



UNIVERSITY OF
PLYMOUTH

South West
Academic Health
Science Network



European Union
European Regional
Development Fund

EPIC (EHealth Productivity and Innovation
in Cornwall and the Isles of Scilly)

Using technology in health and social care to:

- improve health and wellbeing of people in Cornwall and the Isles of Scilly
- grow the Cornish economy in this sector.

www.plymouth.ac.uk/research/epic

Implementing robots and video in health and social care

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@rjonesplymouth

Exeter Thursday 7/3/19

11.45-12.10

Nottingham Diabetes System 1979

PATIENT'S NAME _____		DATE _____	
Hospital Number _____		Room _____	
Age _____ Sex _____		Date of Birth _____	
Race _____		Religion _____	
Marital Status _____		Occupation _____	
Presenting Complaint _____		History of Present Illness _____	
Past Medical History _____		Past Surgical History _____	
Family History _____		Social History _____	
Review of Systems _____		Physical Examination _____	
Laboratory Studies _____		Imaging Studies _____	
Pathology _____		Microbiology _____	
Special Studies _____		Other _____	

\$\$\$\$\$\$ OFF WATERDOWN ROAD\CLIFTON ESTATE\WOTT
 Tel: NONE
 To see TATTERSALL 0900 20.07.84
 BLOOD GLUCOSE, HBA1, DIETICIAN,
 CONFIRMED DMA
 Last review 24.11.83
 Missing - Marital status
 Missing - Year start current diab meds

DATE	OTHER PAST	DATE	PAST DIABETIC	DATE
START:	PRESCRIPTIONS	STOP	TREATMENTS	STOP
NOV80	ATENOLOL		JUN78 (BR) FASTACTRAPID 12	
	100 MG 1/DAY		+ MONOTARD 16	
NOV80	BENDROFLUAZIDE		JUN78 (EW) MEALACTRAPID 10	
	10 MG 1/DAY		+ MONOTARD 14	

This section MUST be

PATIENT DATA		DATE		TIME		LOCATION	
PATIENT NAME		12/28/77		05:00 PM		1100 W 01	
WEIGHT		075 KGS (11st, 11lbs)		070 KGS (11st, 01lbs)		072 KGS (11st, 5lbs)	
HEIGHT		170 CMS (5ft 7inch)		170 CMS (5ft 7inch)		170 CMS (5ft 7inch)	
HEAD		15.02		08.02		09.32	
BLOOD PRESSURE		110/075/070		100/100/075		100/080/080	
PROTEINURIA		+		+		+	
CREATININE		000 UMOL/L		120 UMOL/L		125 UMOL/L	
EYES RECORD							
VIS/AC		R: 6/06 Specs		L: 6/18 Specs		R: 6/18 Specs	
		L: 6/06 Specs		6/06 Specs		6/06 Specs	
FUNDUS		R: NAD		micro/dots (1-5)		blot haem. (1-5)	
						new vessels (periph)	
		L: micro/dots (1-5)		micro/dots (4-10)		micro/dots (6-10)	
				new vessels (periph)			
LENS		R: NAD		NAD		NAD	
		L: NAD		NAD		NAD	
LIMBS RECORD							
PULSES		R: NAD		NAD		NAD	
		L: NAD		diminished dorsalis		diminished femoral	
						diminished dorsalis	
SENSATION		R: NAD		NAD		NAD	
		L: NAD		diminished light touch		diminished light touch	
REFLEXES		R: NAD		absent at ankle		absent at ankle	
		L: NAD		absent at ankle		absent at ankle	

Evaluation of ehealth by RCT: Series of studies on tailoring of information using the patient's own medical record including....

Cancer, Schizophrenia, Anxiety/Depression,
Integrated medical-dental records

- Effect of different forms of information produced for cancer patients on their use of the information, social support, and anxiety: randomised trial. *BMJ* 2006
- Randomised trial of personalised computer based information for patients with schizophrenia. *BMJ* 2001
- Randomised trial of personalised computer based information for cancer patients. *BMJ* 1999

Glasgow: Mid 1990s-2001: Tailoring of information for patients using their medical record

Donald Smith: Prostate Cancer

According to your record, you are being treated for this problem.

Your **prostate cancer** is described in medical words as being a **grade 2+3**, **localised**, **adenocarcinoma**.

The cancer was sited in the left lobe of your prostate gland and had affected the capsule surrounding it. One of your **seminal vesicles** may also be affected by the cancer.

Your cancer was **staged** according to the **TNM System** as **T3**.



