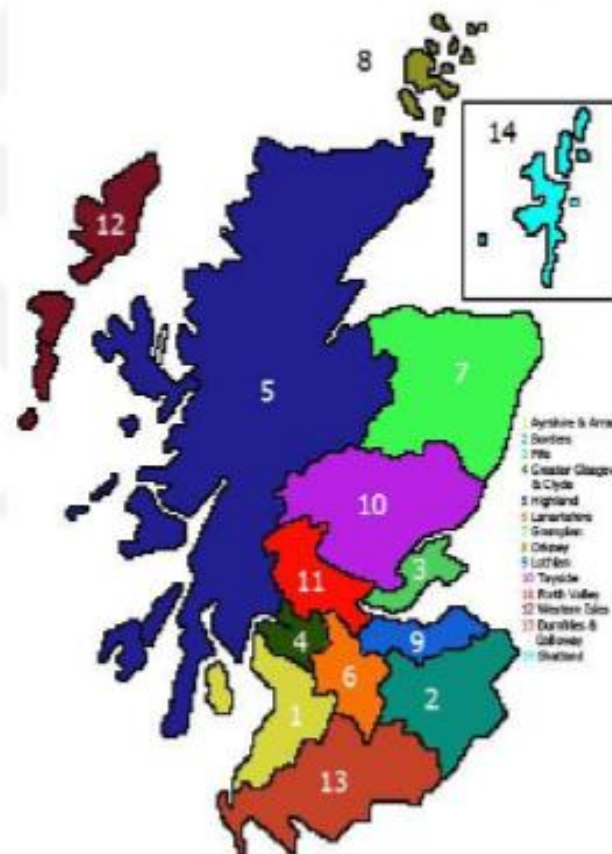


Shared records: the dream and the reality

Dr Andrew Winter
Consultant in Sexual Health and HIV
Joint Clinical Lead for e-Health
NHS Greater Glasgow and Clyde

NHS Scotland's ICT Infrastructure

- Over 120,000 connected end devices
- 228 Hospital sites
- 980 General Practices
- 960 Dental Practices
- 1,253 Community Pharmacists
- Over 500 other sites including optometrists, clinics, data centres and administration sites



The eHealth Vision

By 2020 eHealth in Scotland will:

- Enable information sharing and communications that facilitates integrated health and social care across all settings from the patient's home to the hospital.
- Provide information processing, analysis and intelligence that complements the work of health and social care professionals and improves the safety and quality of care.
- Support people to manage their own health and live longer, healthier lives at home or in a community setting.
- Contribute to a partnership between the Scottish Government, NHS Scotland, the research sector and industry to enable Scotland to be a long term leader in digitally enabled care.

Calidcott 2



The Information Governance Review

3.6 Registered and regulated professionals

Professional standards and good practice

Personal confidential data needs to be shared between registered and regulated health and social care professionals who have a legitimate relationship with the individual for the purposes of the individual's direct care. A registered and regulated health or social care professional has a legitimate relationship with the patient or client when any or all of the following criteria are met:

- The patient or client presents themselves to the professional for the purpose of their care.
- The patient or client agrees to a referral from one registered and regulated health or social care professional to another.
- The patient or client is invited by a professional to take part in a screening or immunisation programme for which they are eligible and they accept.
- The patient or client presents to a health or social care professional in an emergency situation where consent is not possible.
- The relationship is part of a legal duty e.g. contact tracing in public health.
- The patient is told of a proposed communication and does not object e.g. the consultant in the ambulatory clinic says she will communicate with the patient's social worker to let them know of events in the clinic and the patient does not object.

Making IT Work: Harnessing the Power of Health Information Technology to Improve Care in England

Report of the National
Advisory Group on Health
Information Technology
in England

6. While Privacy is Very Important, So Too is Data Sharing

Privacy is very important, but it is easy for privacy and confidentiality concerns to hinder data sharing that is desirable for patient care and research. It would be a mistake to lock down everyone's healthcare data in the name of privacy. We endorse the recommendations of the National Data Guardian's Review of Data Security, Consent, and Opt-Outs, which was commissioned to achieve this balance.

Robert M. Wachter, MD, Chair

**Making IT Work:
Harnessing the Power of Health
Information Technology to
Improve Care in England**
Report of the National
Advisory Group on Health
Information Technology
in England

**9. Ensure Interoperability as a Core
Characteristic of the NHS Digital
Ecosystem – to Promote Clinical
Care, Innovation, and Research**

Widespread interoperability will require the development and enforcement of standards, along with penalties for suppliers, trusts, GPs, and others who stand in the way of appropriate data sharing. The system standards and interfaces should enable a

Robert M. Wachter, MD, Chair



Your Care Connected

0333 150 3388. Leave us a message on our freephone voicemail service and we will get back to you as soon as possible.
InfoMidlandsYourCareConnected@nhs.net

SEARCH

act us

CONTACT US

HOME ABOUT PATIENT INFORMATION GP PRACTICE INFORMATION

Welcome

EMIS Health @EMISHealth
12m records shared in Merseyside - we're so proud to be helping make this happen @iLinksInnovator @digitalhealth2
ow.ly/ESJP302Gy2c 28 Jul

Saving Time

Protecting Information

hospital... system makes tim... wherever they are, making... accurate. HHR is managed by t... Commissioning Support Unit on behalf of hea... organisations in Hampshire.
Find out the benefits of HHR or contact us for more information



The dream...



The reality....





And now
the
DREAM
is
OVER

Scale of information...

Home | Help

Andrew Winter ▾ Logout

ORIK HE

999999999 DUMMYPATIENT, Trak Nine (Female / 36 years)

Clinical Documents

Show MenuBar

TrakCare Launch

Emergency Care Summary

eForms

Add Patient to Worklist

Access Consent Withdrawn

Regional Portals

Upload Document

The maximum number of documents are being displayed. Other documents may be displayed by filtering over a different date range.

