Rates of common mental health disorders (CMDs) in Northern Ireland, England, Scotland and Wales (1991-2022): evidence from BHPS/UKHLS Understanding Society Survey

Suzanne Barrett BSc PhD PGCHET CPsychol

Research Psychologist
NICRN Mental Health, Impact Research Centre, Northern HSC Trust

Background

- Widely reported that the Northern Ireland [NI] population, either directly or indirectly, accounts for higher rates of common mental disorders (CMDs) compared to other UK nations (Betts and Johnston, 2017);
- Citizens with SMIs have reduced life expectancy of 15-20 years due to poor physical health compared to GP (DOHNI, 2001: p.61).
- NISHS - highest prevalence of mental illness in the UK post-World Economic Crisis (Bunting et al., 2012, 2013);
- Morbidity 25% higher than rest of the UK (O'Neill & Rooney, 2018);
- Mortality: Samaritans commissioned report (Bambra et al., 2017) found prior to 2017; incidence of around 16 deaths per 100 000 individuals per year related to mental illness in NI.
- Northern Ireland has been exposed to a long period of civil conflict and has higher 12-month and life-time prevalence rates of PTSD compared to other countries affected by conflict, including South Africa, Israel / Lebanon (Bunting et al., 2012, 2013).

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Background

- Publication of a new Mental Health Strategy (2021-2031) by DOHNI.
- Measurable outcomes “Better mental health among the wider population, evidenced by a reduction of % of population with GHQ-12 scores ≥4 (signifying possible mental health problem).”

- **Aim:** to explore the available GHQ-12 population data from National Surveys conducted in the UK to determine if evidence supports assertion that NI has higher rates of mental illness compared to rest UK.

- **Hypothesis:** NI would demonstrate comparatively poorer mental health compared to other UK nations over the time period 1991 to 2021, as measured by the GHQ-12.

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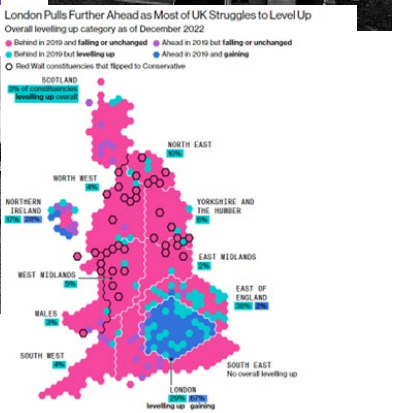

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Method

- In Dec 2022/Jan 2023 identified surveys containing GHQ-12 through searches of the UK Data Service, Government (and Government agency) websites and UK's Catalogue of Mental Health Measures.
- Sourced available microdata from UK Data Service.
- Sourced aggregate data from Government websites where no microdata available (affecting NI only).

- **Analysis:** GHQ-12 "Caseness" data were explored:
  - cross-sectionally by UK nation and year of data collection
  - longitudinally (within-country) using comparative inferential tests of significance (Kruskal-Wallis and $\chi 2$ tests, with multiple comparisons to detail national in-year differences)
  - effect sizes (to control for sample size variation and improve interpretability of findings).
  - Characterisation of samples X GHQ-12 "Missingness" against census
  - Examination of sample depletion/renewal over time

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Method

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Table 2: GHQ-12 data in UK Longitudinal Studies Surveys

1 Surveys of Psychiatric Morbidity - marginalised populations	2 1970 British Cohort Study (BCS70)
3 Born in Bradford (BiB)	4 The Cambridge Study in Delinquent Development
5 Determinants of Adolescent Social Wellbeing & Health (DASH)	6. English Longitudinal Study of Ageing (ELSA)
7 Health and Wellbeing of UK Armed Forces Personnel: A Cohort Study	8 Generation Scotland: Scottish Family Health Study (GS:SFHS)
9 Gemini	10 Next Steps
11 Mental Health of Children and Young People in Great Britain	12 1958 National Child Development Study (NCDS)
13 NICOLA: The Northern Ireland Longitudinal Study of Ageing	14 MRC National Survey of Health and Development (NSHD);
15 Southampton Women's Survey (SWS);	16 *Understanding Society*, the UK Household Longitudinal Survey & British Household Panel Survey (UKHLS & BHPS)
17 Wirral Child Health & Development Study	18 West of Scotland Twenty-07
19 Whitehall II	

