

Vitrosoftware

INTRODUCTION TO VITRO
DIGITAL MEDICAL RECORD
DECEMBER 2020



60,800+ notes chased by the missings team in an average year

2,000,000 notes in storage

The Knock On Effect

Typically doctors spend 52 minutes per day searching for information

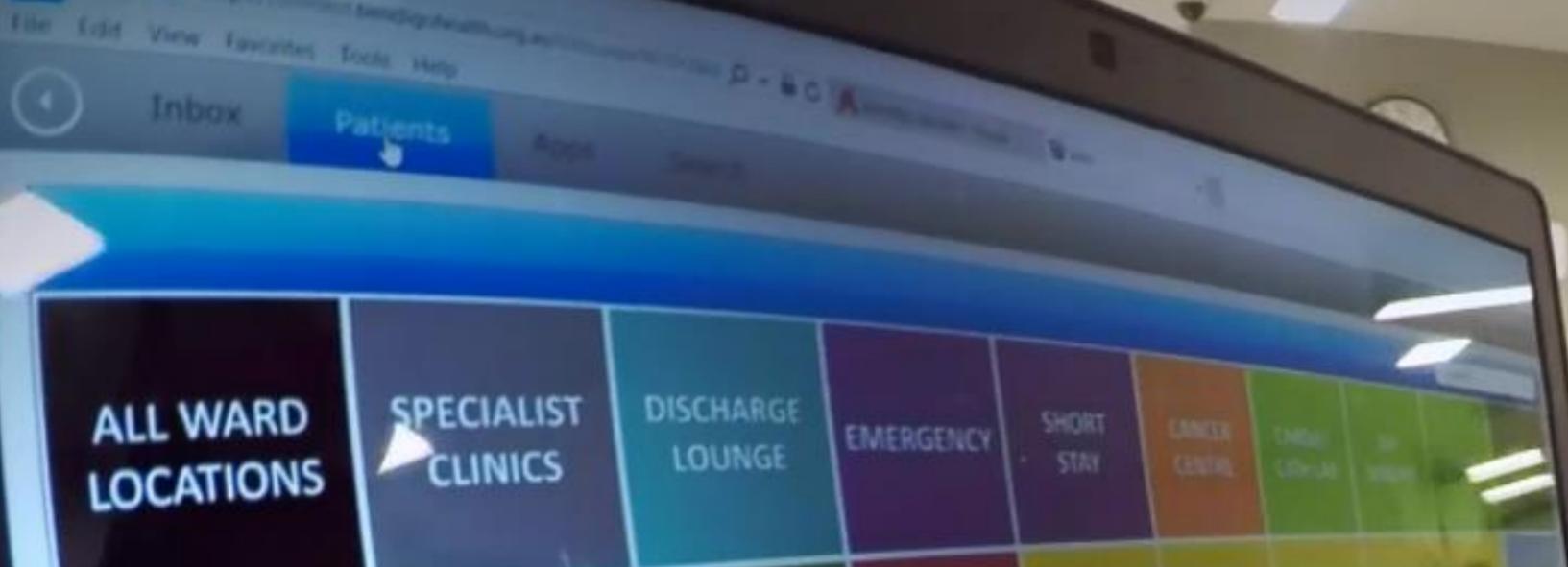
Patient safety is compromised by missing charts and illegible handwriting

Paper charts hinder the ability to analyse data which inform business decisions

Paper charts can only be in one place at one time, impacting how clinicians utilise their time

25,000+ health records sent back to the library in a single month

Staff reported they could not give the care they would wish to and also keep up with paperwork.