Clinical Documents

Showing 2014-09-19 to 2016-09-19

Group By Category Sort By Date

Clinical Information Summary

Past Medical History

Patient Notes

Clinical Forms Add / Update

Administration (13 / 13)

Assessment (12 / 12)

Assessments (71 / 71)

Care Plans (46 / 46)

Clinical notes (77 / 78)

Correspondence (4 / 4)

GGC Mental Health Summary (1 / 1)

GP Assessment Letter (1 / 1)

Interventions (10 / 10)

JW - Testing (207 / 208)

Labs (15 / 15)

Notification & Legal Documents (1 / 1)

Pathways (11 / 11)

Patient Notes (19 / 19)

Reports (13 / 13)

Unknown Category (208 / 208)

Demographics

WARNING: Please note that the Patient documents in the Clinical Information Summary are for a restricted date period. To see all documents click here

Dummypatient , Trak Nine

Demographics

SexFemale

Date of Birth01/01/1980

AddressMain Street
Alexandria
Alexandria
G83 0UA

Phone0141 843 2600

GP Details

Practice NamePATIENTS NOT REGISTERED

Practice ID99957

Name (ID)ABOYNE OOH LOCUM (99999998)

Telephone11111 111111

Other Identifiers

CHI(s)9999999999 1220120822 9999999999 9999999999 8888888888

North Glasgow64486858E

South GlasgowSG03155197

Patient Notes

Add New

Date	Note	Added By	Description	Sensitivity
22-Apr-2016 11:55 AM	test fix of patient notes RMCE 22/04	Richard McEwan	EPR Project Manager	S
21-Apr-2016 4:28 PM	yujkyuityuityuity		EPR BA & Form/pathway Builder	HS
21-Apr-2016 4:27 PM	tyjtryutyututryutr		EPR BA & Form/pathway Builder	S
21-Apr-2016 3:45 PM	Testing Description	Dr RDE Doctor	RDE Doctor user	S
21-Apr-2016 3:39 PM	Maximized Testing	Dr RDE Doctor	RDE Doctor user	S

« Previous | Next »

Pathway Enrollment

Portal-to-Portal

You last logged in 27-Jul-2016 14:29

+ 999999999 DUMMYPATIENT, Trak Nine (Female / 36 years)

Clinical Documents

Show MenuBar

TrakCare Launch

Emergency Care Summary

eForms

Add Patient to Worklist

Access Consent Withdrawn

Regional Portals

Upload D

About

Launch NHSL
Portal

Welcome to the West of Scotland Information Sharing Portal to Portal Project page.

The Clinical Portal systems of participating West of Scotland NHS Boards can be launched from the menu on the left hand side of the page when you have a patient in context.

Phase 1 of the project allows access to NHS Lanarkshire's Portal for permitted GGC staff.

Presentation of Information

It is important to note that there will be differences between each of the portals and one of the aims of the project is to identify where we can standardise in future. Please click here provides an overview of the NHS Lanarkshire's Clinical Portal.

- Lab Results - please be aware that you will be looking at laboratory results from a different area. Please take the reference range(s) into account when interpreting results.

Feedback and Help

Please click [here](#) to pop up a form to note down your feedback on the portal to portal system or your mini-story illustrating value. An evaluation of the pilot phase of the project will provide enhancements to the system

Standard service desk support is being set-up for the wider roll-out following the initial pilot. In the meantime, if you have any questions/issues please contact: [XX](#).

Use of the system is subject to the standard terms around portal usage. A full audit trail of portal to portal use is maintained across participating Health Boards.

Portal Availability

There is no scheduled downtime for NHS Lanarkshire's Clinical Portal.

[Visit Staffnet](#)



ISSUE 1

1 March, 2016

NHS GREATER GLASGOW & CLYDE

Clinical Portal Go Live, 28 March 2016

We are pleased to announce that the first phase of Health and Social Care data sharing will be Going Live 28 March.

NHS Greater Glasgow & Clyde has been working with six Health and Social Care partnerships to agree a shared dataset for viewing in the Clinical Portal.

The first phase will include West Dunbartonshire HSCP and Glasgow HSCP, with the others, East Dunbartonshire.

West Dunbartonshire's community Discharge and the NHS GGC's Acute Discharge Teams will pilot the data sharing.

Keith Redpath "Quote"....

The agreed dataset is aimed at

Adult information sharing but will be extended to include Children and Families in a subsequent phase.

The information is real time to ensure it is as up to date and accurate for practitioners and provides:

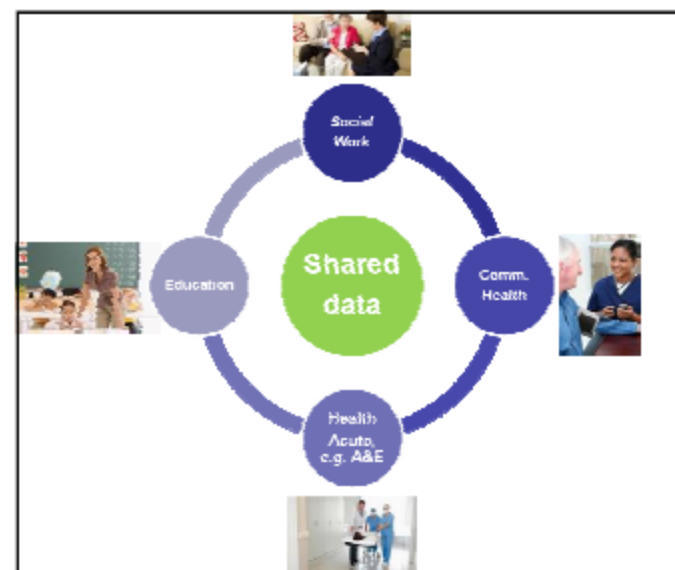
Single view of patient's record for practitioners

Helps improve wellbeing of vulnerable patients

A more comprehensive assessment of risk

Reduce duplication of effort and processing time

Enable better communication and collaboration



Shared data - Social Care view



Real time integration with
West Dunbartonshire's Care-
first system.

View Client - Concerto 8.3

Home | Help | (socialcare2) | Logout | ORION HEALTH

+ 999999999 TRAIN, Jack (Male / 36 years)

Clinical Documents | Social Care

Select Source | View Client

West Dunbartonshire

Showing 2015-02-26 to 2016-02-26
Group By Category Sort By Date

Demographics

- GP Details
- Key Contacts
- Other Names
- Alerts and Warnings
- Social Team Worker
- Communication Needs
- Protection Concerns
- Assessments (1)

CHI Number	LA Identifier	Council Identifier	Client Surname	Client Middle Name	Client Forename	Client Date Of Birth	Client Date Of Death	Gender	Religion	Ethnicity
999999999	P55396	WDC	TRAIN		JACK	1969-01-05		Male	Atheist/Agnostic	Other White (Please specify in notes field)

Main Address

Address Type	Address Line 1	Address Line 2	City	PostCode	Household Composition	Accommodation Type	Tenure	From
Main	40	BIRCHFIELD DRIVE	GLASGOW	G14 9DE	Adult household - no pensioner	Mainstream	Owned (Single or Joint Ownership)	2014-06-03

