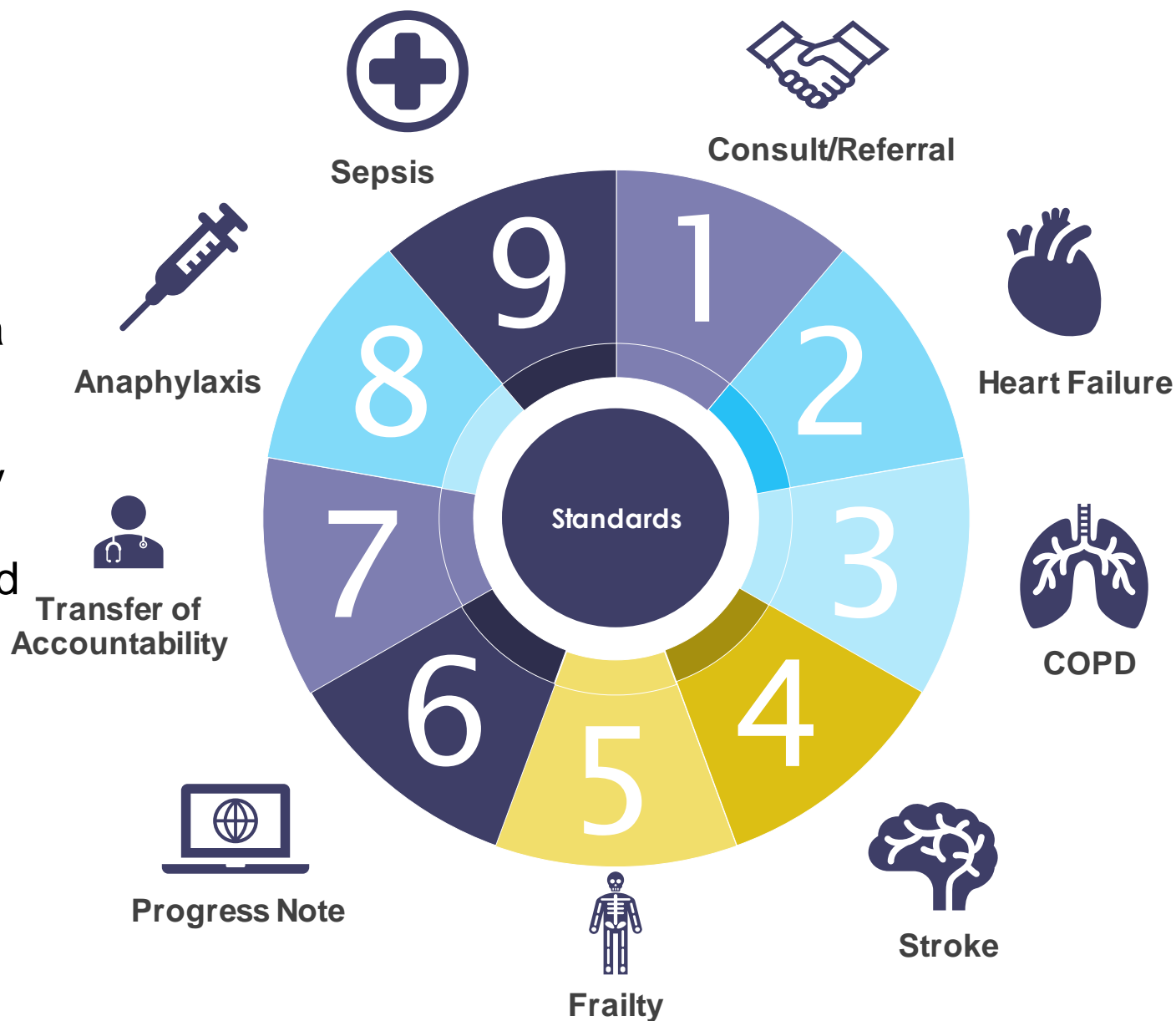**Physician - CZ**

"One content is the worst system I've used in 20 years, it's terrible for trying to find information, the filing is not sensible or intuitive" **Physician - CZ**

Needs Assessments

Needs Assessment- Family Physicians

- College of Family Physicians of Canada Certification required a needs assessment

- Distributed provincially

- Standards were ranked as shown and we are using this information to prioritize our workshops

Sepsis

Consult/Referral

Heart Failure

COPD

Stroke

Frailty

Progress Note

Transfer of Accountability

Anaphylaxis

Standards

9 1 2 3 4 5 6 7 8

Needs Assessment- Royal College

- Analogous to Family Physician Needs Assessment

- Distributed provincially

- Standards were ranked as shown and OPOR is using this information to prioritize workshops