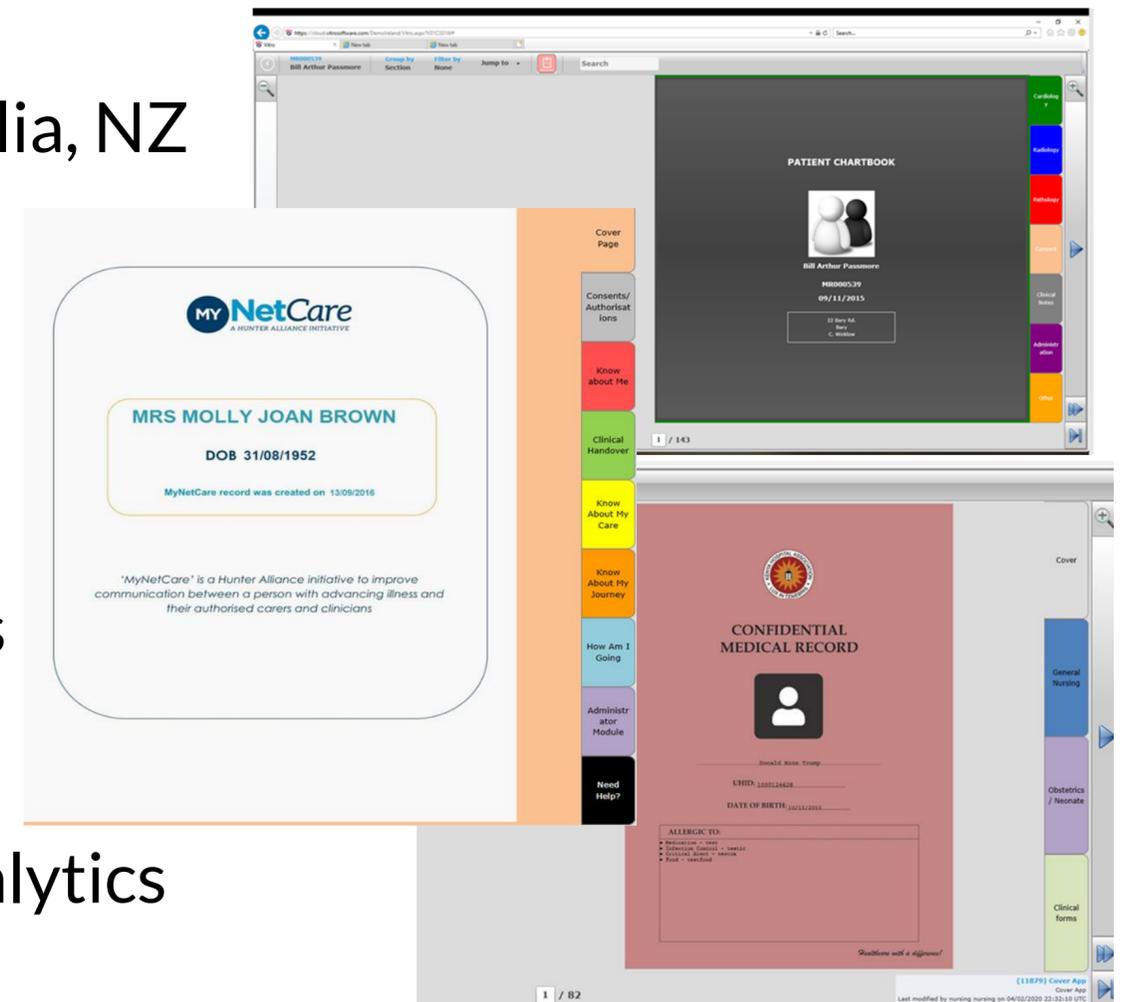
The affordable EPR available in real-time

 **Better Patient Care**  **Affordable**  **Live in 3 - 6 months**  **The Vitro Way. Evolution, not Revolution**

Please Select a Location

INTRODUCTION TO VITRO SOFTWARE

- **Founded in 2006** – HQ Dublin, Offices in Sydney & Manila
- **National Rollout** of Healthcare Systems in Ireland & Australia, NZ
- **Integrated** with every PAS in Ireland!
- **Vitro Platform** – first site live in 2013 in Sydney
- **Vitro – Digital Medical Record**
 - digitised forms, enables *digital first* entry with familiar forms
 - optimised clinical processes without need for retraining
 - provides dashboards for operational efficiency, data for analytics
 - integrated with existing hospital systems



SOME VITRO CLIENTS



- Calvary Healthcare – private hospital group of 11 hospitals in 6 states/territories in Australia.
- Phased implementation – functionality extended with each phase.
- Includes General Inpatient clinical workflows & end of bed forms, Paeds, Maternity, Ortho, Oncology, dashboards, alerts, integration with Lab, Rad.

