

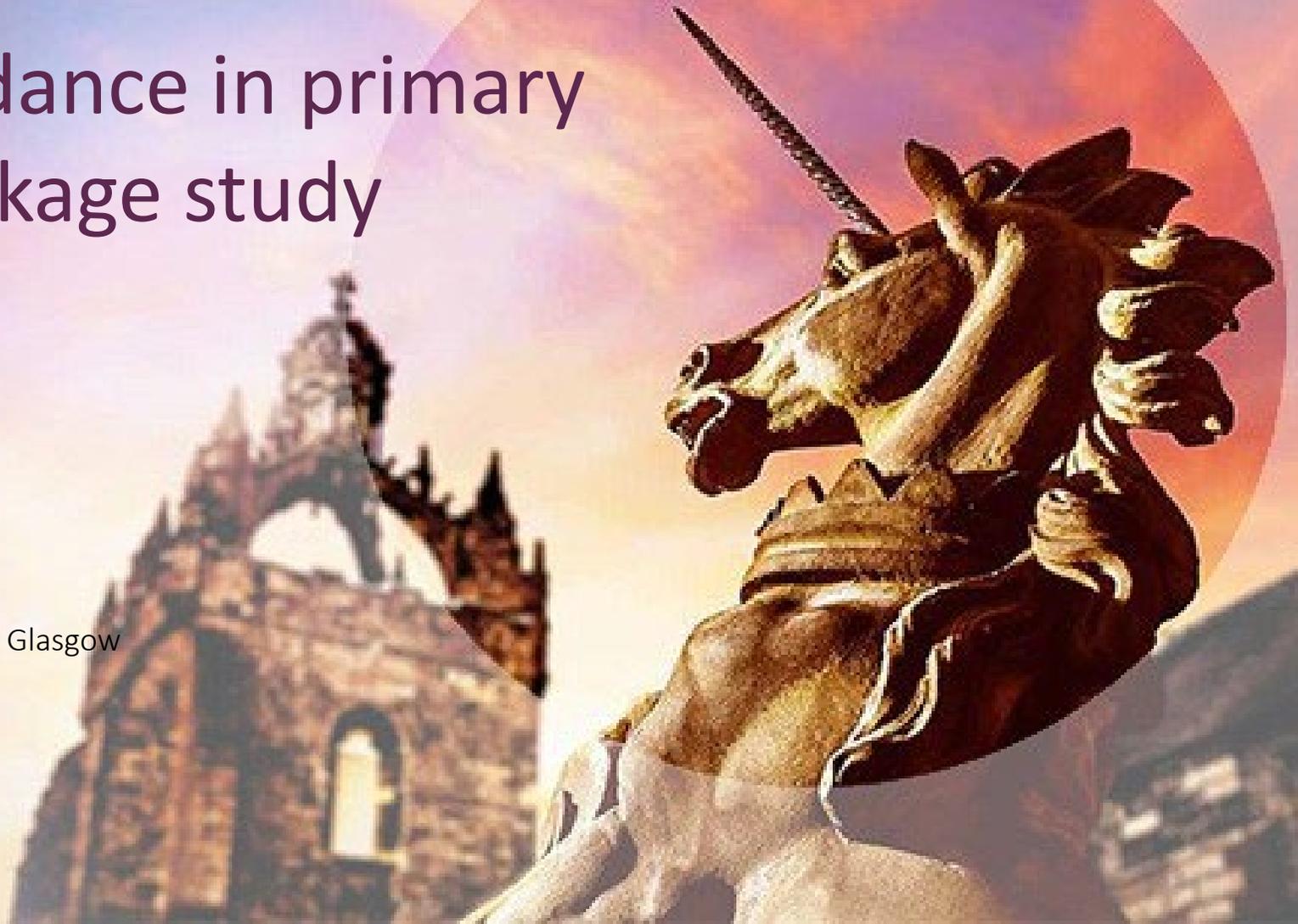


Serial missed attendance in primary care – data linkage study

Phil Wilson
Centre for Rural Health
University of Aberdeen

Andrea Williamson, Ross McQueenie, University of Glasgow

David Ellis, Lancaster University



The team

- *Research team*
 - Andrea Williamson, University of Glasgow
 - Ross McQueenie, University of Glasgow
 - David Ellis, Lancaster University
 - Alex McConnachie , University of Glasgow
 - Phil Wilson , University of Aberdeen

 - Participating GP practices
 - Albasoft (TTP)
 - Ellen Lynch, Scottish Government Health Dept
 - Data Sharing and Linkage Service
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Outline

- Background and rationale
 - Definition
 - Patient demographics
 - Practice demographics
 - Health outcomes
 - Social vulnerability
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Serial (Repeated) Missed Appointments

- New area for research
 - Proxy for low/dysfunctional engagement in care
 - A 'health harming behaviour'?
 - Reflects poor health and social vulnerability?

