



Jamiroquai “Virtual Insanity”

Social Media and Diabetes:
adjunct or adversary?

Dr Debbie Wake

Please do NOT to switch off your mobile phone

Tweeting, Texting and Facebooking during this presentation is actively encouraged!



Are you sitting comfortably?

<https://www.youtube.com/watch?v=jottDMuLesU>

Overview

- Social Media
- Online Communities
- Online tools- Social Media Integration (App's, ePHRs etc)
- Barriers and Inequalities
- Take home messages





Social Media



- 1 in every 5 people on Earth is on Facebook
- 71.2 % of all USA internet users are on Facebook
- About 20% of all photos taken will end up on Facebook
- 1 in 5 divorces are blamed on Facebook
- One third of all divorce filings in 2011 contained the word 'facebook'
- Lady Gaga, Justin Bieber, Britney Spears have more Twitter followers than the entire population of Chile, Israel or Australia
- The meaning of the term 'poke' has never been defined

Social Media – Are you in the Club?



SOCIAL MEDIA EXPLAINED

TWITTER I'M EATING A #DONUT

FACEBOOK I LIKE DONUTS

FOUR SQUARE THIS IS WHERE
I EAT DONUTS

INSTAGRAM HERE'S A VINTAGE
PHOTO OF MY DONUT

YOU TUBE HERE I AM EATING A DONUT

LINKED IN MY SKILLS INCLUDE DONUT EATING

PINTEREST HERE'S A DONUT RECIPE

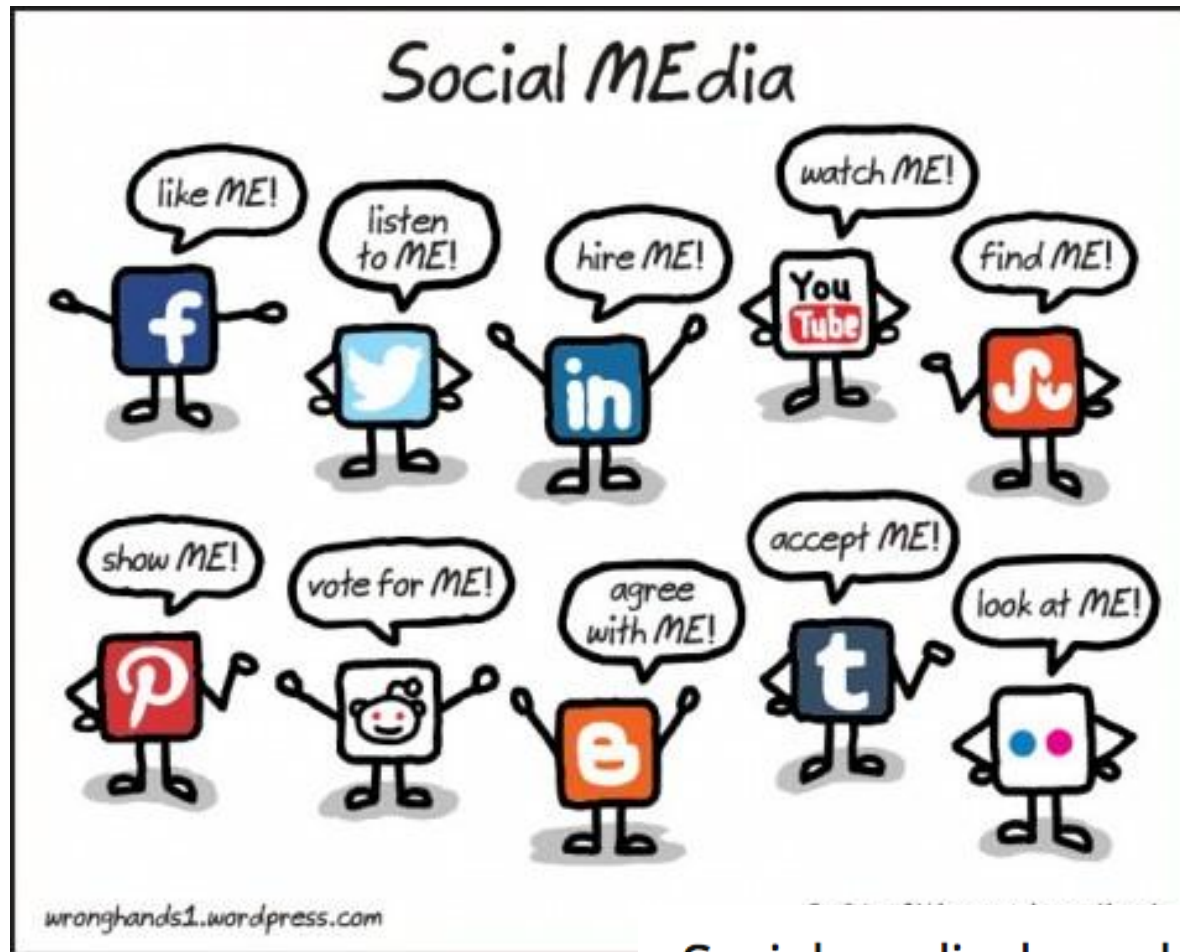
LAST FM NOW LISTENING TO "DONUTS"

G+ I'M A GOOGLE EMPLOYEE
WHO EATS DONUTS.