Table 1: GHQ-12 data in UK Health Surveys (4 Nations) from 1990-2021

Country	Available GHQ-12 Data by Year
Northern Ireland	1997; 2001 – Source 1a and 2010-21 – Source 1b
England	[GHQ-9 data for 93-94]; 1995-2006; 2008-2010; 2012; 2014; 2016; 2018 [2021 – GHQ-12 for 13-15 year olds only] Source 2
Scotland	1995; 1998; - Source 3a ; 2003 - Source 3b; 2008-2021 - Source 3c (Additional Information: Source 3d; Source 3e; Source 3f)
Wales	None found: Source 4a and Source 4b Additional Source 4c

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Results

GHQ-12		Average Total Available Yrs	S.D.	Average 2001+	S.D.
0	NI*	57.41%	3.86%	**57.41%**	3.86%
1 to 3		24.35%	3.11%	**24.35%**	3.11%
4+		18.23%	1.78%	**18.23%**	1.78%
		=15722 (mean =749)	**372**	**n=15722 (mean =749)**	**372**
0	England	53.57%	2.47%	54.66%	2.05%
1 to 3		26.69%	2.14%	25.61%	1.49%
4+		19.75%	1.27%	19.73%	1.47%
		n=560525 (mean =18081)	**10478**	**477508 (mean =22738)**	**9591**
0	Scotland	56.61%	2.64%	57.90%	1.86%
1 to 3		25.06%	2.38%	23.70%	1.24%
4+		18.33%	1.45%	18.40%	1.64%
		n=55847 (mean =1802)	**1077**	**48278 (mean =2299)**	**948**
0	Wales	51.38%	4.65%	53.82%	3.02%
1 to 3		26.42%	2.71%	25.32%	1.78%
4+		22.17%	2.89%	20.83%	2.19%
		n=32748 (mean =1056)	**618**	**27979 (mean =1332)**	**564**
	n	**664880**		**569489**	
	X^2 (df)	412.31	(6)	253.17	(6)
	p	0.00		0.00	
	V min	0.01	2	0.01	2

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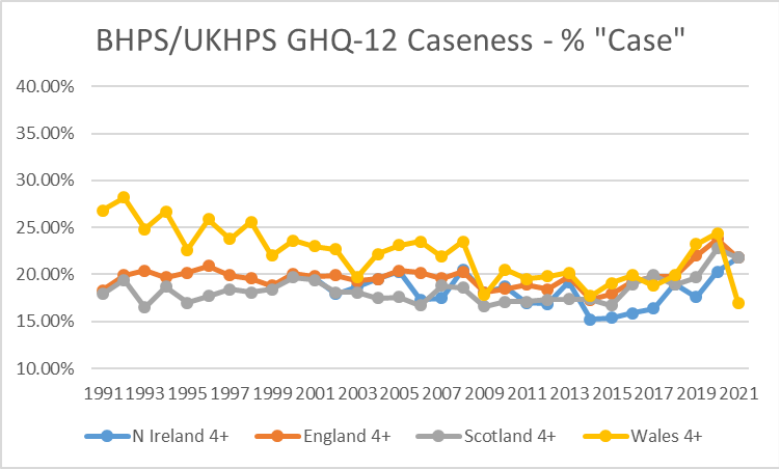
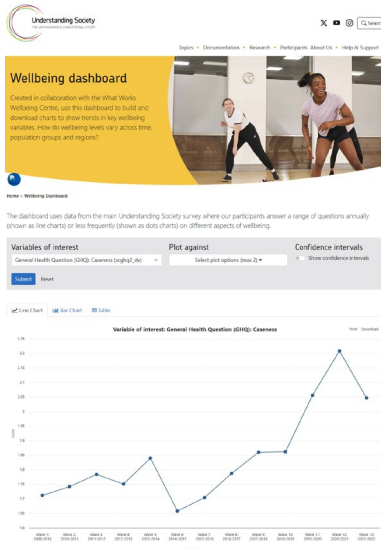
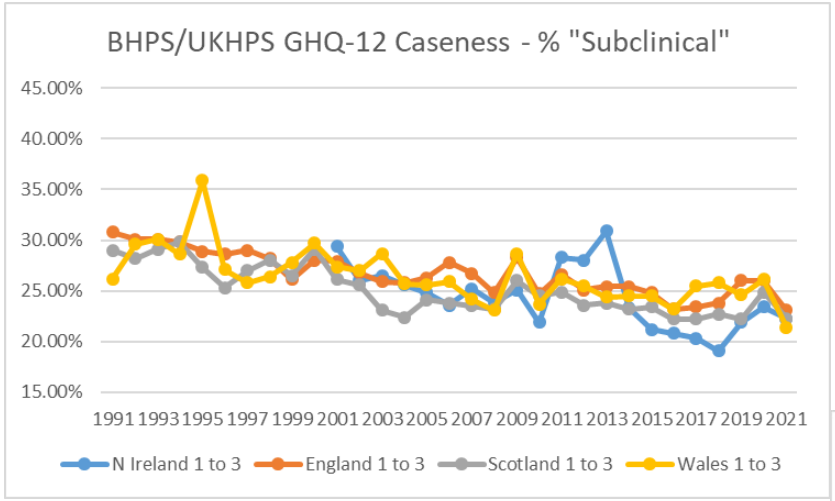
Hypothesis not fully supported: estimates indicate that **participants from NI had better mental health** overall compared to neighbouring UK countries England (V=0.01) and Wales (V=0.06-0.07), and showed no significant difference from Scotland (p>0.05).