[Read the Calvary Case Study here](#)



- Private hospital in NZ with 11 theatres, with a focus on elective surgery.
- Inpatient medical & surgical workflows, Maternity, ICU, HDU, Cardiology Day Unit, Surgical Day Unit, Cancer Care, Eye Care
- Mobile technology

[Hear from the SGH CEO here](#)



- 660 bed public hospital in Australia providing acute & sub acute services to large region.
- All medical & surgical activities captured in Vitro.
- Highly integrated solution with communications to multiple clinical systems to provide a 'single source of truth'.
- Huge benefits achieved in service delivery from analysis of data available from Vitro.



- Private hospital group, Vitro clients in Australia.
- Mental Health facilities across Sydney
- Pre-admission workflow, category sightings workflow to facilitate legislation mandates
- Huge operational efficiencies supporting multi-disciplinary teams

THE VITRO WAY

Evolution, not Revolution – a partnership approach to:

- Improve the clinician experience**

- a solution that users want to use, ensured by our co-design methodology to meet specific client needs
- familiar visual – looks & feels like current paper forms
- solution design based on existing work processes & the required standards for clinical documentation

Paper Static Requires manual/pen data entry

The paper form is a grid-based document with various sections for data entry. It includes graphs for respiratory rate, O2 saturation, O2 flow rate, blood pressure, heart rate, and temperature. There are also sections for 'Clinical Review' with 'Actions Required', 'MET Call', and 'O2 Mode of Delivery/Respiratory Device'. The form is designed for manual data entry using a pen.

Vitro Dynamic

The Vitro software interface is a digital version of the paper form. It features a patient information section at the top right, an 'Input Screen' at the bottom right, and a central chart area. A callout box points to the chart area, stating 'Out of range observations highlighted/alerted'. Another callout box points to the patient information section, stating 'Patient information automatically populated'. The 'Input Screen' shows fields for Date, Time, Respiratory Rate, O2 Saturation, O2 Flow Rate, O2 Mode of Delivery, Blood Pressure, Heart Rate, Heart Rhythm, Temperature, Level of Consciousness, Pain Score, and Intervention.

THE VITRO WAY

Evolution, not Revolution – a partnership approach to:

- Contribute to continuous quality improvement – our clients see an increase in volume & quality of patient information captured
- Real time access to data – through Vitro's Odata interface your data is always available to inform your clinical & operational decision making

Unit Record No. _____
Surname: _____
Other Names: _____

Date Time	Progress Notes
2/23/15 3:00 PM	#0 Admission + Rebound @ Pt has been sleeping since placed in isolation room. Still strong odor of ETOH. Slight response when talked. VS: P 90 R 30 T 96.4 SpO2 98% D still appears heavily sedated D vital signs q 15 min check & monitor VS closely James & Steve RN
2/23/15 7:00 AM	#0 Admission + Rebound @ Pt still sleeping at this time. Still small of ETOH. Still in 4 point leather restraints. VS: P 80 R 20 T 96.4 SpO2 98% D still sedated D vital signs frequent check & monitor VS closely James & Steve
2/23/15 7:00 AM	#0 Admission + Rebound C&A Eye closed; lying quietly in bed; mouth breathing respirations 16-18/min. Chin & neck on breast. Reintroduce checks. Circulation to extremities improving. SpO2 98% @ 0700. Pt continues very sedated. Open eyes & speak & stiff when VS taken. Blank & glass of water P. Continue Hpts protocol in isolation with q 15 minute observations. Monitor SpO2 before administering any medication. Hold O.M. until awake by PO. Order sleep free tray & encourage fluids to ↑ SpO2 & ↓ dehydration from alcohol. Obtain drug screen on urine & blood. C. Gilbert

TOTAL CARE PROGRESS NOTES MR 121

Patient information entered manually

Date, time & user info automatically captured

Mr O'NEILL ALAN MR38880013
Dr Robert
MUNLUSK HOUSE, RENVYLE, MOUNTBELLEW, CO WESTMEATH, Ireland, W6 21/02/1966 Male

Date Time	PROGRESS NOTES
21/Jul/2015 01:55	Patient Presented with chest pain in right side of chest Currently on warfin No prior history of heart problems in family heavy smoker [Vitro A (admin)]
21/Jul/2015 01:58	Patient is having extreme pain in knees, extremely swollen. [Vitro A (admin)]
21/Jul/2015 01:59	Users now have the ability to write in the chart while also reviewing other sections [Vitro A (admin)]

TOTAL CARE PROGRESS NOTES MR 121

2/Apr/2015 14:19 Kim Gilbert (Project Manager)

Patient information automatically populated

Text easy to read for all users

Embeds photos & stores them securely

Illegible text leads to clinical errors

THE VITRO WAY

Evolution, not Revolution – a partnership approach to:

- Adding intelligence to your paper forms – familiarity with smart layers of function
- Incorporating workflow, digital signatures, mandating completion, alerts functionality, analytics

At a glance, review progress of Discharge Summary completion.