Social Media

Which Vehicle
for which
Journey?

Social Media.. All about ME!!



Social media addiction

Social media: how does it affect our mental health and well-being?

Social Media for Diabetes



Twitter: 140 characters

Hash Tags

#DOC

#diabetes

#GBdoc (tweetchats)

#dblog

#pwd

#ourD (tweetchats)

Who to Follow @

@ninjabetic

@grumpy_pumper

@anniecoops

@parthskar

@doctorinsulin

@WDD

@DiabetesUK

@ABCDiab

@IntDiabetesFed

@alldiabetesnews

@diabetesDaily

@JDRF

@diabetes.co.uk

@dlife

Diabetes on Twitter



The Grumpy Pumper @grumpy_pumper · Oct 30
Great #dblog by @LisWarren on her 50 years living with #T1D at

grumpypumper.wordpress.com/2015/10/30/ref...

#doc #dsma #gbdoc #ourd #ozdoc #diabetes



Reflections on 50 yrs with T1 Diabetes 1965...

After living with Type 1 for 5 decades, this year I'm celebrating becoming a Diabetes UK and Joslin Medallist. Throughout the year I've bee...

grumpypumper.wordpress.com

7 10

2



Partha Kar @parthaskar · Oct 29

Great early morning convo re Super 6 diabetes model with Chichester colleagues! Proud to see local work spread 😊

#diabetes @docmdmartin 👍

3 3



Partha Kar @parthaskar · Nov 1

If you are not watching #TheHunt @BBCOne and the work of @Sir_Attenboroug then do. A lovely end to a weekend watching some amazing TV!

6 15



Quality DiabetesCare and 13 others follow

Diabetes.co.uk @Diabetescouk · 6h

NEWS: Restricting test strip access for people with #T2D sends the wrong message: bit.ly/1iy0GcZ #DOC



6 4



Laura / Ninja @ninjabetic1 · 9h

I've been trying hard today to get back on track & not be tempted to give up. I think it's going ok (ish) #doc #ourD



2 12

30 twitter messages/ day

Diabetes Online Forums



blood types may play an important role in your diet

By [spirits](#), Oct 27, 2015 ... [2](#)

Replies: 22
Views: 669



What was your fasting blood glucose number this am??

By [NewdestinyX](#), Jun 30, 2011 ... [165](#) [166](#) [167](#)

Replies: 3,322
Views: 191,000



Creative Ways You Store Your Supplies/Medications?

By [TorqPenderloin](#), Saturday at 12:53 PM

Replies: 14
Views: 280



IMPORTANT: Insulin Pen Recall

By [Giverny](#), Dec 17, 2014



Replies: 11
Views: 5,842



What exercise works for you...

By [Fuggs](#), Thursday at 12:25 AM

Replies: 12
Views: 311

Diabetes Online Forums



blood types may play an important role in your diet

By [spirits](#), Oct 27, 2015 ... 2

Replies: 22

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What was your fasting blood glucose number this am??

Replies: 3.322



has anyone ever thought about your own blood type and how the correct foods for your blood type play an important role to getting the right balance that is needed for your blood type, most diabetics of any type could be eating wrong for there blood type,and the body is rejecting certain foods because it can not cope with it.When you correct this problem knowing what food is correct for your blood type, you will find your body starts to accept what it needs a lot better as well as keeping the foods that is not compatible for your blood type away,if you eat the wrong foods for you blood type your body gets very sick over time,and what gets triggered off in the body whether it be diabetes, heart disease etc, it affects the health.When you remove the triggers that is not compatible with the body, you will find the body will start to repair itself naturally and the body copes better.you will find this is a big problem all round people are not really looking at, in how there blood type is affected by the foods and drinks you eat,and sadly when you eat wrong, the body suffers.something for you to think about. since I have been eating the foods that is compatible for my blood type my body is getting more and more on a strong positive level better,my doctors are very impressed in how i have gone from being very sick to a healthy person.Maybe this is something that can help you to.

Diabetes Online Forums



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https://sugarstats.com/

SugarStats

Home

Community & Groups

Tour

Plans

My Account

SugarStats provides online diabetes management, community support and collaborative sharing to motivate and improve health.

See Plans and Pricing or Take a tour

Signing up takes less than a minute.