Results







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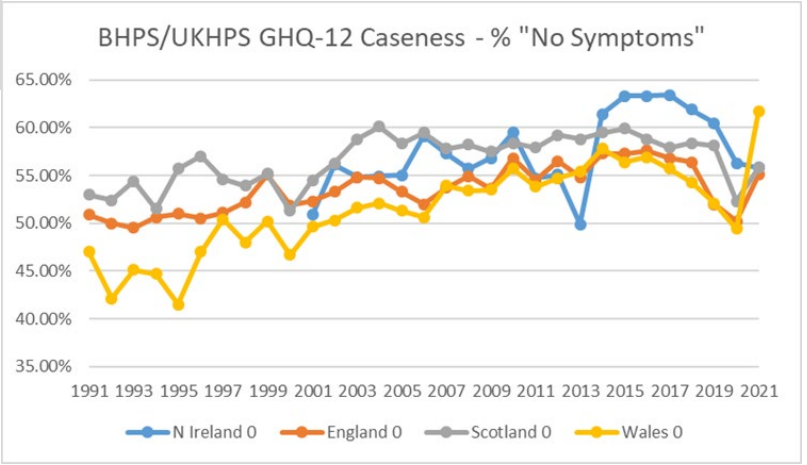

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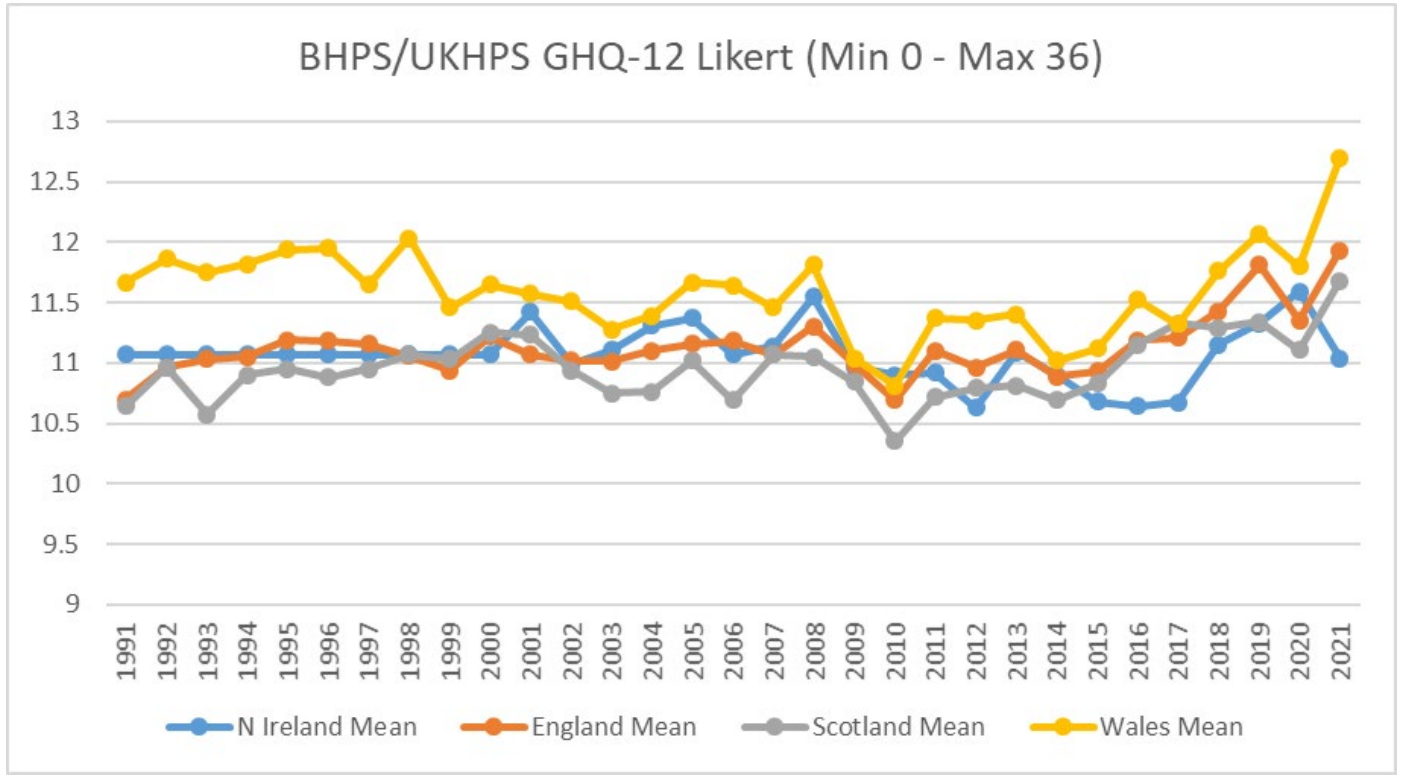
Results