Procedure Note

Consult/Referral

Discharge Summary

History and Physical

Standards

Goals of Care

Ambulatory Documentation

Family History
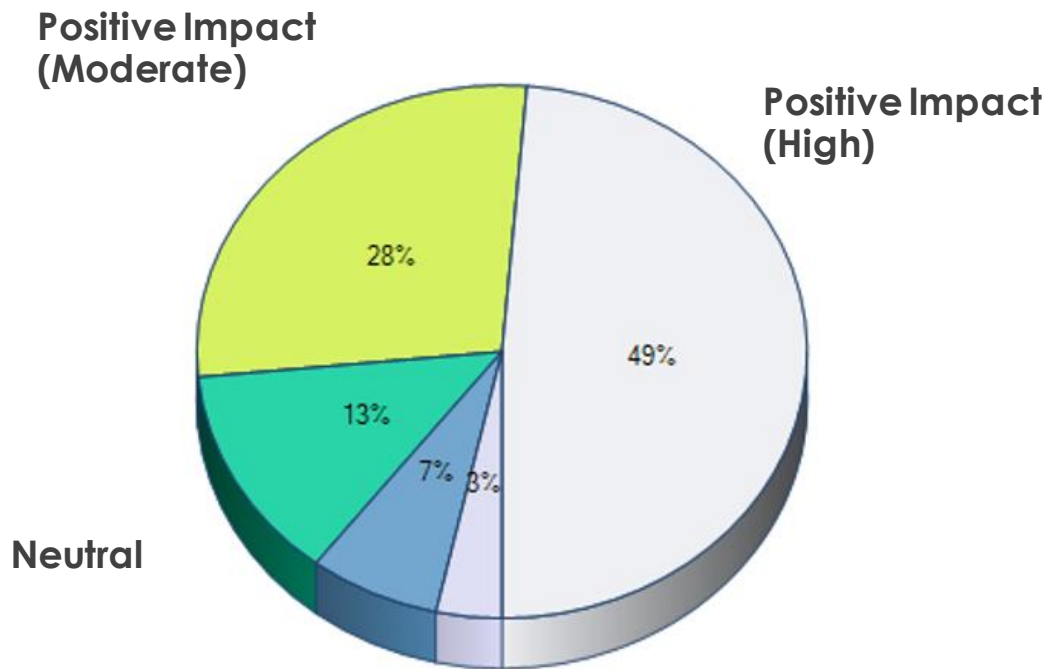
Progress Note

Transfer of Accountability

Needs Assessment- Royal College

Dalhousie University Faculty of Medicine Clinical Department Affiliation
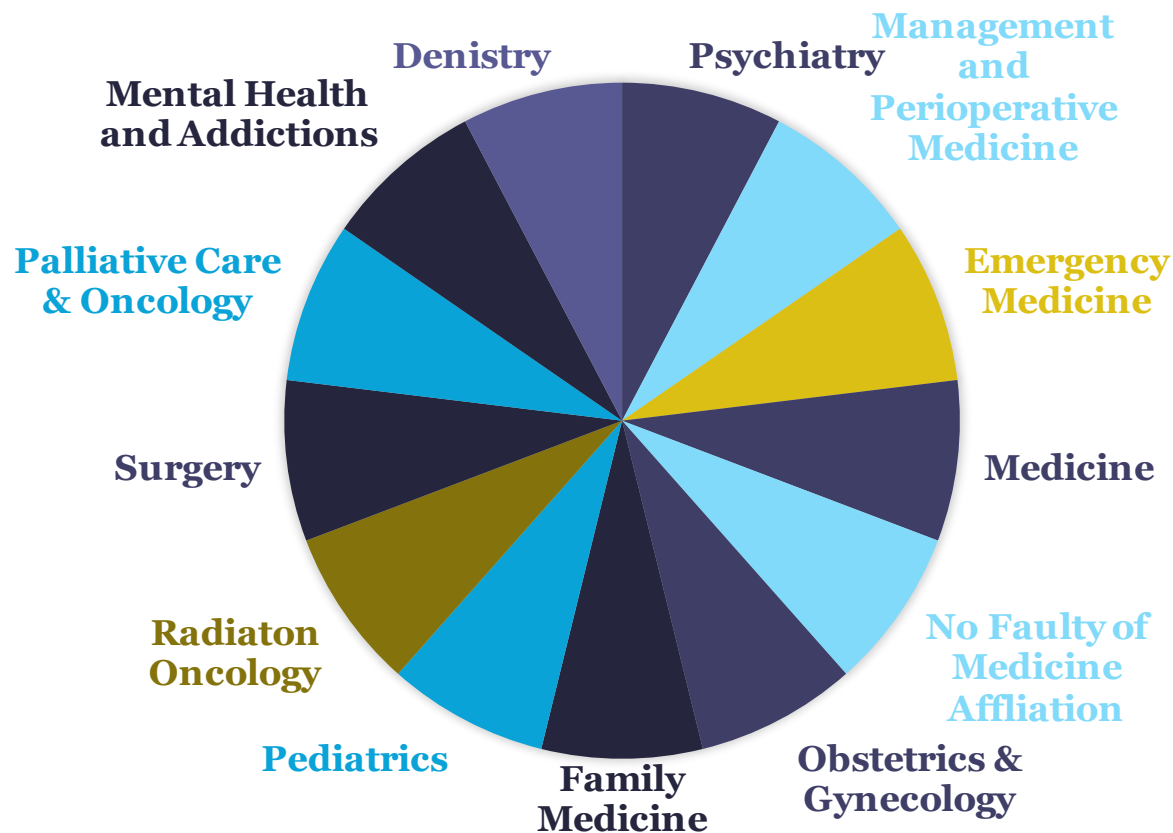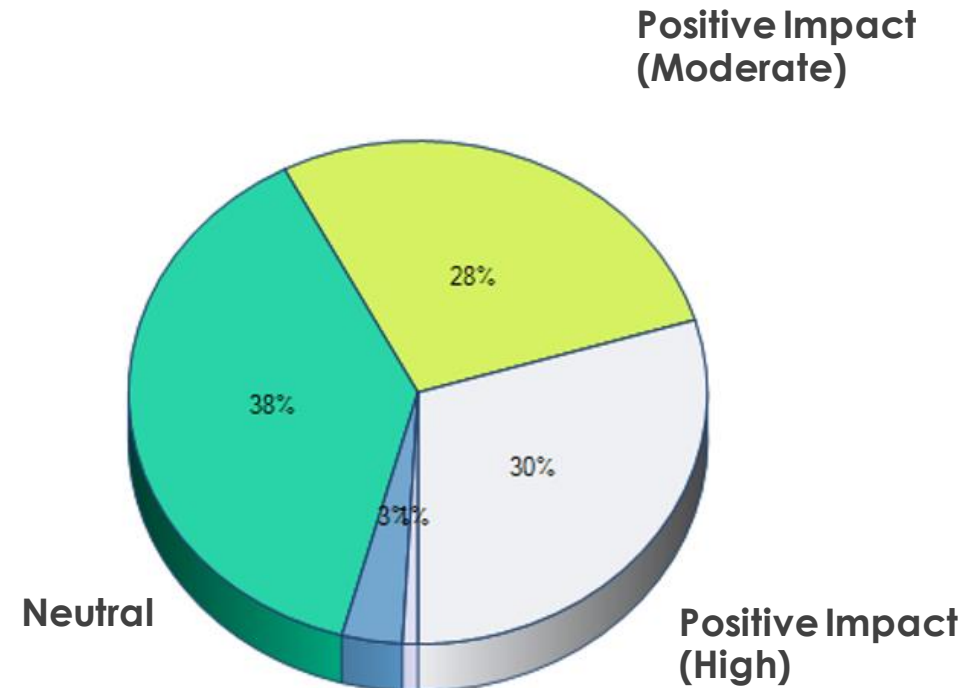
Needs Assessments

What Impact would a standardized approach to care have on you and your patients?

What is the educational impact of participating in Provincial Clinical Standards Working Groups?

Positive Impact (Moderate)

Positive Impact (High)

28%

49%

13%

7% 3%

Neutral

Positive Impact (Moderate)

28%

38%

30%

3%1%

Neutral

Positive Impact (High)

Needs Assessments

One Person One Record is one system, accessible to all who need it- all clinical information in one place/ one patient pathway with ordering capabilities- a complete electronic system for hospital records/from primary care on.

"We need a platform to connect physicians, removing attitudes of bias against family medicine between family med MDs and between family med MDs and consultants – the attitude that "your family doctor should have done/ should not have done....". Specialties/Departments cannot send referrals back or reject because their capacity is full as the patient has nowhere to go and we have nowhere to refer."

Physicians indicate that *"the One Person, One Record project can optimize health care delivery by providing more effective way to ensure availability of critical health information to the caring physicians."*