Home | About | Help | Settings | Logout

SugarStats

Home | Graphs | Stats | Friends | Messages | Journal | Logs | Store

Dashboard

Make this your start page

Create New: Stats for Today | Journal Entry | Messages | HbA1c Entry | Exam Entry | Doctor Checkup

View Friend Profile for:

Please select

Go to Date

Nov 2008

1 2 3 4 5 6 7 8

9 10 11 12 13 14 15

16 17 18 19 20 21 22

23 24 25 26 27 28 29

30 31

2008-11-11

Quick Links

Dashboard

Today

Yesterday

Last 7 Day Stats

Last 30 Day Graphs

View Your Shared Profile

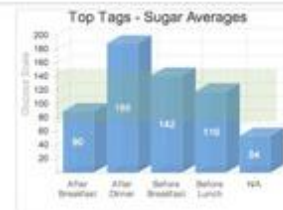
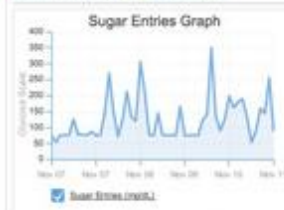
Every diabetic knows that better control means better health, lower medication intake and thus lower medication costs.

With SugarStats you will be able to:

- Visualize your progress with easy to read graphs and trends
- Meet other diabetics with community groups and discussion forums
- Share your statistics with your family, friends or physicians
- Get rid of that pen & paper log It's all online!
- Track & manage meds, foods and activity
- Drill down into specific timeframes to get a clear picture of your stats over time

SugarStats gives you a simple and easy-to-use interface to input and access your data from home, school, work, when you're on the road or just about anywhere at all. All you need is a web browser and the desire to take control of your diabetes.

Recent 5 Day Sugar Graphs



Last 5 Day Averages

View More

Date	In-Range	Avg	High	Carbs
Nov 11	57%	155	256	240.0 g
Nov 10	53%	158	199	278.0 g
Nov 09	67%	114	150	240.0 g
Nov 08	40%	197	307	120.0 g
Nov 07	62%	101	270	120.0 g

Last 5 HbA1c Entries

View All

Result	Date
7.8	Nov 25, 2007
8.1	Sep 16, 2007
9.2	May 07, 2007
10.1	Feb 10, 2007
8.3	Aug 22, 2006

Last 5 Messages

View All

Subject	From	Replies
Time for a pizza?	Marston Alfred	0
What do you think abou...	Marston Alfred	0
New from Insabob	Marston Alfred	0
New from Insabob	Marston Alfred	0
RE: May 03, 2007	Marston Alfred	0