BHPS/UKHPS GHQ-12 Likert (Min 0 - Max 36)
13
12.5
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11.5
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2020
2021
N Ireland Mean
England Mean
Scotland Mean
Wales Mean

Results: Contrast

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National Health Surveys 1995-2021	GHQ-12		Average Total Available Yrs	1998 onwards SHeS Survey only*	S.D.	S.D.*	Average *2001+	*S.D.
	0	NI*	52.01%		2.16%		52.4%	2.39%
	1 to 3		28.74%		1.55%		28.65%	1.57%
	4+		19.25%		1.7%		18.93%	1.76%
			100% n= 46510 (mean=3322)		855		100% n=40298 (mean=3358)	790
	0	England	59.72%		2.13%		61.20%	2.66%
	1 to 3		25.25%		2.13%		24.40%	2.38%
	4+		15.03%		2.06%		14.40%	2.04%
			100% n=166521 (mean=9251)		3435		100% n=116927 (mean=9100)	2856
	0	Scotland	58.30%	60.75%	2.6%	2.63%	60.71%	2.63%
	1 to 3		25.08%	23.84%	2.36%	2.60%	23.70%	2.29%
	4+		16.62%	15.43%	2.23%	2.38%	15.59%	2.13%
			100% n =90747 (mean=4105)	100% n=73167 (mean=4878)	2199	1876	100% n=64186 (mean=4585)	1576
Inferential Tests Overall	chi-square	n	303778	286198			221410	
		X^2 (df)	985.19 (4)	1097.92 (4)			1082.85 (4)	
		p	0.00	0.00			0.00	
		V (min)	0.03 (2)	0.03 (2)			0.03 (2)	

Results: Contrast

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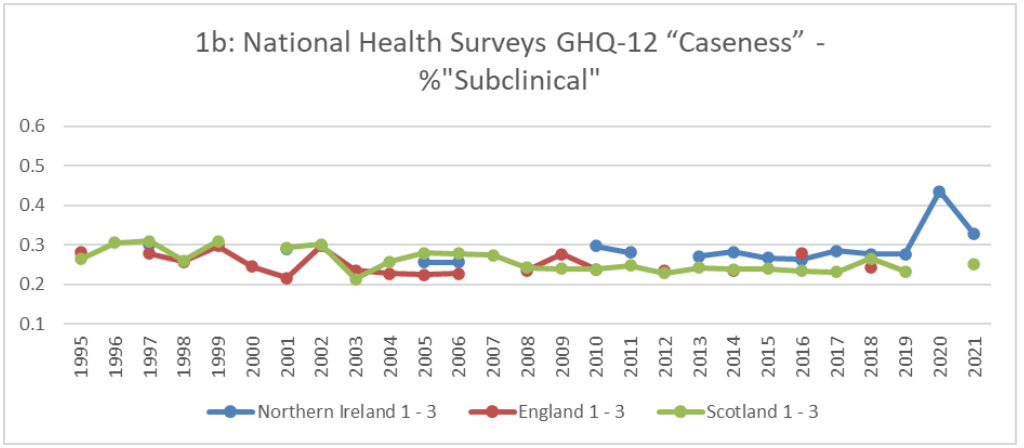