How important is additional education about disease specific, evidence-based Clinical Standards?
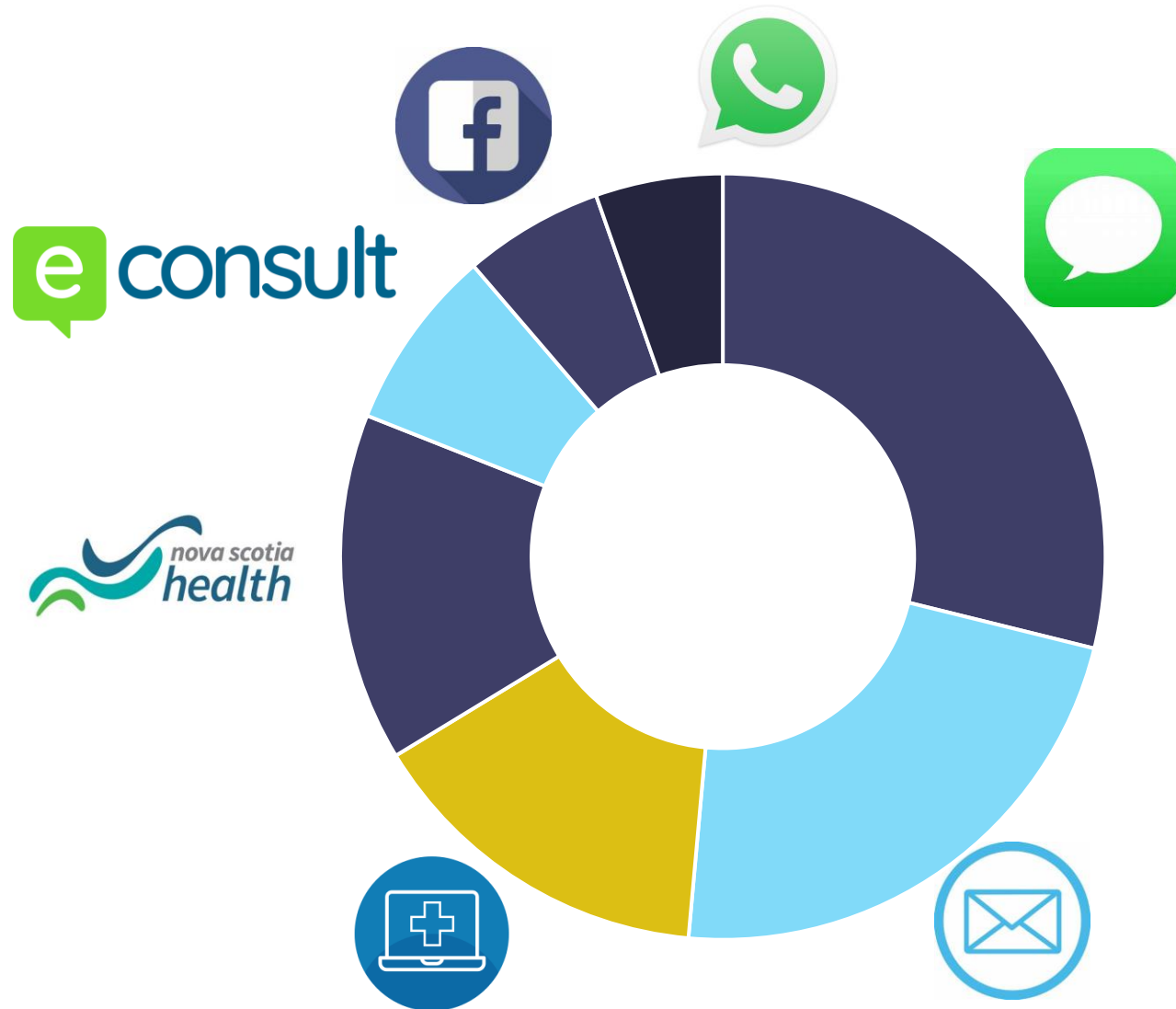
Positive Impact (Moderate)

Positive Impact (High)