Last 5 Journal Entries

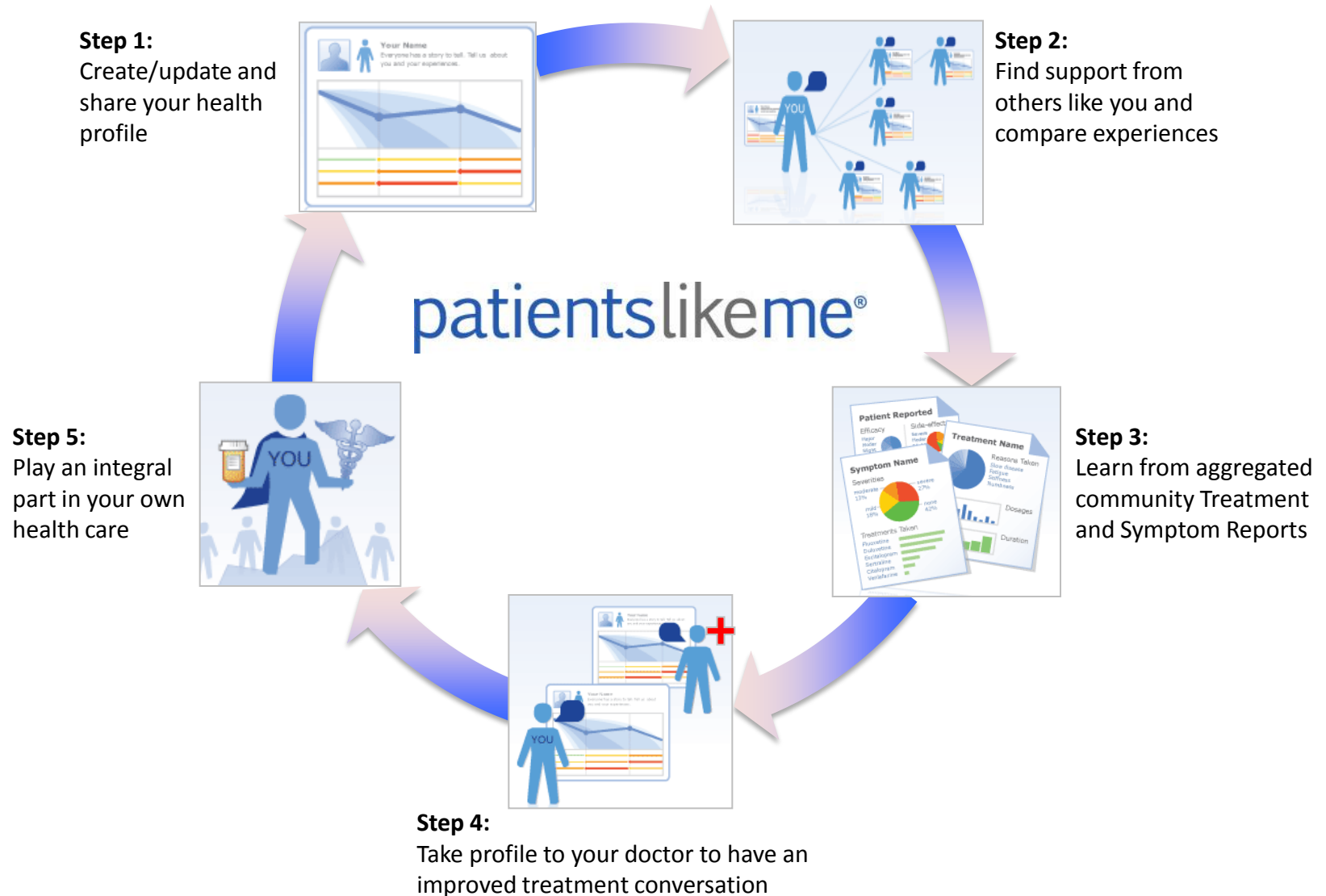
View All

Title	Date	Comments
Just went to the Doc...	Nov 09, 2008	0
lots of exercise this...	Jan 18, 2008	0
Mon Jan 07 2008	Jan 07, 2008	0
Jan_Dec 30 2007	Dec 30, 2007	0
Mon_Dec 03 2007	Dec 03, 2007	0

Friend Comments

10 Add a Comment

The PatientsLikeMe process is to help people share their health information in order to learn from others like them and then use that information to discuss treatment options with their health care team



Social Media Rules



The image is a screenshot of the Diabetes UK Facebook page. At the top, the navigation bar shows the Facebook logo, the page name 'Diabetes UK', a search bar, and user information for 'Debble' with options for 'Home' and 'Find Friends'. There are also notification icons for 1 message and 13 likes. The main content area is titled 'Our House Rules' and features the Diabetes UK logo with the tagline 'CARE. CONNECT. CAMPAIGN.' and the Facebook 'f' logo. Below the logo, there are three paragraphs of introductory text. The first paragraph welcomes visitors and states the page's purpose. The second paragraph encourages users to ask questions and share their own experiences. The third paragraph highlights the online community as a resource. The fourth paragraph introduces the house rules. A bulleted list follows, detailing 13 rules regarding content, bullying, discussions, healthcare advice, Careline availability, advertising, research, and data privacy. The right sidebar contains a 'Create Post' button, a 'Sponsored' section with a partial image of a shoe, and a 'The Prince' trending post snippet.

Diabetes UK

Debble Home Find Friends 1 1 13

Our House Rules

Diabetes UK
CARE. CONNECT. CAMPAIGN.

Welcome to the Diabetes UK Facebook page. We want this page to be somewhere that people can come not only to find out about the latest diabetes news and the work of Diabetes UK, but also somewhere you can come for support from us and other people with diabetes.

Do you have a diabetes related question? Post it on our page. This is a wonderful place to connect with us and other people who can share their own advice and experiences when it comes to diabetes. You can also provide help and support to other people too by sharing your own knowledge.

The diabetes online community is an excellent resource to help you better manage your diabetes - alongside the advice you receive from your healthcare team too.

In order to make this a more helpful and friendly place to get support, please keep these few house rules in mind before posting anything.

- Do not post any content that is likely to offend other users. This includes swearing and racist or sexist comments.
- Bullying of other users will not be tolerated.
- We encourage open discussions and want people to talk about issues that affect them - however we will remove any comments deemed unsuitable or that are offensive to individuals or groups of people. Posts that could potentially cause confusion or that promote misleading information about diabetes will be removed. We will endeavour to contact you and give an explanation should we remove one of your posts.
- Always speak to your healthcare team before acting on any advice given to you by other users. Remember everyone is different, so what works for one person may not work for you.
- If you would like to speak to someone about diabetes, our Careline is available Monday-Friday from 9am-7pm: www.diabetes.org.uk/careline
- Advertising is not allowed on this page. This includes diabetes related supplements, conferences, surveys or requests for help with research.
- If you are undertaking diabetes related research and want to publicise this on our page, please email research@diabetes.org.uk with full details of your work and we will reply as quickly as possible. Such content can only be posted with our agreement.
- Remember that this is a public page and anyone can see posts or comments that you add.
- Be careful with your personal data. Don't give too much information away through Facebook and don't share details with anyone you don't know.
- We also abide by Facebook's Community Standards that may help you understand what types of posts are acceptable, and what type of content may be reported and removed: <https://www.facebook.com/communitystandards>