Current Address

Mental health data

999999999 DUMMYPATIENT, Trak Nine (Female / 36 years)

Clinical Documents Show MenuBar TrakCare Launch E Summary eForms Add Patient to Worklist Access Consent Withdrawn Regional Portals Upload Document

The maximum number of documents are being displayed. Other documents may be displayed by filtering over a different date range.

linical Documents 2014-09-19 to 2016-09-19

Administration (13 / 13)
Assessment (12 / 12)
Assessments (71 / 71)
AHP assessment (9 / 9)
Correspondence (18 / 18)
Medical Assessment (1 / 1)
Multidisciplinary assessment
Nursing Assessment (5 / 5)
Pre-admission assessment (1)
Care Plans (46 / 46)
Clinical notes (77 / 78)
Correspondence (4 / 4)
GGC Mental Health Summary (1)
Mental Health Summary
GP Assessment Letter (1 / 1)
Correspondence (1 / 1)
10-Sep-2015 Clyde Review
Interventions (10 / 10)
JW - Testing (207 / 208)
Labs (15 / 15)
Notification & Legal Documents
Pathways (11 / 11)

Alerts

Alert Date	Alert Description	Alert Owner (Discipline)
26/09/2013	MAPPA	Dr. Ian Clarke (Consultant)
26/09/2013	Legal Issues	Dr. Ian Clarke (Consultant)
26/09/2013	On Depot/Long Acting Anti Psychotic Treatment	Dr. Ian Clarke (Consultant)

Open Referrals

Referral Date	Authorisation Date	Referred To	Referral Source
25/12/2011	25/12/2011	Brain Injury	GP

Diagnoses

Related R	Diagnosis Type
Brain Injury 29/02/2012 F04X	ORG AMNESIC SYNDR, NOT INDUCED BY ALCOHOL & OTHER PSYCHOACTIVE SUBSTANCES Consultant Diagnosis

Last Contact (Clinic setting)

No Results Found

Failed Contacts (Clinic setting)

Number of failed appts since Last Contact Date
0

Last Contact (outwith Clinic setting)

Failed Contacts (outwith Clinic setting)

What about alerts?

Typical GGC portal view

Core Acute

Results

Letters

Scanned

ECS

ECS

KIS

Tabs

Nursing

Mental

Social

(GP)



Free text from the GP record

Your Care Connected displays the information across ten tabs

Demographics <ul style="list-style-type: none">• Name• NHS Number• Demographics• Current GP	Problems <ul style="list-style-type: none">• Current problems• Past problems• E.g. Leg bruise	Diagnosis <ul style="list-style-type: none">• All diagnosis single list• E.g. Asthma	Medications <ul style="list-style-type: none">• Current medications• Past medications• Medication issues	Risks & Warnings <ul style="list-style-type: none">• Allergies• Adverse reactions• Contraindications
Procedures <ul style="list-style-type: none">• Operations• Immunisations• Vaccinations	Investigations <ul style="list-style-type: none">• Recent tests• Biochemistry• ECG• Haematology• Imaging• Microbiology• Cytology• Physiology• Urinalysis• Others	Examinations <ul style="list-style-type: none">• Blood pressure	Events <ul style="list-style-type: none">• Encounters• Admissions• Referrals e.g. home visits	Summary <ul style="list-style-type: none">• Current problems• Recent tests• Current Medication• Allergies

Your Care Connected at Sandwell & West Birmingham NHS Foundation Trust

Lanarkshire portal GP summary



Select Patient ? Log Out

HAWKRIDGE, Marcus (Mr) Born **12-Jul-1946 (68 years)** Gender **Male** CHI **1207467111**
Address **17 BROOKFIELD AVENUE, LEEDS, LS8 4HY** Contact **Not known**
Last Patient Update **13-Mar-2015 13:13 (7 days ago)** Last Practice Update **13-Mar-2015 13:20 (7 days ago)**

Summary Medications Risks and Warnings Procedures Examinations

Past Medical History

18-Jun-2013	Ocular hypertension
03-Dec-2007	Circulatory system disease NOS
02-Feb-2007	[V]Issue of medical certificate
03-Jan-2007	Cataract
03-Jan-2007	Phako lens insert pros replace
19-May-2006	Circulatory system disease NOS
10-Jan-2005	Circulatory system disease NOS
30-Dec-2004	Circulatory system disease NOS
30-Jan-2004	Angina pectoris
30-Jan-2004	Circulatory system disease NOS
23-Oct-2001	Old myocardial infarction

Current Medication

Acute Medication

There are no Acute Medications records in the patient's record

Repeat Medication

Lisinopril 10mg tablets | Amlodipine 10mg tablets | Latanoprost 50micrograms/ml eye drops | Aspirin 75mg tablets | Metoprolol 50mg tablets | Atorvastatin 20mg tablets