Neutral

37%

43%

14%

4% 2%
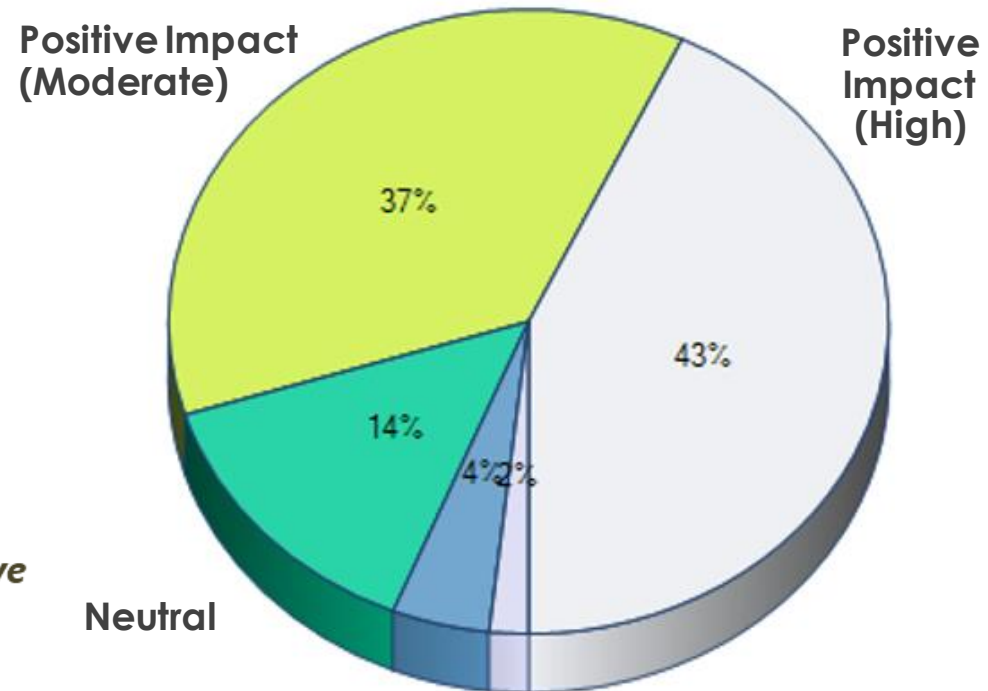
Needs Assessments

Current Clinical Systems
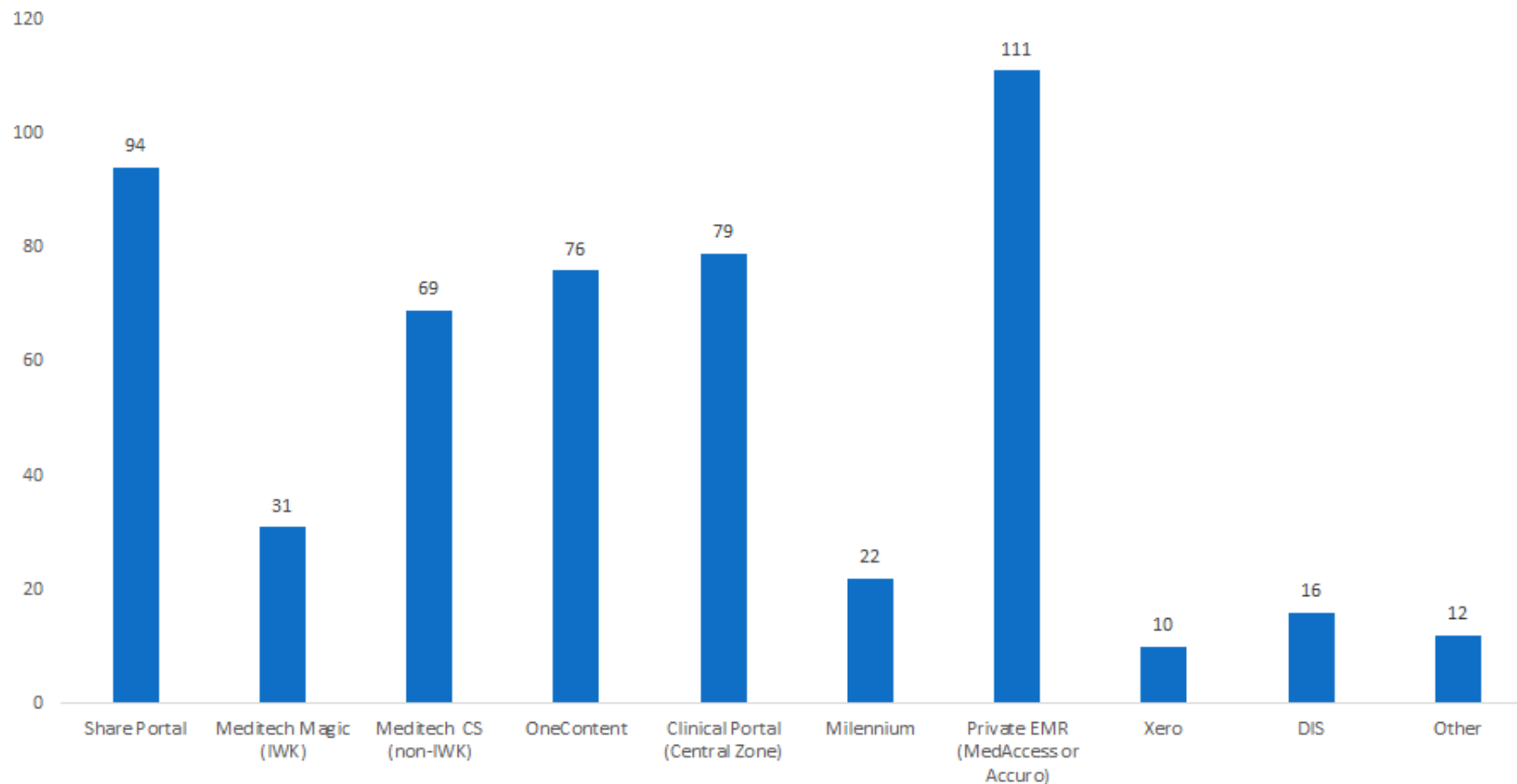
Needs Assessments

Platforms used to communicate with other healthcare providers

Needs Assessments

What is One Person One Record?