Diagnosis mapped from ICD-10 coded field.

Patient information mapped from other forms in the system. Efficient & timely discharge.

Tom Tank 025088

Summary Medical Discharge Medical - Medication

MR Tank 025088
Tom
84 GLENISLA DRIVE,
MOUNT MARTHA,
VIC AUSTRALIA, 3934
29/01/1940
Male
5974 4843

<input checked="" type="checkbox"/>	Medical Discharge	Completed
<input checked="" type="checkbox"/>	Nursing Discharge	Completed
<input checked="" type="checkbox"/>	Physiotherapy Discharge	Completed
<input type="checkbox"/>	Neuropsychology Discharge	
<input type="checkbox"/>	Music Therapy Discharge	
<input type="checkbox"/>	Clinical Psychology	
<input type="checkbox"/>	Occupational Therapy Discharge	
<input type="checkbox"/>	Speech Pathology Discharge	
<input type="checkbox"/>	Nutrition Discharge	
<input type="checkbox"/>	Social Work Discharge	
<input type="checkbox"/>	Allied Health	

Admission Date: 09/11/2020 Discharge Date: 13/11/2020

Discharge destination:
Convalescence Home - Cedar Lodge

Presenting condition/diagnosis:
Broken hip

Relevant past medical history:
asthmatic

Social history:
Smoker

Version 1
May 2014

MULTIDISCIPLINARY DISCHARGE SUMMARY MR 104

Easily add diagnostic results & discharge meds to the Discharge Summary Report

Mandatory fields highlighted

All data captured in Vitro Apps is available for analysis

Bil Fred Mooney MR003843, 155_0, 26/02/2016 11:38:44 GMT

Symptoms Recommended Management Appendix

FAMILY NAME Mooney MRN MR003843
GIVEN NAME Bil
D.O.B. 02/02/1922 M.O.
ADDRESS Wicklow
LOCATION / WARD St. Johns

CHEST PAIN PATHWAY
PRIMARY PCI SITE

COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

Date of Presentation: Time of Symptom Onset: HH:mm

CHEST PAIN or OTHER SYMPTOMS of MYOCARDIAL ISCHAEMIA
(eg sweating, sudden orthopnea, syncope, dyspnoea, epigastric discomfort, jaw pain, arm pain)

Be aware: HIGH RISK ATYPICAL PRESENTATIONS (eg diabetes, renal failure, female, elderly or Aboriginal)

EGG & Vital Signs, expert interpretation within 10 minutes

ST ELEVATION or (presumed new) LBBB

Consider Aortic Dissection (back pain, hypotension, absent pulses, BP difference)
Consider Pulmonary Embolism (severe dyspnoea, respiratory distress, low saturating O₂ saturation)

General Management
 Oxygen
 Aspirin
 IV Access
 Pain Relief
 Pathology incl Troponin
 Chest X-ray

Consider Pericarditis (sharp chest pain, respiratory or positional component)

Diagnose NON ST ELEVATION ACUTE CORONARY SYNDROME (ACS)

Go immediately to STEMI MANAGEMENT (page 3)