 - Novel patient level data
 - GP 'Read codes'
 - Large data set & linkage potential
 - Secure extract and analysis facilities
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Missed appointments results

- 136 Scottish representative GP practices
- 550 083 patient records
- 9 177 054 consultations

- 54·0% missed no appointments over 3 years
- 46·0% missed one or more appointments over 3 years
- 19·0% missed more than two appointments over three years

(Ellis, McQueenie, Wilson, Williamson, Lancet Public Health 2017)

Definition & analysis

- Average of primary care face to face appointments over previous three years
 - Never missed appointments: 0 per year
 - Low missed appointments: <1 per year
 - Medium missed appointments: 1-2 per year
 - High missed appointments: 2 or more per year
 - Frequency counts
 - Negative Binomial Regression Modelling across 4 appointment groups
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Patient demographic factors

- Most socio-economically deprived (SIMD 1) patients most likely to miss appointments (RRR 2.27, 95% CI 2.22–2.31)
- Most remotely located patients least likely to miss appointments (RRR 0.37 (0.36–0.38))
- Patients aged 16–30 years (1.21, 1.19–1.23), patients older than 90 years (2.20, 2.09–2.29) more likely to miss
- Effect of gender relatively small
- Ethnicity poorly recorded (2.69% all records)

(Ellis et al Lancet Public Health 2017)

GP Practice demographic factors

- Appointment delay 2–3 days (RRR 2·54, 95% CI 2·46–2·62) most strongly associated with non-attendance
- Urban GP practices more strongly associated with missed appointments
- More deprived patients registered with GP practices in more affluent settings have the highest risk of missing appointments
- Practice factors have a larger effect than patient factors but a model combining both patient and practice factors gave a higher Cox-Snell pseudo R^2 value (0·66) than models using either group of factors separately (patients only $R^2=0\cdot54$; practice only $R^2=0\cdot63$)

(Ellis et al Lancet Public Health 2017)

Multimorbidity (from major Read codes)

Missed Appointment Category	No multimorbidities	One to three multimorbidities	Four plus multimorbidities
zero	254748	38160	4094
	85.8 %	12.8 %	1.4 %
	58.7 %	39.5 %	20.6 %
low	114766	29249	4605
	77.2 %	19.7 %	3.1 %
	26.5 %	30.3 %	23.2 %
medium	42195	17155	4185
	66.4 %	27 %	6.6 %
	9.7 %	17.8 %	21.1 %
high	22001	11935	6990
	53.8 %	29.2 %	17.1 %
	5.1 %	12.4 %	35.2 %
Total	433710	96499	19874
	78.9 %	17.5 %	3.6 %
	100 %	100 %	100 %

$$X^2=43189.688 \cdot df=6 \cdot \Phi_c=.198 \cdot p<.001$$

Adverse Childhood Experiences

Yes/No Any ACE

Missed appointment category	no	yes	Total
zero	189708	1403	191111
	99.3 %	0.7 %	100 %
	51.8 %	33.9 %	51.6 %
low	102761	1170	103931
	98.9 %	1.1 %	100 %
	28.1 %	28.3 %	28 %
medium	45055	818	45873
	98.2 %	1.8 %	100 %
	12.3 %	19.8 %	12.4 %
high	28782	748	29530
	97.5 %	2.5 %	100 %
	7.9 %	18.1 %	8 %
Total	366306	4139	370445
	98.9 %	1.1 %	100 %
	100 %	100 %	100 %

Summary

- Patients who serially miss GP appointments tend to:
 - Experience socio-economic disadvantage
 - Have multiple health conditions
 - Are more likely to have experienced adversity in childhood
 - GP Practice factors play a role
 - Next steps - data linkage:
 - Hospital ICD10 codes,
 - Unscheduled care service use etc.
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