1
2
3
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6
7
8
9
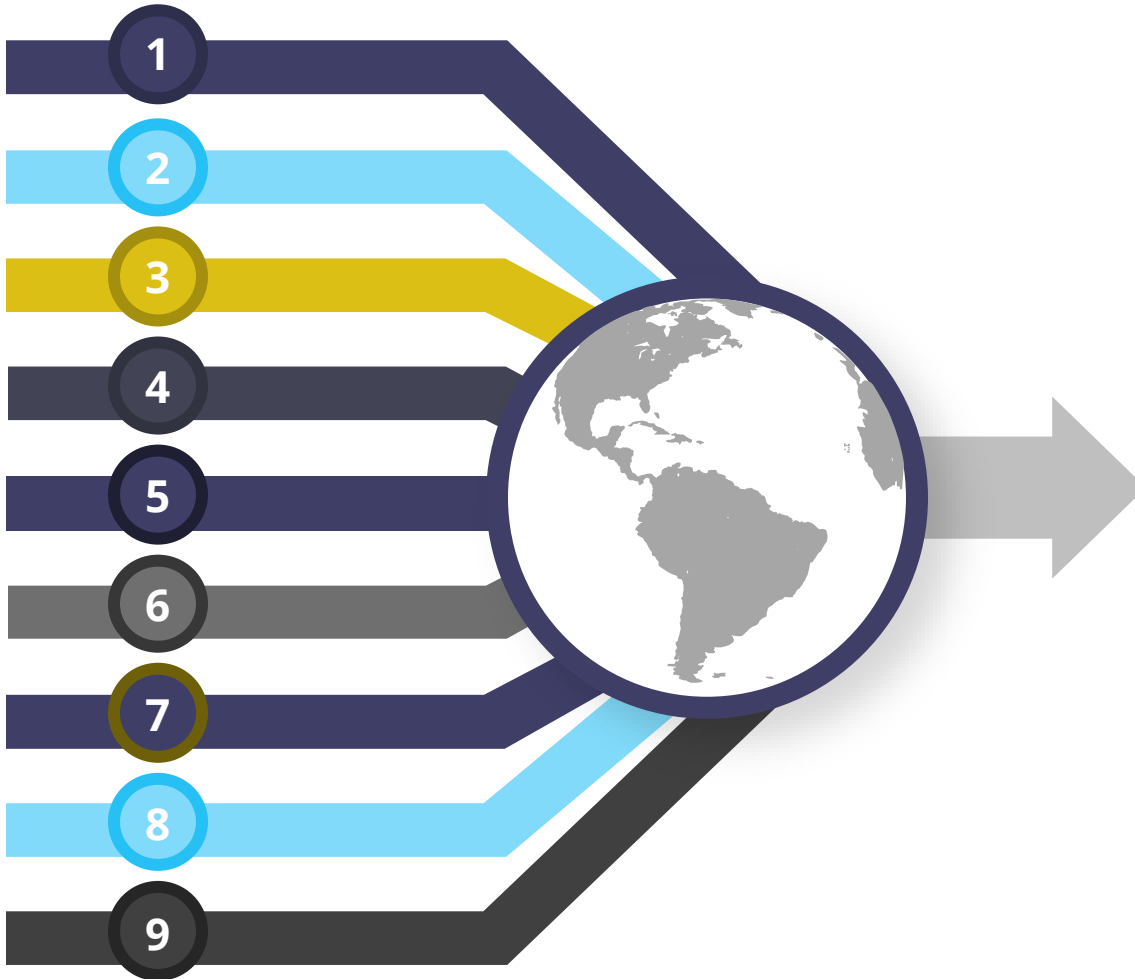
"Development of a system in which information about a patient is **accessible and available** to treating healthcare staff wherever and whenever the patient is seen across the province"

"Hopefully a method of **reducing error** when a patient transitions from one provider to another"

"The move to replace the current series of hospital-based ERM systems that are in use with a **single system that would be accessible province-wide, no matter the facility or clinic**, giving the start to a single flow of clinical information attached to one patient"

Physicians want **more information** on OPOR-CIS

"The ability to allow the **patient to be at the center of their care** and all providers will be able to access the appropriate data to provide the best care possible"

"All patient information is in **one system for inpatients and outpatients** for the whole province that eliminates faxing and printing information for communication and patient care."

Summary

Summary

- Inefficiencies- multiple logins, inability to find information, lack of interoperability, slow systems
- Inconsistent approach to documentation/ processes
- Clear benefit of standardization
- Clear benefit of one patient pathway

Clinical Standardization

Clinical Standardization

- Disease-specific **Clinical Standards Working Groups** are inter-professional, and physician-led.