STRIATIFY ACS RISK

HIGH RISK	INTERMEDIATE RISK	LOW RISK
Any of the following	Any of the following and no high risk features	Any of the following and no high or intermediate risk features
<ul style="list-style-type: none"> ACS symptoms are repetitive or prolonged (> 10 min) & still present. Syncope History of chronic left ventricular systolic dysfunction (especially if known LVEF < 40%) OR current clinical evidence of LVD. Previous PCI/CABG < 6 months Diabetes + typical ACS symptoms Chronic renal failure + typical ACS symptoms Haemodynamic compromise (sustained SBP < 90 mmHg and / or new onset mitral regurgitation) Elevated Troponin (consider haemolysis, renal failure) Persistent or dynamic ECG changes of: <ul style="list-style-type: none"> ST depression ≥ 0.5 mm or new T wave inversion ≥ 2 mm Transient ST elevation (≥ 0.5 mm) in more than two contiguous leads Sustained VT 	<ul style="list-style-type: none"> ACS symptoms within 48 hrs that occurred at rest, or were repetitive or prolonged (but currently resolved) Previous PCI/CABG > 6 months Known coronary heart disease - Ekg if prior AMI or known coronary lesion > 50% stenosis Two or more risk factors of: Hypertension, family history, active smoking or hyperlipidaemia Chronic renal failure (especially if known GFR < 60 mL/min) + atypical ACS symptoms Diabetes + atypical ACS symptoms Age > 65 years 	<ul style="list-style-type: none"> Presentation with clinical features consistent with ACS without intermediate- risk or high-risk features. ECG Normal or unchanged from previous pain free ECG

All cases to be discussed with Senior Medical Officer

Recommended Management on page 2

This tool is intended as a guideline for clinicians to provide quality patient care. It is not intended, nor should it replace, individual clinical judgement. Some patients with co-morbidities or patients not suitable for invasive investigations may be appropriately managed medically.

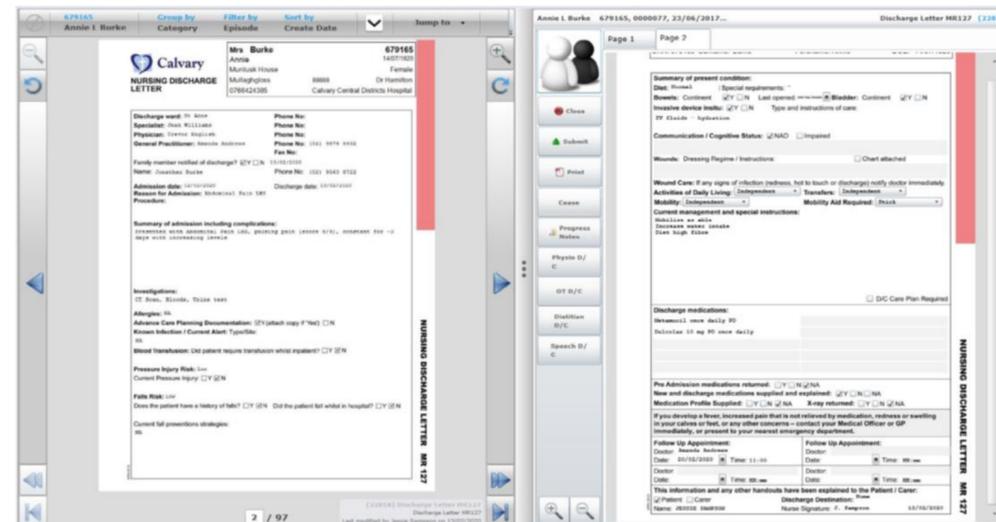
Decision Tree guides users through care pathway

Incorporate enforced workflow

THE VITRO WAY

Evolution, not Revolution – a partnership approach to:

- **Affordability** - with Vitro's flexible pricing models, including subscription or enterprise pricing
- **Improve the patient experience** – using Vitro's patient engagement, education & empowerment functionality
- **Deploy in 3 months** – a rapid deployment model to see real, quantifiable benefits in 3 – 6 months
- **100% Clinician adoption** – All users enjoying the benefits without redesigning work processes
- **Scalability** – from small clinics to large hospitals & hospital groups, Vitro is, by design, a scalable platform
- **Focused expertise** – on digitising clinical workflow & integration with hospital systems to give a complete medical record



THE VITRO PATIENT CHARTBOOK

The single source of truth for all clinical information

Sample Vitro Chartbook Cover

Integrated Lab & Rad reports (link to PACS)

Sample digital forms, direct data entry

The image displays three overlapping screenshots of the Vitro software interface. The top-left screenshot shows a patient chartbook cover for Bill Arthur Passmore (MR000539) dated 09/11/2015. The cover includes a sidebar with navigation buttons for Cardiology, Radiology, Pathology, Consent, Clinical Notes, Administration, and Other. The top-right screenshot shows a patient details form with fields for Patient and Provider information. The bottom screenshot shows a detailed admission assessment form with various checkboxes and text fields, also for patient Bill Arthur Passmore.