RCTs vs Collaborative Action Research and focus on implementation

MRS MARY WELLS 22, NEW HIGH ROAD BALDERTON NOTTS NB7 4DF TELEPHONE: NEWARK 345231		5389598 DP TATTERSALL	PROBLEM LIST DIABETES RELATED DIABETES MELLITUS STILLBIRTH NEPHROPATHY PERIPHERAL ARTERIOPATHY PROLIFERATIVE RETINOPATHY PHOTOCOAGULATION (L) '80, '81 OTHER PROBLEMS ROAD TRAFFIC ACCIDENT HYPERTENSION	DATE ONSET 1A:1967 11:1974 1A:1979 1A:1980 1A:1980 1A:1974 1A:1980
FEMALE AGE 40 (09/04/41) HISTORY KETOACIDOSIS HOUSEWIFE FAMILY HISTORY Mother alive-not diabetic Father dead(IND)-diabetic 3 siblings none diabetic No children OBSTETRIC HISTORY no live birth 1 still birth after diagnosis no neonatal death SMOKING HABITS Not smoked for 12 years Previous 10 years smoked filter cigs 71-140 cig eqv/week DRINKING HABITS Drinks spirits once or twice a week Light weekly consumption		DATE: OTHER PAST PRESCRIPTIONS START: NOV80 STOP: 100 MG 1/DAY DATE: OTHER PAST PRESCRIPTIONS START: NOV80 STOP: 10 MG 1/DAY		
DATE: OTHER PAST TREATMENTS START: 1967 STOP: 1967 DATE: OTHER PAST TREATMENTS START: 1967 STOP: 1967		DATE: PAST DIABETIC TREATMENTS START: 1967 STOP: 1967 DATE: PAST DIABETIC TREATMENTS START: 1967 STOP: 1967		
DATE: OTHER CURRENT PRESCRIPTIONS START: NOV80 STOP: 100 MG 1/DAY DATE: OTHER CURRENT PRESCRIPTIONS START: NOV80 STOP: 10 MG 1/DAY		DATE: DIABETIC TREATMENT NOW START: JUN78 STOP: JUN78 DATE: DIABETIC TREATMENT NOW START: JUN78 STOP: JUN78		

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RCT on information for cancer patients tailored using their own record, published in BMJ, highly cited – but never implemented

Diabetes system, CAR approach, implemented over 3-4 years, ran (virtually no cost) for nearly 20 years

Two ERDF funded projects

Cornwall

**Ehealth Productivity and
Innovation in Cornwall
and the Isles of Scilly**

EPIC

Devon

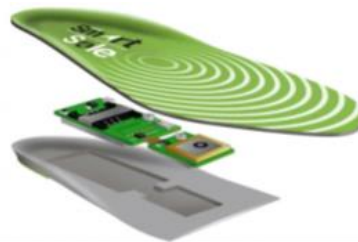
**Innovation in Health
Ageing**

EPIC: animation available on YouTube

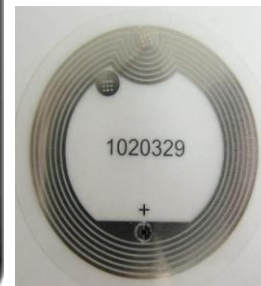
Ehealth – a very wide definition



desuto Benefits About Pricing B
Developed by health and social care experts, Desuto decision support tools ensure Mental Capacity Act compliance while saving staff time.



INRstar
safe, effective anticoagulation support



Companion, humanoid, and telepresence robots

Robot Companions





Hannah Bradwell

- Full time PhD. Started October 2017.
- Studentship from School of Nursing and Midwifery, Plymouth University
- Working alongside EPIC project
- Examining ‘what makes Paro work’ for people with mild cognitive impairment– can we design and produce something more cost effective?
- Collaborative Action Research



Preferences between companion robots



Pepper
exercise
class?



‘Skype’ and telepresence Giraff £4500 10 year old video



But we have
Padbot –only
cost £980
including the
tablet and the
docking station

.... In case you didn't notice
technology prices often come
down (:>).....

PADBOT



PhD student: Video calls in care homes to reduce loneliness



To find out more about
the project, contact
Sonam Zamir

sonam.zamir@plymouth.ac.uk



**Collaboration for Leadership in
Applied Health Research and Care**
South West Peninsula



Monday 7th August 2017
at 10.00 am
Weston Mill Crematorium,
Plymouth

Smart Speakers

Alexa, Google Home etc



Google Home mini £50



Echo dot £50

Writing for
and using
consumer
electronics





Some of the things you can do with Google Home

Play music

- Play Frank Sinatra
- Play The Beatles
- Play Bach

Ask questions

- What day is it
- What time is it
- How old is the queen?
- What is the area of england
- Who won the FA cup etc

Ask it to phone a number when you have fallen and are stuck on the floor

Echo Spot into care homes project

- Capital funded by Cornwall County Council
- Supported by Digital Health Champions and EPIC
- Launch (half day) meeting Liskeard 15th March



Echo Spot £130 can be used for videocalls along with music, questions, reminders.

Our place in today's agenda

Proposition

- Evaluation is important but 'traditional' RCT may not always be appropriate – agile, rapid methods allowing for individual preference may be needed.
- Sustainable technological innovation requires involvement of patients, students, volunteers and other digital health champions.



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Questions or comments?