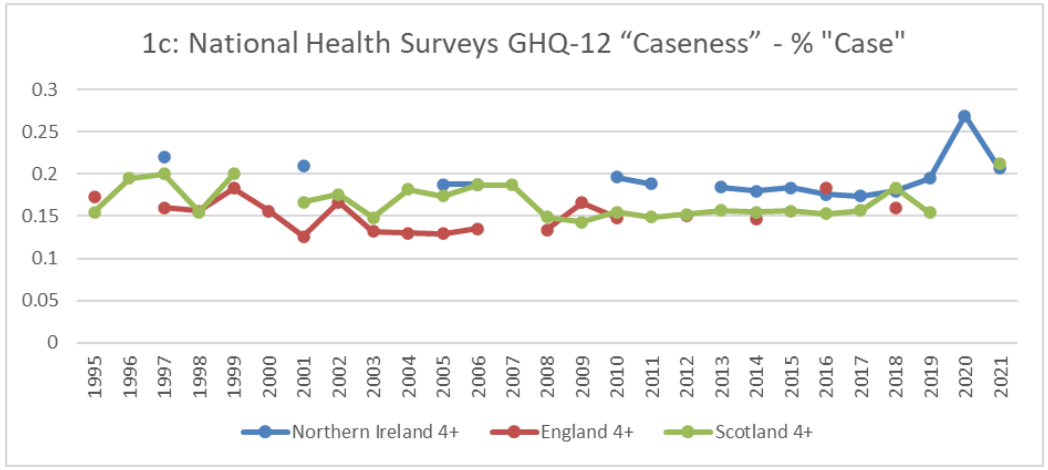

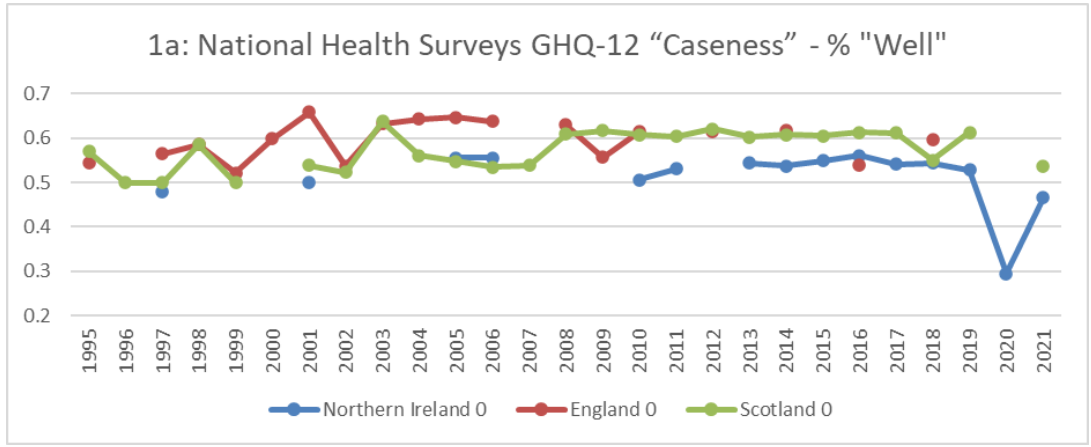

Discussion

- **Body of evidence:** predominantly uses clinical assessment tools and robust diagnostic procedures to estimate rates of mental ill health *and related variables* in UK populations to support a narrative of greater Mental Ill health in NI, rather than the self-report short-form assessment of Mental Health [GHQ-12] used in the BHPS/UKHLS to measure mental health in individuals from selected UK households.
- **Internal review of GHQ-12 data from UK** found lower rates of "Persons with no symptoms" (GHQ-12 = 0; Average = 52%) and higher rates of "Persons at Risk" (GHQ-12 = 1-3; Average = 29%) and "Probable Cases" (GHQ-12 = 4+; Average = 19% i.e. a fifth) in NI i.e. a less favourable profile compared to:
  - (i) findings for NI from BHPS/UKHLS *Understanding Society* and
  - (ii) (ii) Health Survey data from elsewhere in the UK (England Average Estimates = 60-61%, 24-25%, 14-15%; Scotland Average Estimates =58-61%, 24-25%, 15-17% respectively) .