VITRO ENHANCED FEATURES

Remote Patient Management & Vitro Voice

Vitro RPM

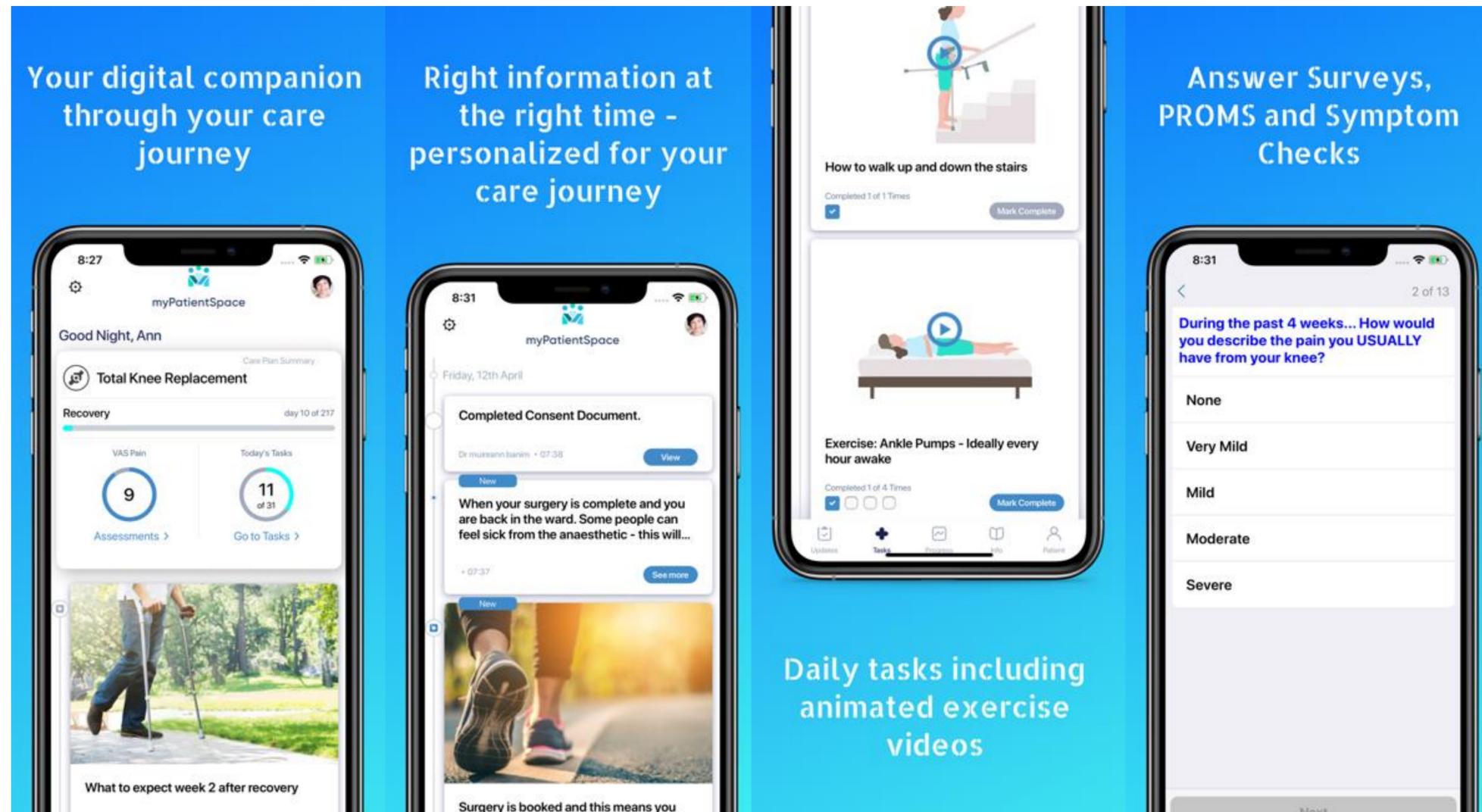
- Care extended beyond hospital walls
- Seamless onboarding, App download
- Patient (& carer) engagement, education, empowerment & support
- Communication & consultation



Vitro Voice

- Voice enablement functionality
- Fewer clicks – saving time
- Data capture through speech, rather than typing
- Deep integration for platform navigation