Allergies and Adverse Reactions

There are no Allergies and Adverse Reactions records in the patient's record

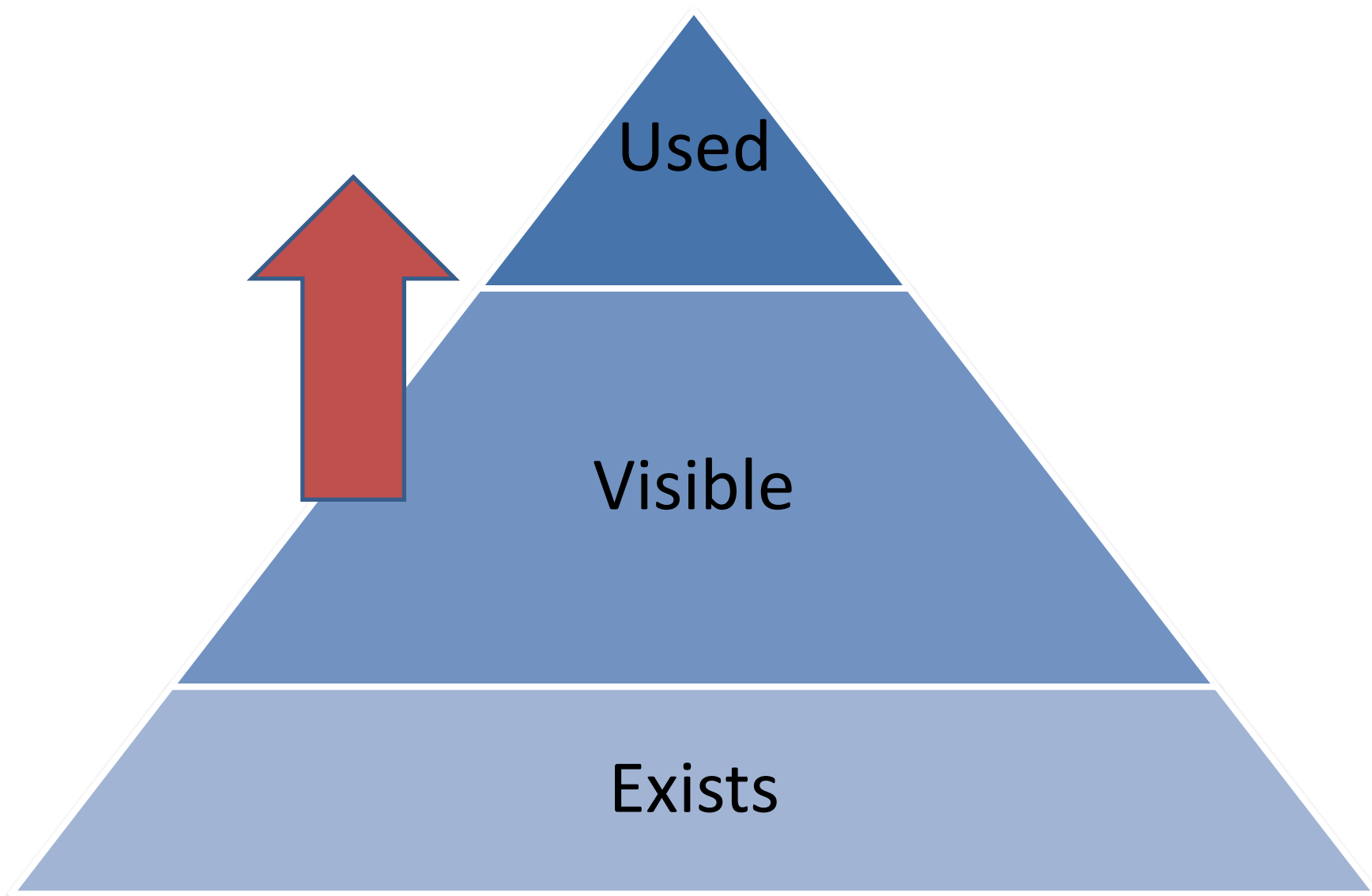


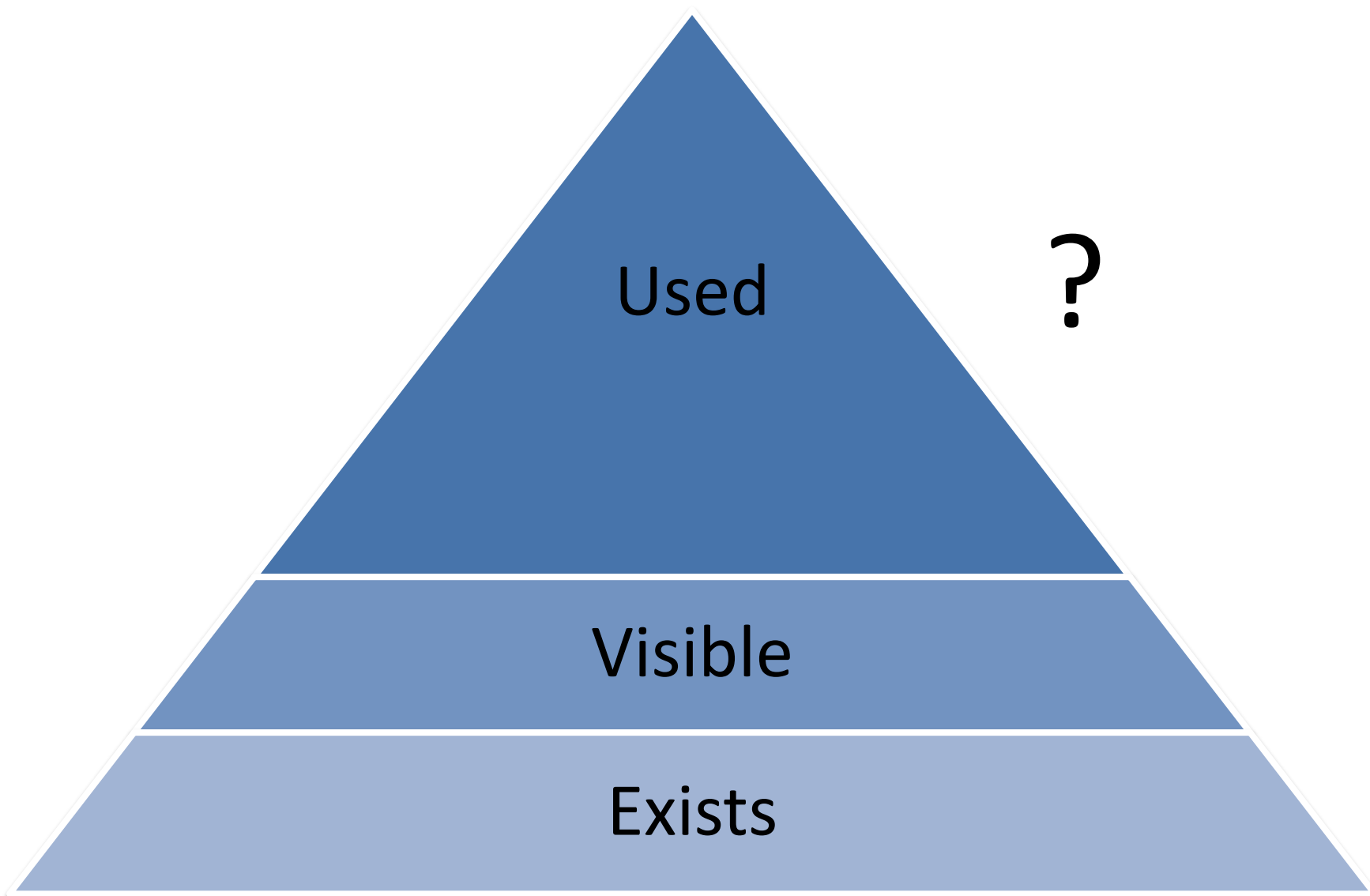
"Photo by DAVID ILIFF. License: CC-BY-SA 3.0"