Create Post

Sponsored

the reinv
mahabis.c
get yours
available:

The Prince
Trending I
A recent s
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Royal Far
started w
was caug

Evidence for Social Media (Facebook)

Tara McClay

Greene et al – 15 most common facebook pages for diabetes (qualitative)

- Providing and requesting information
- personal experience of self-management
- recommendations of different tools, such as phone apps as an adjunct for diabetic control,
- promoting patient-patient education
- Sharing experiences and the “story-telling” very common
- 25% personal topics (CHO counting, alcohol)/ emotional support
- Rarer- diabetic triathletes to share ideas (“the experienced patient”)

Farmer et al

“enables relationships to be formed that otherwise would not have existed, providing peer support to others with similar conditions. This development was seen especially within the younger age group, and promoted discussion about experiences, medication side effects while providing continual support”

Petrovski G et al,

more than 80% of people within the age of 18-24 would be willing to share information about their health over social media

Evidence for Social Media (Twitter)

Tara McClay

Harris et al³ (2015)

- most common tweets were those regarding medical and non-medical resources for self-management
- tweets most favourited and retweeted were those related to a diabetic event or life experience

Online Peer Support

1. Gilbert K et al **Online Communities Are Valued by People With Type 1 Diabetes for Peer Support: How Well Do Health Professionals Understand This?** Diabetes Spectrum. 2012;25(3):180–91.

1. Eysenbach G, Powell J, Englesakis M, Rizo C, Stern A. Health related virtual communities and electronic support groups: systematic review of the effects of **online peer to peer** interactions. BMJ. 2004;328(5):1–6.
 - 38 distinct studies (20 RCTs, 3 meta-analyses of n of 1 trials), 3 non-randomised controlled trials, 1 cohort study, and 11 before and after studies
 - 6= “pure” peer to peer communities
 - The outcomes measured- depression and social support measures; **NO effect.**
 - **No evidence to support concerns over virtual communities harming people.**

Online Self Management Support

Remote Monitoring and Feedback



E-learning



Online coaching/ behaviour, exercise and lifestyle change



Insulin Management Systems



m-health/ apps



ePHRs



Diabeo



D-Nav/ DIGS

Online Diabetes Interventions; Do they work ???

Web-based interventions aimed at improving the management of diabetes have been shown to improve clinical outcomes.

- A Cochrane Systematic Review of Computer-Based Self-Management Interventions for Adults with Type 2 Diabetes (2013). [Kingshuk Pal*](#), *et al*
 - Heterogenous studies (number of studies = 16 RCTs (3578 participants))
 - Overall small effect on HbA1C (0.2% HbA1C, -2.3mmol/mol), some lipid lowering benefit
 - Mobile Technology better results (averaging around -0.5% HbA1C, but up to -1.5%)
 - No effect of QOL, behavioural outcomes
cognitive outcomes
- Ramadas A, Quek KF, Chan CKY, Oldenburg B. Web-based interventions for the management of type 2 diabetes mellitus: a systematic review of recent evidence. *Int J Med Inform* 2011;80:389–405.
- Pereira K, Phillips B, Johnson C, Vorderstrasse A. Internet Delivered Diabetes Self-Management Education: A Review. *Diabetes Technol Ther* 2014;17:55–63.



Predictors of Success

Success Predictors (Ramadas et al)

- Goal-setting
- Personalised coaching
- Interactive feedback and on-line peer support
- Mobile device
- HCP interaction

“Internet technologies that combine the broad reach of mass media with the interactive capabilities of interpersonal media provide a wide range of advantages over standard modes of delivery”, and may be “cost saving” (Brown et al)

Diabetes Apps / m-health

> 1,300 Diabetes Apps!!

FEATURES:

- Blood Glucose Monitoring
- Insulin Logging (+/- CHO ratios)
- Activity Tracker
- CHO tracking
- Ratio wizard
- Physiological Measurements (Home BP, blood results etc).
- Weight Tracker
- Medication (Rx) (+/- alarms)
- Graphic Displays and Analytics
- Reminders and Alarms (RA)
- Patients Education
- Online data backup
- Social Media Integration
- Multiple user/ family features



Apps/ mHealth; do they work ???

Krishna S1, Boren SA (2008) **Diabetes self-management care via cell phone: a systematic review.** J Diabetes Sci Technol. _

- 18 studies
- 9/10 studies significant improvement in HbA1C
- Cell phone and text message interventions increased patient-provider and parent-child communication and satisfaction with care.