RPM IN USE - PATIENT ENGAGEMENT FOR ELECTIVE SURGERY



IN OUR CLIENTS' WORDS

There was more than **90%** decrease in the time taken to audit medical records

There has been a **95%** improvement in the completion of clinical documentation

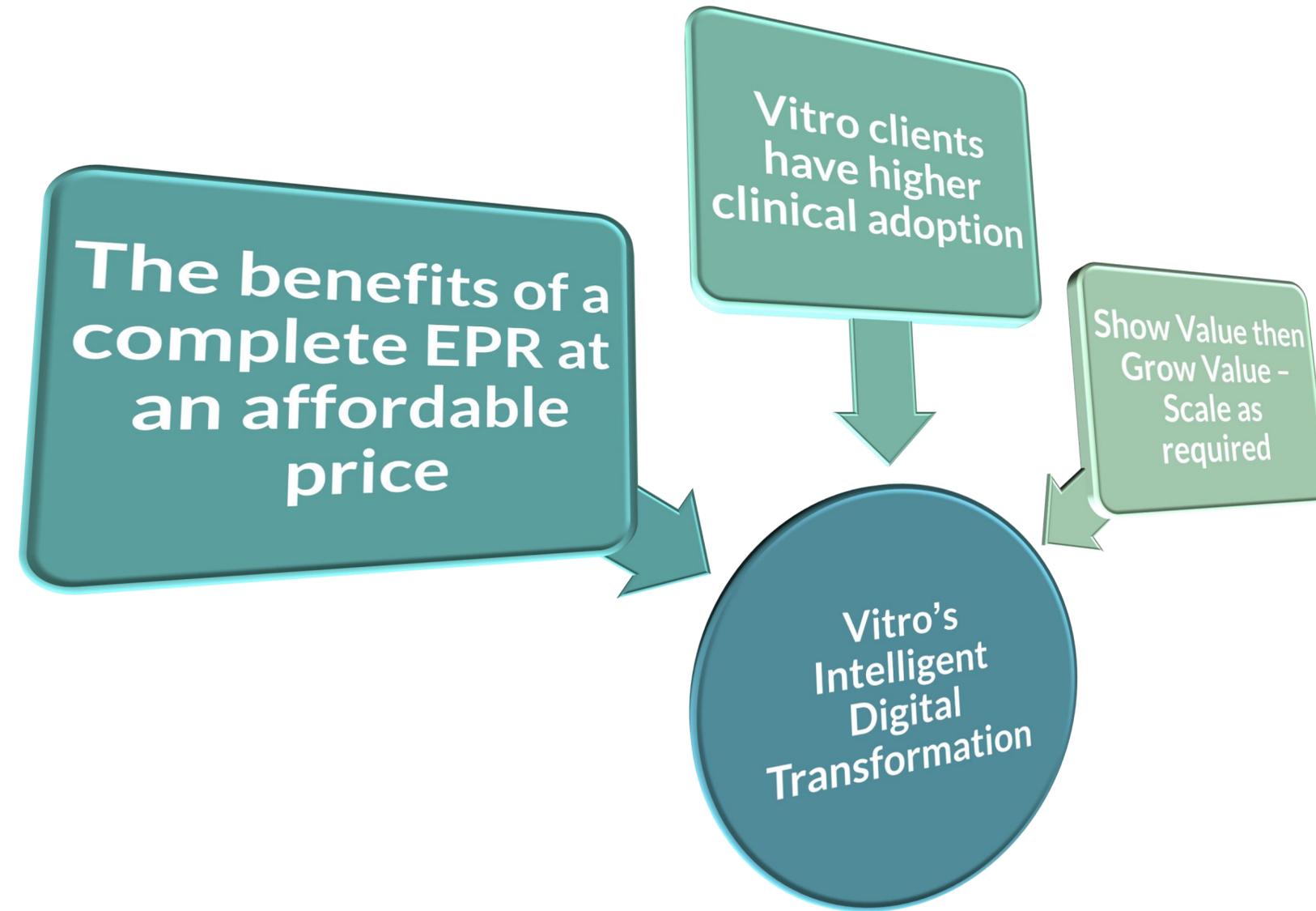
The time it takes to create a chemotherapy worksheet has been reduced from 30 minutes to 5 minutes – an **83%** reduction