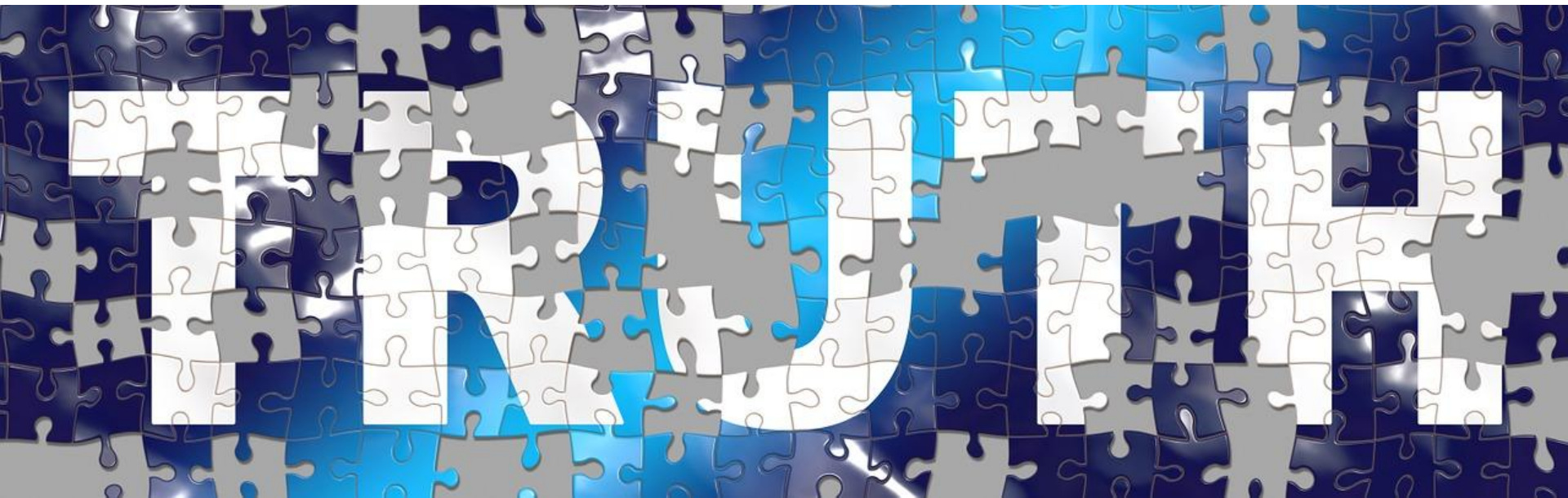
Used

Visible

Exists







Human factors in shared records

Visibility \neq Use

How do clinicians assimilate, process and use information to alter decision making?

Shared records: the evidence

92788

- Records/ or Medical Records Systems, Computerized/ or Electronic Health Record

86971

- 'Shared' OR 'record sharing'

827

- Publications on shared EHRs

Shared records: the evidence

827

- Publications on shared EHRs

297817

- 'effectiveness'

32

- Studies reporting **effectiveness** of shared EHRs

Shared records: the evidence

827

- Publications on shared EHRs

1263661

- 'evaluation' or evaluation studies

101

- Studies **evaluating** Shared EHRs

Lessons for implementation of national shared record summaries

- Greenhalgh review across the UK

When designing and implementing complex technologies with pervasive implications, policymakers must consider not only technical issues but also the **personal, social** and **organisational** aspects of the programme.

A judicious blend of 'hard' and 'soft' management appears key to managing such programmes

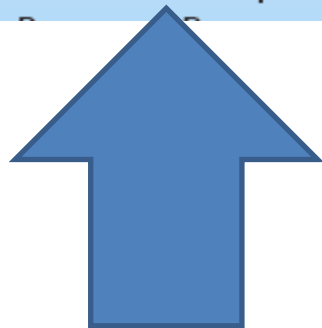
Key Information Summary

Key Information Summary (KIS) Newsletter

March 2014 | Issue 8

In this issue:

- Mission Complete



Key Information Summary

- 'Special notes', free text for important messages for out-of-hours (OOHs)
- Medical history and diagnoses
- Care plans
- Patient wishes on place of care and resuscitation
- Carer, social care and next of kin contact details.

Key Information Summary

- Craig review: Q1 2014
 - >90,000 records 2013-2014
 - Interviewed OOH clinicians (x14) and GPs
 - Respondents ‘agreed’ KIS enhanced safety , reduced admissions
 - Desire for
 - more (good-quality) data including social care
 - others to be able to input data

Key Information Summary

...” noting that patients **assume that the OOH GP knows everything** so that when she or he does not have all the information this is commented on and the patient is bemused or annoyed.”

Craig et al KIS review

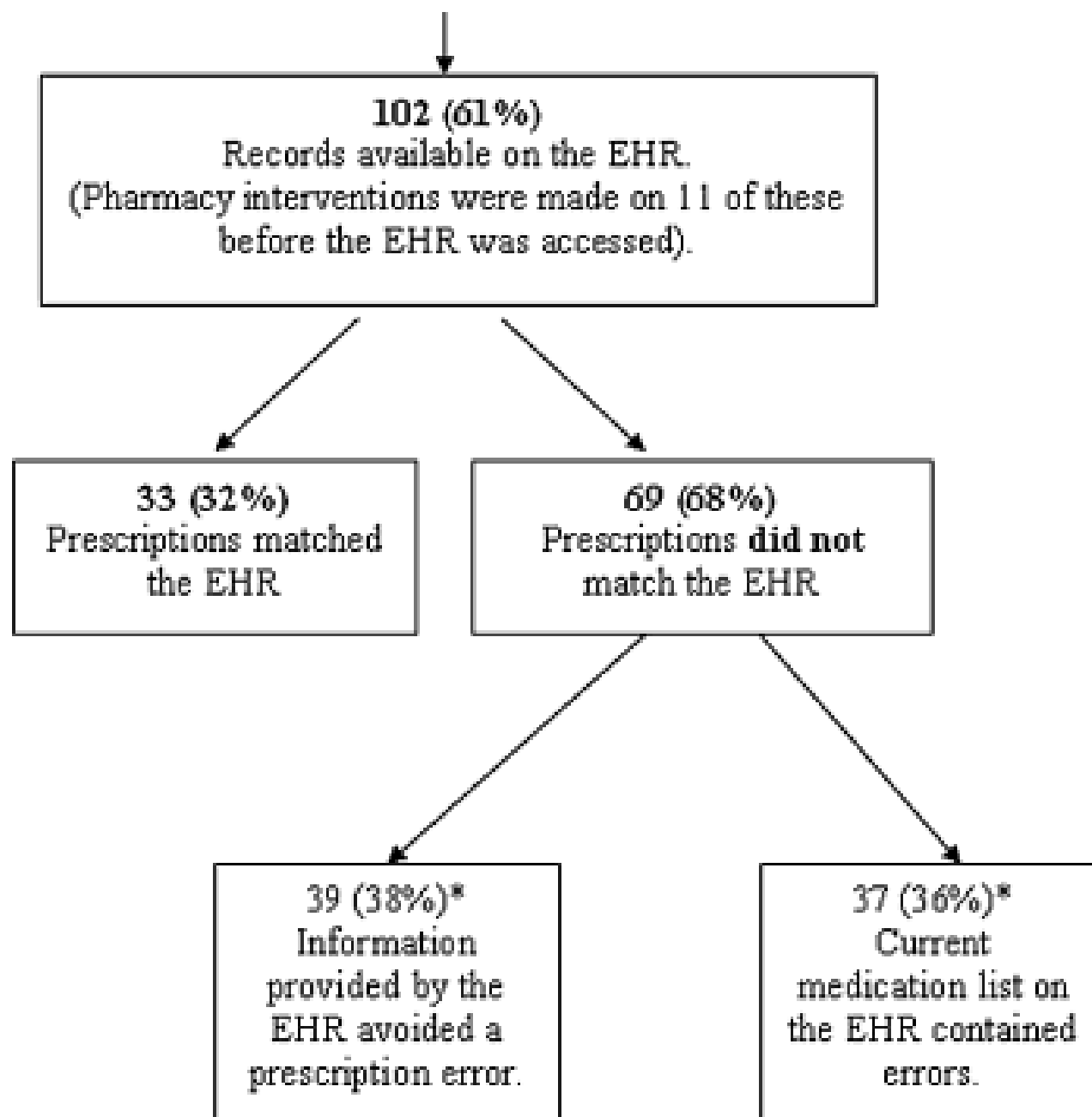
“we all know that **patients expect those who care for them to have details of their problems, tests and medication**. They are often surprised to learn how poorly this information is shared and frustrated by having to answer the same set of questions time and again.”