- **Specialty/Cross-specialty** standardization is ongoing with OPOR Team leveraging that work.

- **Physician–specific standardization** occurs asynchronously.
  - OPOR has initiated a **Consult/Referral Rapid Workshop.** currently underway following physicians targeting this as priority.
  - **20 min time** commitment with **targeted questions.**
  - **Administrative tasks rest with OPOR team.**

Collaboration

Collaboration- OPOR Engagement Platform

- Asynchronous care delivery amplifies benefits of technology, increases patient access to low-cost, high-value care.

- Asynchronous visits allow providers to accomplish **three to six visits in the time it would take for one synchronous visit**

- OPOR is extending this to our working group methodology.

- **Asynchronous Collaboration**

Collaboration- Prolaborate

- **Validation** of current state workflow is integral to ensuring the clinical information system meets physician needs.

- **Provincial scope** Multi-zone including IWK representation is key.

Dashboard — My Dashboard | My Diagrams | Feeds

Physician Validation - Current State [Default]

This dashboard is intended for validation of current state workflows for physicians.

Physician Valida...

Central Zone
- Cobequid Community Health Center
- Dartmouth General Hospital
  - Emergency Department Dartmouth General
  - Emergency Department Information System DGH
  - Endoscopy Dartmouth General
  - Intra-Operative Dartmouth General
- Eastern Shore Memorial Hospital
- Hants Community Hospital
- Musquodoboit Valley Memorial Hospital
- Nova Scotia Hospital
- Queen Elizabeth II (QEII)
  - 3A Intensive Care Unit Victoria General
  - 6.1 Cardiology Intermediate Care Unit Halifax Infirmary
  - 6.2 Cardiology In-Patient Unit Halifax Infirmary
  - 8.2 General Medicine Halifax Infirmary
  - A Day In The Life of MD on General Medicine
  - Adult Congenital Clinic
  - Allergy Clinic
  - Anatomical Pathology Halifax Infirmary
  - Anesthesia QEII
  - Arrhythmia Clinic
  - Audiology Clinic Ambulatory
  - Bone Marrow Transplant Clinic Referral
  - Bone Marrow Transplant In Patient
  - Bone Marrow Transplant Medical Day Unit Patient Flow
  - Bone Marrow Transplant Patient Transplant Journey
  - Cancer Care Halifax Covid-19 Screening
  - Cancer Care Radiation Oncology
  - Cardiac Day Unit
  - Cardiac History & Physical Clinic
  - Cardiac Mumford Road Clinic

Western Zone
- Annapolis Community Health Centre
- Digby General Hospital
- Eastern Kings Memorial Community Health Centre
- Fishermen's Memorial Hospital
  - Alternative Level of Care unit (12 beds)
  - cardiac respiratory services
  - diagnostic imaging (X-ray)
  - emergency medicine
  - family medicine
  - maternal and child services
  - medical unit (six beds)
  - mental health and addiction services day program
  - midwife clinic
  - occupational therapy
  - palliative care consultation service
  - physiotherapy
  - restorative care unit (12 beds)
- Queens General Hospital
- Roseway Hospital
  - audiology
  - cardiac care
  - continuing care
  - diagnostic imaging
  - emergency medicine
  - gastroenterology
  - internal medicine
  - laboratory services (Lockeport)
  - outpatient mental health and addiction services
  - nutrition and diabetes counseling
  - obstetrics & gynecology
  - otolaryngology
  - physiotherapy
  - plastic surgery
  - recreation therapy
  - speech language pathology

Eastern Zone
- Buchanan Memorial Hospital
- Cape Breton Regional Hospital (CBRH)
  - Intra-Operative CBRH
  - anesthesiology
  - cancer and supportive care
  - cardiac respiratory
  - dermatology
  - diabetes education services
  - diagnostic imaging
  - dialysis
  - emergency medicine
  - general surgery
  - geriatric assessment and rehabilitation
  - intensive care unit
  - internal medicine
  - laboratory services
  - maternal/child support services
  - mental health and addiction services
  - neonatal care
  - nutrition and diabetic counseling
  - obstetrics and gynecology
  - occupational therapy
  - ophthalmology
  - otolaryngology
  - palliative care
  - physiotherapy
  - plastic surgery
  - social work
  - spiritual and religious care
  - volunteer services
- Eastern Memorial Hospital
- Glace Bay Health Centre

IWK
- IWK
  - Perfusion Operating Room - Pediatrics
  - Intra-Operative - Pediatrics
  - Intra-Operative - Adults

