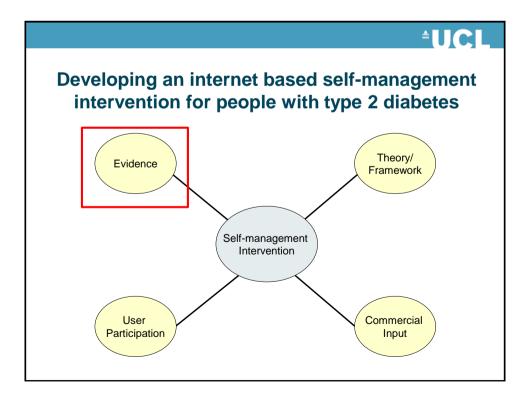


A Cochrane Systematic Review Of Computer-based Diabetes Selfmanagement Interventions For Adults With Type 2 Diabetes

Kingshuk Pal, Sophie V Eastwood, Susan Michie, Andrew J Farmer, Maria L Barnard, Richard Peacock, Bindie Wood, Joni D Inniss, Elizabeth Murray

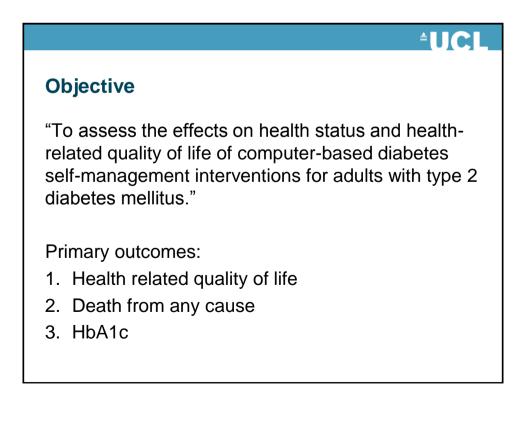
e-health unit, Primary Care & Population Health, University College London ISRII Conference May 2013



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Background

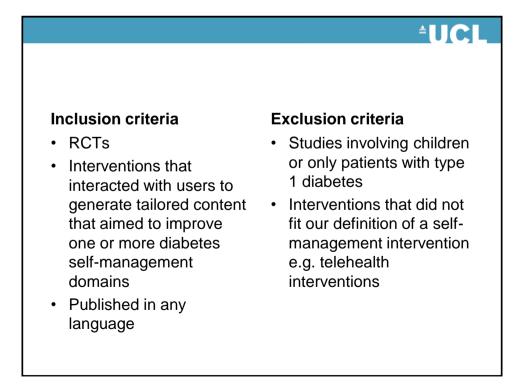
- Diabetes affects up to 350 million people around the world
- Complications of diabetes are a leading contributor to morbidity and mortality for millions
- Self-management education can reduce the risk of complications
- Self-reported attendance rates for face-to-face education are often low
- Computer-based interventions could potentially provide a cost-effective option for selfmanagement education.

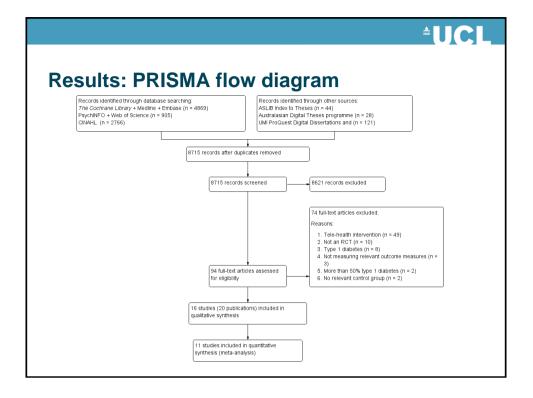


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Methods

- Six electronic bibliographic databases were searched to identify relevant studies.
- Three other databases were searched for grey literature.
- The searches were run from inception to November 2011.
- Reference lists from relevant published studies were screened and authors contacted for further information when required