Dr Neil Kelly Feb 14

Medicines reconciliation

- Surely safer with a shared record...
- Bradford, UK 39-bed IAU ; 6000 admissions/y
- Admitting staff had shared access to SystmOne GP system via smart cards (*note this was 2007/8*)
- Hypothesis:

“Access to a single , shared, contemporaneous patient record should lead to improved safety and quality of care...especially for certain groups such as the elderly”



Errors found	Discharge prescription	EHR
	Omission of drug	Wrong drug
	Unidentified allergies	

Examples

Drug omission

Eleven medicines were missed off the initial drug history on admission. The omission was detected by looking at the EHR. The missed medicines were aspirin, quinine sulfate, tiotropium inhaler, tramadol, spironolactone, beclomethasone inhaler, salbutamol inhaler, alendronic acid, felodipine, furosemide, and lactulose.

Wrong drugs in EHR

The EHR stated that the patient was taking aspirin and clopidogrel. However, these had been stopped previously as the patient was now taking warfarin.

An American example..

Oregon Community Health Information Network

WE ARE **OCHIN** [Home](#) [About Us](#) [Offerings](#) [Members](#) [Research](#) [Blog](#)

OCHIN Research:
Leading Innovation through
Collaboration & Research

MEMBERS CLICK [HERE](#)

NEWS OCHIN named one of Oregon's 100 Best Nonprofits to work for.

OFFERING Explore OCHIN's newest product, Aciere QOL.

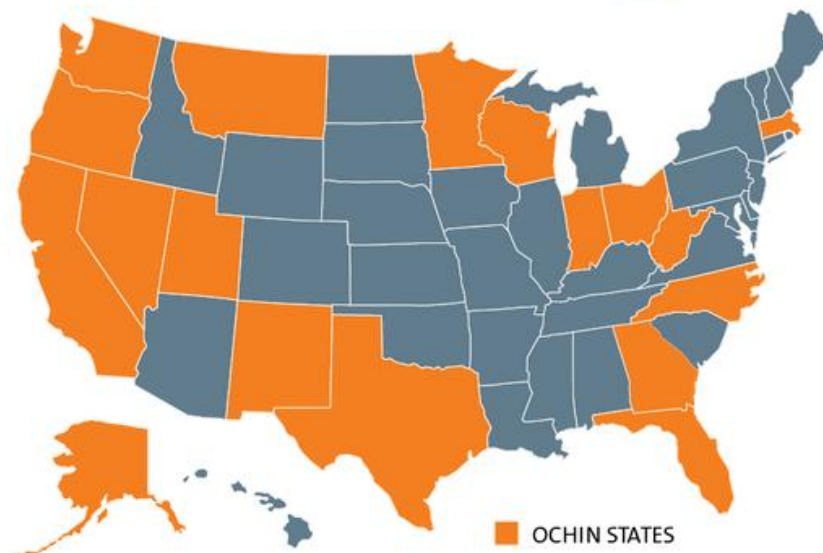
OCHIN is a nonprofit health care innovation center designed to provide knowledge solutions that promote quality, affordable health care for all.

<http://ochin-research.org> Transforming health care to improve outcomes and reduce costs demands both innovation and collaboration. It takes individuals and communities working side-by-side to design relevant and reasonably priced information technology and

CONTACT US

COMPANY

OCHIN is Currently in 18 States



We are known as one of the nation's largest and most successful health information networks, spanning 18 states and serving over 4,500 physicians. Our Health IT solutions improve the integration and delivery of health care services across a wide variety of practices—with an emphasis on safety net clinics and small practices as well as critical access and rural hospitals. OCHIN is focused on helping your practice use Health IT tools to achieve the core components of care quality improvement that are essential to realizing Institute for Healthcare Improvement's *Triple Aim* goals:

- (1) improving patient experience
- (2) enhancing population health
- (3) controlling costs.

About Us

Company

[Purchasing](#)[Our Values](#)[Leadership](#)[Board](#)[Careers](#)[Benefits](#)

Recent Blog Posts

[OCHIN Launches Acure Health Care Data Aggregation System](#)[HCCN Grant Award Announcement](#)[Celebrating America's Health Centers: Innovators in Community Health - National Health Center Week 2016](#)

The OCHIN Values...

[CONTACT US](#)

OCHIN

- Patient-centred medical village

- Shared linked EHR (Epic)
- Centralised data warehouse and informatics
- Improvement expertise

>40 organisations
>900,000 patients

Public Health

Informaticians

Clinicians

Policy makers

Research

OCHIN



NIH Public Access

Author Manuscript

J Am Board Fam Med. Author manuscript; available in PMC 2014 January 07.