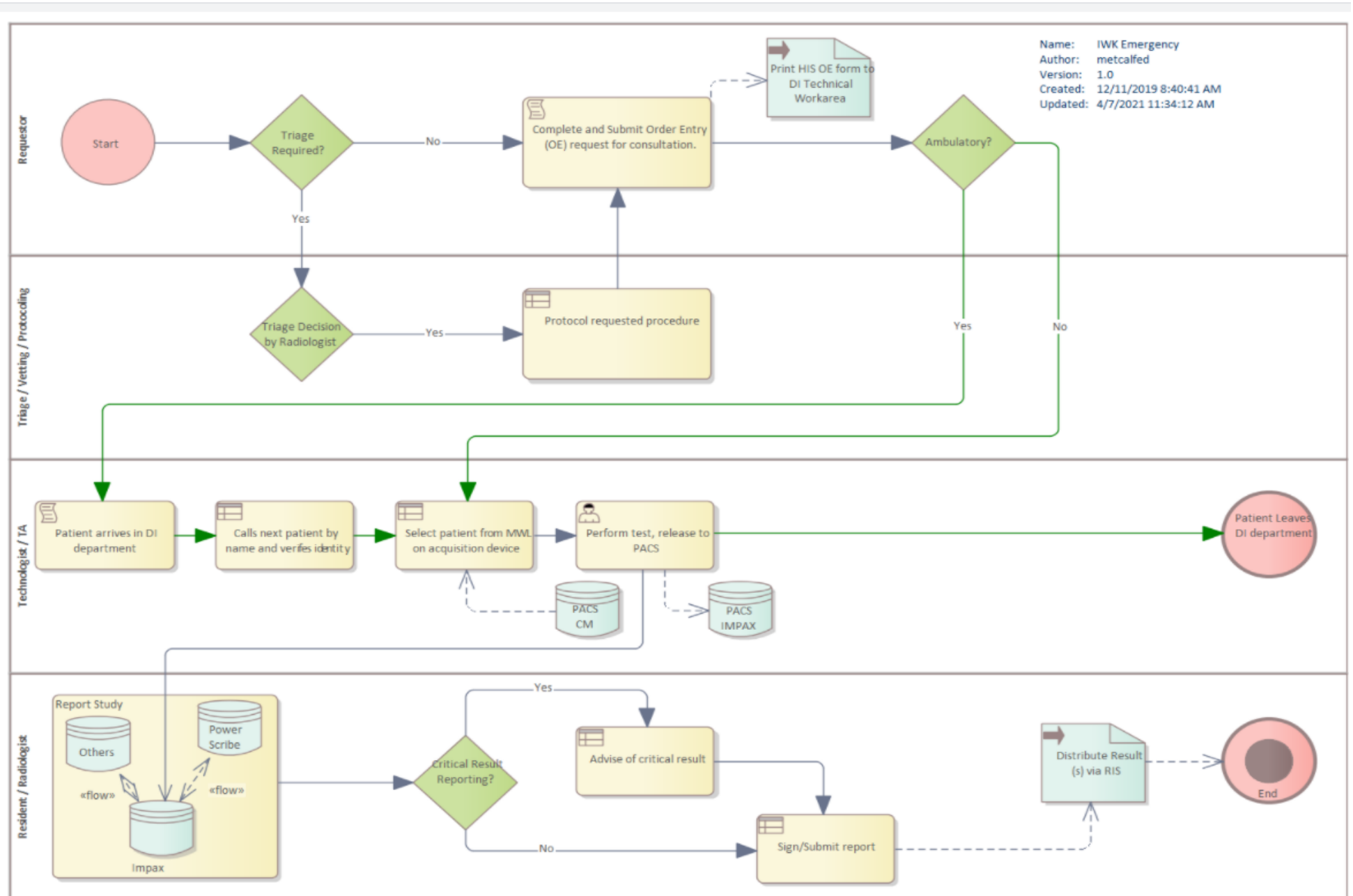**Northern Zone**
- Aberdeen Hospital
- All Saints Springhill Hospital
  - anesthesiology
  - cancer and supportive care
  - cardiac respiratory
  - dermatology
  - diabetes education services
  - diagnostic imaging
  - dialysis
  - emergency medicine
  - general surgery
  - geriatric assessment and rehabilitation

Physician Engagement- Current State Workflows

IWK Emergency

Ongoing Engagement

Methodology

- Ensure audiences understand the **Why.** Clinical Standardization and OPOR-CIS are integral to one another.

- **Human Factors Design** focus

- **Fail Fast** philosophy.

- **One Person One Record** Team are not content experts but are **facilitators of change.**

- **Quick wins-** there's no need to wait for OPOR-CIS.

- **Decrease** administrative **burden.**

- Offer engagement opportunities aligned with physician beliefs about healthcare transformation.

- **Multi-modal** engagement with **asynchronous** options.

Questions?

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