	Computer intervention			Control				Mean Difference	Mean Difference
Study or Subgroup	Mean [%]					Total	Weight	IV, Random, 95% CI [%]	IV, Random, 95% CI [%]
1.1.1 Change in mea	in						-		
Christian 2008	-0.141	1.76	141	-0.46	1.63	132	8.4%	0.32 [-0.08, 0.72]	+
Leu 2005	-0.13	0.93	18	-0.3	1.12	19	4.4%	0.17 [-0.49, 0.83]	
Lorig 2010	-0.009	0.852	395	0.126	0.779	238	16.3%	-0.14 [-0.26, -0.01]	
Subtotal (95% CI)			554			389	29.1%	0.06 [-0.27, 0.39]	
Glasgow 2003	7.42	1.1	80	7.68	1.1	80	9.9%	-0.26 [-0.60, 0.08]	
1.1.2 Mean differend Glasgow 2003		11	80	7.68	11	80	9 9 96	-0.261-0.60.0.081	
Glasgow 2005	7.14	1.38	290	7.13	1.06	270	14.1%	0.01 [-0.19, 0.21]	
	7.3	1.5	147	7.5	1.8	152	9.0%	-0.20 [-0.58, 0.18]	
				8	1.58	115	8.3%	-0.16 [-0.57, 0.25]	
Glasgow 2010	7.84	1.67	130	-	1.50				
Glasgow 2010 Lim 2011	7.84 7.4	1.67 1	49	7.8	1.50	48	8.5%	-0.40 [-0.80, -0.00]	
Glasgow 2010 Lim 2011 Quinn 2011	7.84 7.4 7.7	1	49 21	7.8 8.5	1 1.8	48 51	4.4%	-0.40 [-0.80, -0.00] -0.80 [-1.45, -0.15]	
Glasgow 2010 Lim 2011 Quinn 2011 Yoo 2009	7.84 7.4 7.7 7.1	1 1 0.8	49 21 57	7.8 8.5 7.6	1 1.8 1	48 51 54	4.4% 10.0%	-0.40 [-0.80, -0.00] -0.80 [-1.45, -0.15] -0.50 [-0.84, -0.16]	
Glasgow 2006 Glasgow 2010 Lim 2011 Quinn 2011 Yoo 2009 Zhou 2003	7.84 7.4 7.7	1	49 21 57 88	7.8 8.5	1 1.8	48 51 54 62	4.4% 10.0% 6.7%	-0.40 [-0.80, -0.00] -0.80 [-1.45, -0.15] -0.50 [-0.84, -0.16] -0.74 [-1.23, -0.25]	
3lasgow 2010 Lim 2011 Quinn 2011 (oo 2009 Zhou 2003 Subtotal (95% CI)	7.84 7.4 7.7 7.1 8.03	1 1 0.8 1.09	49 21 57 88 862	7.8 8.5 7.6 8.77	1 1.8 1 1.74	48 51 54	4.4% 10.0%	-0.40 [-0.80, -0.00] -0.80 [-1.45, -0.15] -0.50 [-0.84, -0.16]	
Blasgow 2010 Lim 2011 Quinn 2011 (oo 2009 Zhou 2003 Subtotal (95% CI) Heterogeneity: Tau [#] :	7.84 7.4 7.7 7.1 8.03 = 0.04; Chi ² =	1 1 0.8 1.09 : 15.76, df=	49 21 57 88 862	7.8 8.5 7.6 8.77	1 1.8 1 1.74	48 51 54 62	4.4% 10.0% 6.7%	-0.40 [-0.80, -0.00] -0.80 [-1.45, -0.15] -0.50 [-0.84, -0.16] -0.74 [-1.23, -0.25]	
Glasgow 2010 Lim 2011 Quinn 2011 Yoo 2009	7.84 7.4 7.7 7.1 8.03 = 0.04; Chi ² =	1 1 0.8 1.09 : 15.76, df=	49 21 57 88 862	7.8 8.5 7.6 8.77	1 1.8 1 1.74	48 51 54 62	4.4% 10.0% 6.7%	-0.40 [-0.80, -0.00] -0.80 [-1.45, -0.15] -0.50 [-0.84, -0.16] -0.74 [-1.23, -0.25]	
Glasgow 2010 Lim 2011 Quinn 2011 Yoo 2009 Zhou 2003 Subtotal (95% CI) Heterogeneity: Tau [#] :	7.84 7.4 7.7 7.1 8.03 = 0.04; Chi ² =	1 1 0.8 1.09 : 15.76, df=	49 21 57 88 862	7.8 8.5 7.6 8.77	1 1.8 1 1.74	48 51 54 62 832	4.4% 10.0% 6.7%	-0.40 [-0.80, -0.00] -0.80 [-1.45, -0.15] -0.50 [-0.84, -0.16] -0.74 [-1.23, -0.25]	

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Results: summary of other findings

- The effect size on HbA1c was larger in the mobile phone subgroup
- Current interventions do not show adequate evidence for improving depression, health-related quality of life or weight
- One participant withdrew because of anxiety but there were no other documented adverse effects
- Two studies provided limited cost-effectiveness data