Published in final edited form as:

J Am Board Fam Med. 2013 ; 26(3): . doi:10.3122/jabfm.2013.03.120234.

Bringing Together Community Health Centers, Information Technology and Data to Support a Patient-Centered Medical Village from the OCHIN community of solutions

Jennifer E. DeVoe, MD, DPhil and

Executive Director, Practice-based Research Network, OCHIN, Inc., 1881 SW Naito Parkway, Portland, OR 97201; Associate Professor, Department of Family Medicine, Oregon Health & Science University

Abigail Sears, MHA, MBA

Chief Executive Officer, OCHIN, Inc., 1881 SW Naito Parkway, Portland, OR 97201

Jennifer E. DeVoe: devoej@ohsu.edu; Abigail Sears: searsa@ochin.org



Evaluations: costs

- Virtual Lifetime Electronic Record for Veteran Affairs
 - French et al evaluated implementation of HIE in Indianapolis in controlled trial (n=6104 vs 45700)
 - Costs for VHA **increased** with information exchange by \$1152/yr

Medicine®

ECONOMIC EVALUATION STUDY

OPEN

Short-Term Medical Costs of a VHA Health Information Exchange: A CHEERS-Compliant Article

Dustin D. French, PhD, Brian E. Dixon, PhD, Michael Weiner, MD, Allan J. Zillich, French et al Medicine. 95(2):e2481, 2016 Jan

Evaluations: costs

- So why did costs increase?
 - Overall costs may have decreased – couldn't measure cost in non-VHA providers
 - Opt-in, so enrolled **sicker patients**... in spite of attempts to control. Affects all such studies (including eg KIS)
 - External medical information may have led to **more testing**.
 - Preliminary studies **no reduction** in medical utilization as a result of HIE

Evaluations: costs

- Were they too early in the **adoption curve**?
 - Previous studies suggested HIE cost saving in emergency departments
17. Rahrurkar S, Vest JR, Menachemi N. Despite the spread of health information exchange, there is little evidence of its impact on cost, use, and quality of care. *Health Aff (Millwood)*. 2015;34:477–483.

Health Information Exchange

- Hersh et al 2015
 - Around 76% US hospital now have HIE
 - HI-TECH act allocated **\$563m** for HIE
 - Systematic Review Jan 90 – Feb 15
 - **34** studies on outcomes of HIE
 - **No data** on clinical outcomes or harms
 - Low quality evidence of reduced costs / admissions (but not re-admissions)
 - 'e-health leaders' effect

Hersh review

- Not 'whether' but 'how'

How can HIE be implemented in order to result in the greatest benefit for patients, clinicians and health systems with the least cost and harm?

RESEARCH ARTICLE

Open Access

The value of connected health information: perceptions of electronic health record users in Canada



Sukirtha Tharmalingam^{*} , Simon Hagens and Jennifer Zelmer

- iEHRs
 - 250,000 Canadian HCPs access health information outside their main practice
 - 91,000 active users in previous month
 - 2,318 respondents in 6 jurisdictions

iEHR survey, Canada 2014

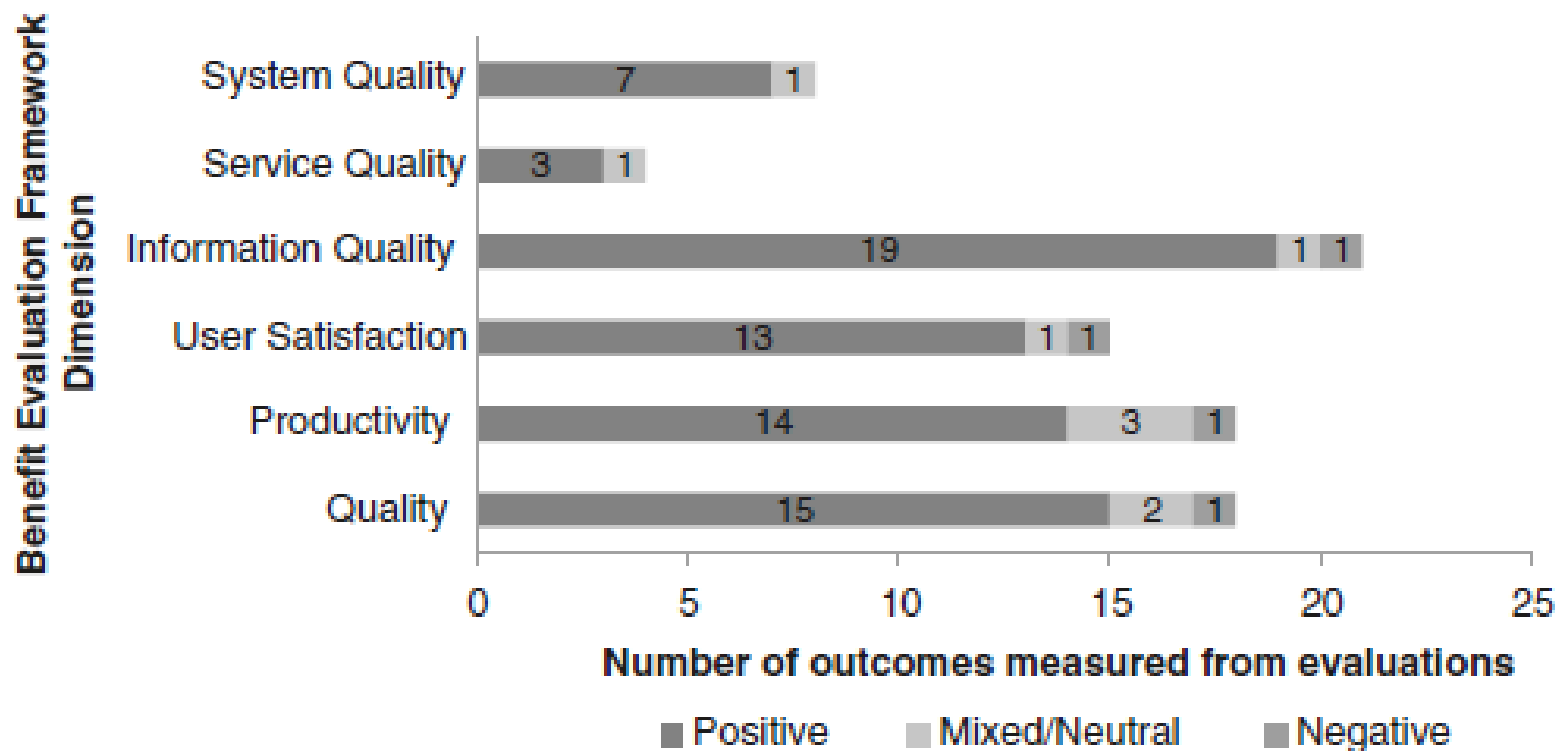


Fig. 2 Summary of User Perspectives on iEHR Outcomes

EHRs and collaborative work routines

International Journal of Medical Informatics 94 (2016) 100–111



Contents lists available at ScienceDirect

International Journal of Medical Informatics

journal homepage: www.ijmijournal.com



The impact of electronic health records on collaborative work routines: A narrative network analysis