Frazetta, D., Willet, K. and Fairchild, R. (2012). **A systematic review of smartphone application use for type 2 diabetic patients.** *Online Journal of Nursing Informatics (OJNI)*, 16 (3),

- 4/7 studies- significant change in HbA1C from -0.4 to -1.9%

Few Specific Examples: SMS text

Diabetes Prevention (Imperial) in IGT patients (SE India)-
motivational text messages

- 8 % of the text message group v's
- 27 % of the control group developed diabetes

Diabetes Motivation and Treatment (SweetText, Greene et al)

- HbA1C reduction

Post Education Adjunct (Diabtext, Wake et al)

- HbA1C reduction (unpublished)

ePHRs/ Patient Centred Care/ Patient Empowerment

- Kaiser Permanente
- Year of Care



KAISER PERMANENTE®

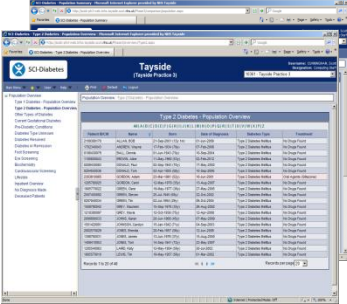




Laboratory Results



Community Health Index



Audit and Reporting



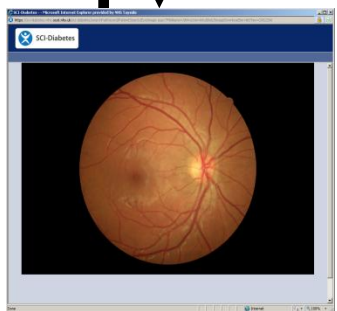
Primary Care Systems



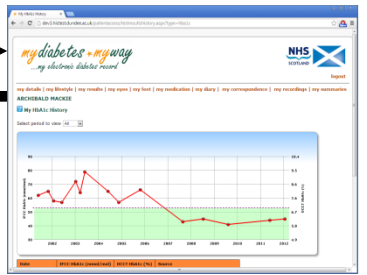
Secondary Care Systems



Inpatient Linkage



Diabetic Retinopathy Screening



mydiabetes + myway



Scottish Diabetes Research Network

mydiabetes * myway



... the interactive diabetes website



[home](#) | [my mind](#) | [my body](#) | [my lifestyle](#) | [my diabetes](#) | [my local services](#) | [my involvement](#)


my diabetes my way is the NHS Scotland interactive diabetes website to help support people who have diabetes and their family and friends. You'll find leaflets, videos, educational tools and games containing information about diabetes.

We work with [Diabetes Information Plus](#), an NHS Scotland elibrary of quality assured information for people with diabetes, you will find links to this throughout the site.

 <p>My Mind Understand and take control of your diabetes.</p>	 <p>My Body How diabetes affects your body.</p>	 <p>My Lifestyle How diabetes affects your lifestyle.</p>	 <p>My Diabetes Access to your individual information and goals.</p>
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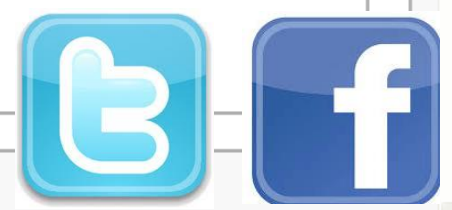
Diabetes Search Engine

Search this site and other good sites to find answers to your diabetes questions.



Hot Topics

 No Breaking news at present





my preferences | logout

my details | my lifestyle | my results | my eyes | my feet | my medication | my diary | my correspondence | my recordings | my summaries

ARCHIBALD MACKIE

My Test Results

My target chart:

HbA1c: 36.0 mmol/mol (5.4%) on 17/11/2011

Blood Glucose: 14.0 mmol/L on 12/06/2014 diasend

Blood Pressure: 180/70 mmHg on 24/03/2014

Total Cholesterol: 4.5 mmol/L on 29/11/2013

HDL Cholesterol: 1.50 mmol/L on 31/01/2012

LDL Cholesterol: 1.2 mmol/L on 30/01/2012

Triglycerides: 1.3 mmol/L on 29/01/2012

Creatinine: 88.0 umol/L on 17/11/2011

Albumin/Creatinine Ratio: 50.0 mg/mmol

eGFR: [no result]