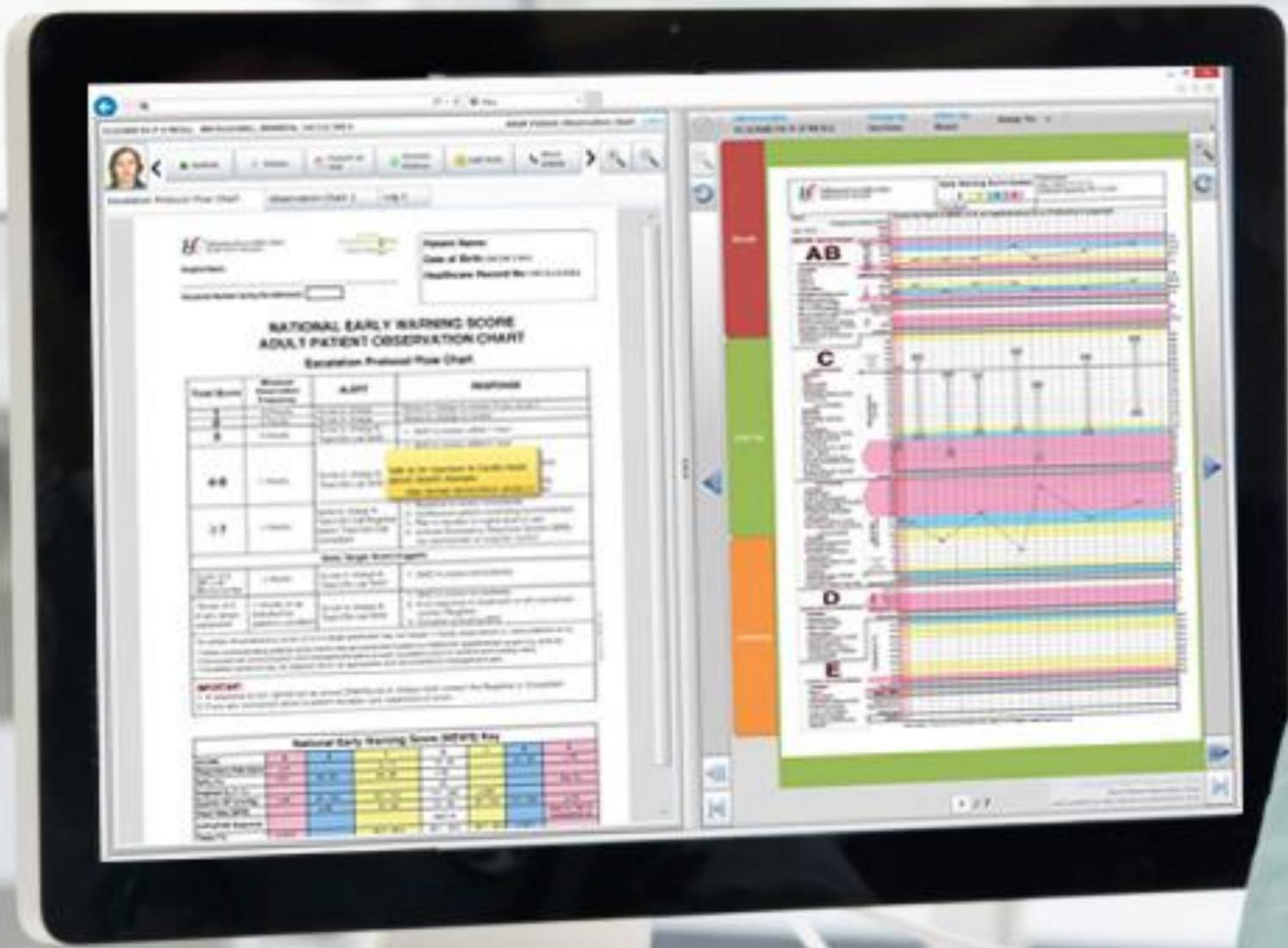
The time taken to locate historical data within the patient record has been reduced by **66%**

There has been a **75%** saving in the costs associated with becoming paperless and these costs are continually decreasing

The collation of information for freedom of information requests has been reduced by over **80%**

THE VITRO WAY TO DIGITAL TRANSFORMATION





Thank you for your time