Chia-An Chao

Scott College of Business, Indiana State University, 30 North 7th Street, Terre Haute, IN 47809, USA



ARTICLE INFO

ABSTRACT

Collaborative work routines

- **Organisational routines** are how we achieve much of what we do (Stene 1940)
- Feldman 2003: argued that routines can help us change things as well
- Chao: used '**narrative networks**' rather than workflow diagrams to review implementation of a perinatal record in a midWest US hospital

Chao: findings

- Three main routines: shift change, computerised documentation, interprofessional communication
- Functional properties of EHR limited its support for clinician collaboration and **increased cognitive load**.
- Staff used more **personal notes** to amplify cognition
- Preference remained for '**synchronous**' communication to assure receipt

Some user quotes...

In some ways, it seems less structured b/c there are different ways to chart items and **everyone seem to be doing it differently.**

Difficult to navigate between screens, especially during delivery or c/s. There is **information missing** and other information is **not relevant** to our unit.”

Chao conclusions:

- **Availability of information** did not automatically improve **communication** and **coordination**
- Implementation resource is required to **contextualise to local needs**
- EHRs need to expand beyond passive information repository and offer **stronger cognitive support**

Other concerns

Fears of wider sharing...

- Fear of liability under data protection law




- Sensitive codes..
 - ‘Sensitive’ information – huge restrictions...
 - Prescription exclusions e.g. contraception, aciclovir, voriconazole
 - Non-accidental injury to child

What can we do?

Stop clinicians drowning in information

Get two-way interoperability

Engage clinicians and patients in co-creation



Beyond PDFs..

- EHR-ARCHE
 - Can we get beyond a ‘Document-Oriented Architecture’ (IHE-XDS)?
 - Identified 446 frequently-needed diabetes care items
 - Content-based searching:
 - reduced **time** to find information (8min from 20min)
 - increased **success** of finding information (from 80% to 100%)

Duftschnid et al International Journal of Medical Informatics.
82(12):1195-207, 2013 Dec.

What can we do?

Stop clinicians drowning in information

Get two-way interoperability

Engage clinicians and patients in co-creation

Data quality – out of context

- Dutch network: compared cancer coding in 250,000 records in 52 practices to the cancer registry
- Used Standardised Incidence Ratios
 - 71.% colon cancer
 - 103% breast cancer (up to 230% in one EMR)

Data quality – a shared problem

- Better visibility of coded data in context in all settings will act to improve quality
 - All clinicians need to be able to flag questioned items

Examples

Drug omission

Eleven medicines were missed off the initial drug history on admission. The omission was detected by looking at the EHR. The missed medicines were aspirin, quinine sulfate, tiotropium inhaler, tramadol, spironolactone, beclomethasone inhaler, salbutamol inhaler, alendronic acid, felodipine, furosemide, and lactulose.

Wrong drugs in EHR

The EHR stated that the patient was taking aspirin and clopidogrel. However, these had been stopped previously as the patient was now taking warfarin.

What can we do?

Stop clinicians drowning in information

Get two-way interoperability

Engage clinicians and patients in co-creation

Key Information Summary

- What happened to **co-creation**?
 - Patient or carer ability to access and amend or vary consent / contact details etc.
 - Could we use experienced community-based or secondary care staff esp for long-term conditions..
 - Would this help data quality?
- Would this reduce **overheads of curation**?

Patient-centred Health Information

Table 1

Model for functionalities of a Patient-Centered Health Information System

Functionalities	
Level 1 Functionality: patient reported information	Collect information, such as self-reported demographic and risk factor information as well as patient reported outcomes
Level 2 Functionality: existing clinical information	Integrate patient reported information with existing clinical information from electronic health records and/or claims data
Level 3 Functionality: interpretation of information	Interpret information for the patient by translating clinical findings into lay language and delivering health information through a user-friendly interface
Level 4 Functionality: individualization of information	Provide individualized recommendations to the patient, such as screening reminders, based on the patient's risk profile and on evidence-based guidelines
Level 5 Functionality: patient activation and engagement	Facilitated informed patient action integrated with primary and specialty care through the provision of vetted health information resources, decision aids, risk calculators, personalized motivational messages, and logistical support for appointments and follow-up

LEGEND. Adapted from Krist AH, Woolf SH. A vision for Patient-Centered Health Information Systems. *JAMA* 2011; 305(3):300-301.



GETTING STARTED

1. Get your medical id from your doctor
2. Register for your FREE account here
3. Answer 10 to 12 health questions

[Login Now](#)

No account? Just click the button below!

[Register](#)

MyPreventiveCare will securely gather information from your Primary Care Provider's electronic health record, including, vital signs, medications, test results, conditions and diagnoses to tell you the . . .

Preventive Services You Need Now!

What is it?

MyPreventiveCare is a tool to help you and your doctor work together to keep you healthy. It is a completely personalized way to see what steps you've already taken and what else you can do to check for and prevent illnesses such as:

- Heart disease
- High blood pressure
- Breast cancer
- Osteoporosis
- Vascular disease
- Colon cancer
- Cervical cancer
- High cholesterol
- Prostate cancer
- Diabetes

MyPreventiveCare doesn't just tell you what *people* should do to stay healthy – it is all about what *you* need to stay healthy.

What can it do?

MyPreventiveCare can:

- Show you some of the information in your doctor's record – like your blood pressure, when you last had certain tests, and some of your results
- Tell you what preventive care you need based on your information and your doctor's recommendations
- Direct you to information on the internet that your doctor wants you to see to help you learn more about your health
- Send both you and your doctor reminders when you need certain tests

Shared records: the dream and reality

- Conclusions
 - We need to do far more to address **cognitive load** and human factors
 - Clinicians need **better training** for a new era of vast information accessibility
 - Need much better research to inform **evidence base** for clinical benefit

**DREAMS
DON'T WORK
UNLESS
YOU DO**