My Links

- What Care to Expect
- Blood Sugar Testing
- Change in HbA1c Results

Print Options

- Create PDF
- Print this page



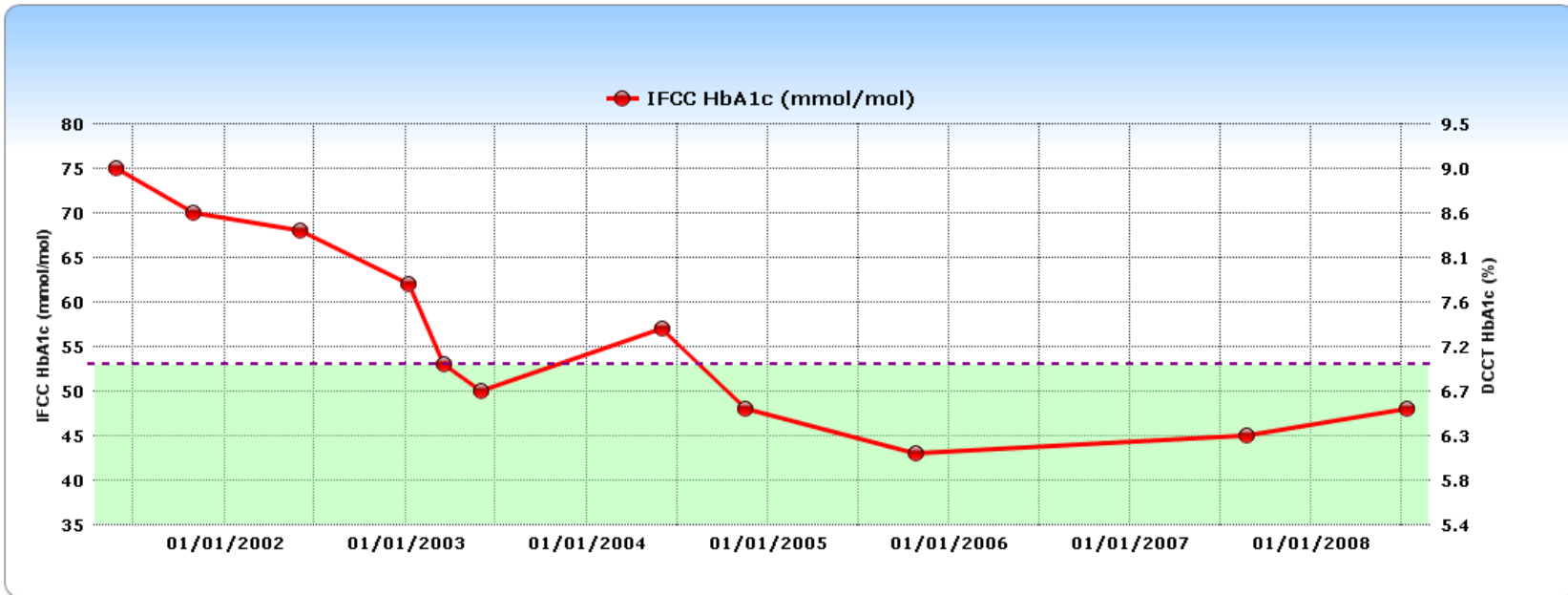
[my preferences](#) | [logout](#)

[my details](#) | [my lifestyle](#) | [my results](#) | [my eyes](#) | [my feet](#) | [my medication](#) | [my diary](#) | [my correspondence](#) | [my recordings](#) | [my summaries](#)

ARCHIBALD MACKIE

My HbA1c History

Select period to view



Date	IFCC HbA1c (mmol/mol)	DCCT HbA1c (%)	Source
12/07/2008 18:56	48.0	6.5%	Tayside Practice 1 - GPASS, Primary Care
24/08/2007	45.0	6.3%	Tayside Practice 1 - GPASS, Primary Care

ePHRs Evidence

- ePHR may improve both patient outcomes and disease management in diabetes patients while reducing complications
- However, the impact and effectiveness of ePHR is impinged by barriers of access and adoption.
- Privacy and security of personal health information is a potential concern, most patients do not seem to be deterred by this”

MDMW use associated with significant improvements in:

- HbA1c ($p < 0.001$),
- Albumin/creatinine ratio ($p=0.015$),
- body mass index ($p=0.022$),
- total cholesterol ($p=0.002$),
- HDL cholesterol ($p=0.012$),
- LDL cholesterol ($p=0.001$),
- diastolic blood pressure ($p=0.007$) and
- weight ($p=0.003$) amongst active users (*unpublished data*)



mydiabetes + myway
... the interactive diabetes website



MyDiabetesMyWay



Patient Portal

- Patient Health Record
- Moderated Patient discussion forum
- Asynchronous patient HCP Messaging system
- Patient educational materials

- Display disease relevant patient data
- Facilitate communication between primary and secondary care
- Support audit and Research

ON-LINE EDUCATION GROUPS

My Diabetes My Way

Electronic Patient Record
SCI Diabetes

HCP AND PATIENT ON-LINE MESSAGING

Scottish Digital Diabetes Network

DIASEND LINK

Integration with other Data sources

Remote Consultation

SKYPE STYLE CLINICS

Input from

- Blood glucose meters,
- Insulin Pumps
- Continuous Glucose monitoring systems
- Handheld patient devices

MOBILE APP DEVELOPMENT

Tele-consultation Module handling Audio, video and data streams

Patient Readiness

Scottish Government. Scotland's People Annual Report: 2014

- 82% of the Scottish population access internet for personal use or work (2015), (84% across UK)
- Mobile devices and tablet use has increased from 30% in 2013 to 41% in 2014.
- Non-users cited dislike in using internet, having no need for the internet, nothing of interest on internet and not knowing how to use a computer as main reasons
- Secondary care diabetes – 67% access to internet (2013)

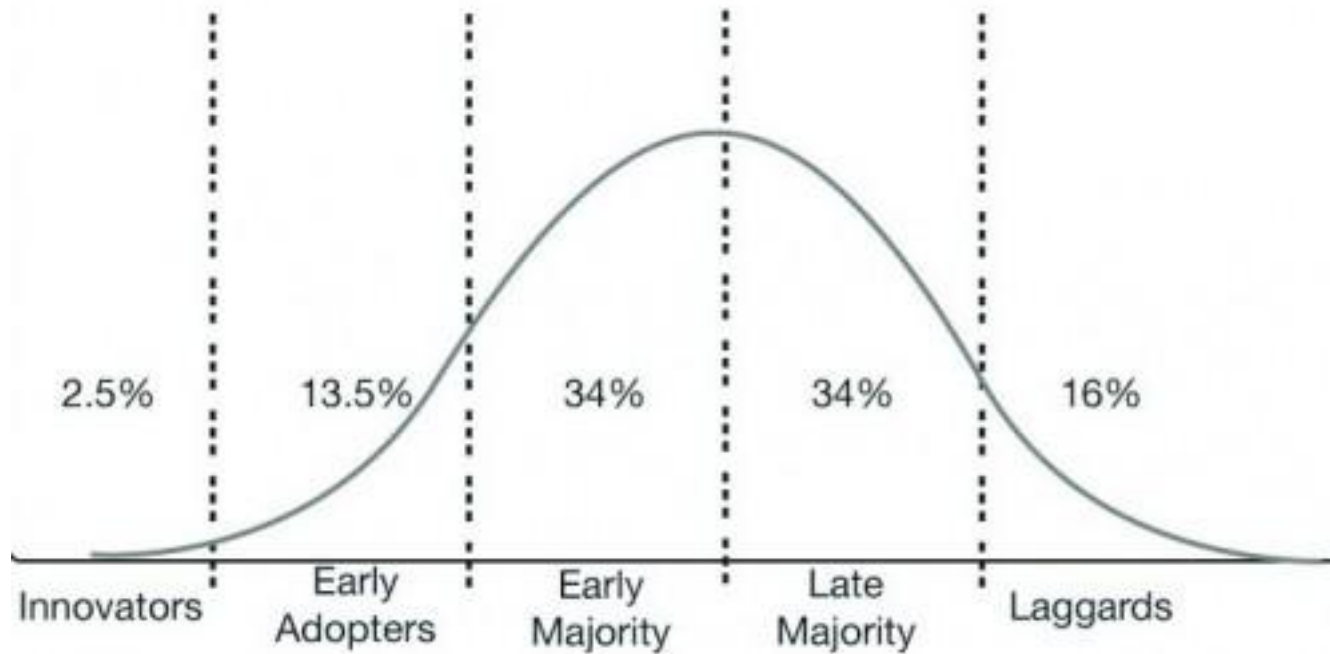
Barriers to Use

Davy He

- Lack of awareness (48.9%),
- Difficulties using computers (28.0%),
- Not owning a computer (24.7%),
- Remembering passwords (16.6%)
- Concerns about Privacy (14.3%)
- No interest (13%)
- Having other priorities (11%)

n=196

Barriers to Using



The Digital Divide



Health and Digital Literacy

'the wide range of skills and competencies that people develop to seek out, comprehend, evaluate and use health information and concepts to make informed choices, reduce health risks, and increase quality of life'

- USA -only 12% of patients were considered fully health literacy proficient
- UK- 1 in 3 have low health literacy
- **Low health literacy levels** are associated with:
 - **increased rates of chronic conditions such as diabetes, obesity and hypertension.**
 - **Poor disease management, poor glycaemic control, complications hypoglycaemia and higher risk of death**
- **Patients with lower health literacy/ educational attainment and racial/ethnic minority patients (versus Caucasian patients) are less likely to adopt ePHRs/ digital tools.**

Take Home Message

- There is evidence of glycaemic improvement with some online/ mobile tools
- Patients who use 'social media' like it
- There is no evidence for significant harm for diabetes management from social media (qualitative studies)
- Health Care Team should be more aware of online opportunities to signpost patients

Questions

- Should we be prescribing apps?
- Should we be encouraging more peer- peer interactions ?
- Do we need a new member of the Diabetes team “The Technologist” to support patients with lower digital literacy?



Social Media in Health