Discussion

- **Study Design Effects** may impact results and/or confound conclusions drawn from Mental Health data.
  - E.g. BHPS/UKHLS Survey initiation and/or sample replenishment coincided with positive improvements in participants' mental health measures.
- **Renewed household recruitment** potential to create errors of conflation in "cross-sectional" data, masking mental health issues in the population previously assessed. Query quantification fallacies relating to survey stability and participant/household retention?
- Data from UK Health Surveys truly "cross-sectional". **Repeat assessment** and the **interval to retest** may affect GHQ-12 responses cumulatively, through "social desirability" responding, [in]sensitivity to questions and/or through sample aging effects that may not be obvious in short to mid-term.
- Panel/Household surveys can show an **age selection bias** of sorts (underrepresentation of 16-24 year olds and an over representation of 26-45 year olds i.e. "household reference persons") due to life course trends affecting stable household establishment.

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Discussion

- **How comparable are the BHPS/UKHLS cross-sectional weighted samples of UK nations? How representative are the cross-sectional weighted samples of the underlying populations?**
- For GHQ-12 Completers, UK nations similar across Waves prior to NI joining (1991-2000) with regard to age & sex distributions of the adults 16+, as well as average household size. Marital status profiles to a lesser extent. Age and sex distribution data consistent with data from underlying 1991 and 2001 Censuses.
  - Underlying Census data - had adults 16+ in NI been included in all early Waves of BHPS (Waves 1-10), they would have been younger on average (by up to 2-3 years) more likely to be single (up to 5-7%), less likely to be separated, divorced and/or widowed (by up to 4-6%) during this period.
- After NI joined the survey (2001/2), differences in sociodemographic variables between UK nations increased among GHQ-12 Completers, becoming more noticeable in Wave 9 and Wave 11 BHPS and Wave 1 of UKHLS. E.g. NI highest proportion of single persons; lowest % BAME community.
- NI diverged from patterns elsewhere in UK in Census 2021/22 i.e. nation with largest proportion (28+%) of persons 16+ with a LLTI reported to date. In contrast, fewer GHQ-12 Completers from NI have LLTI compared to other UK nations.

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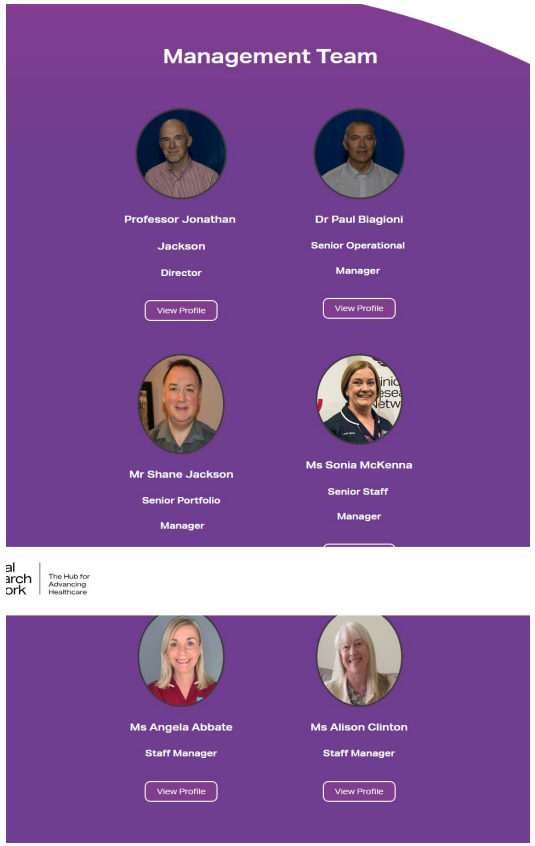
Acknowledgements



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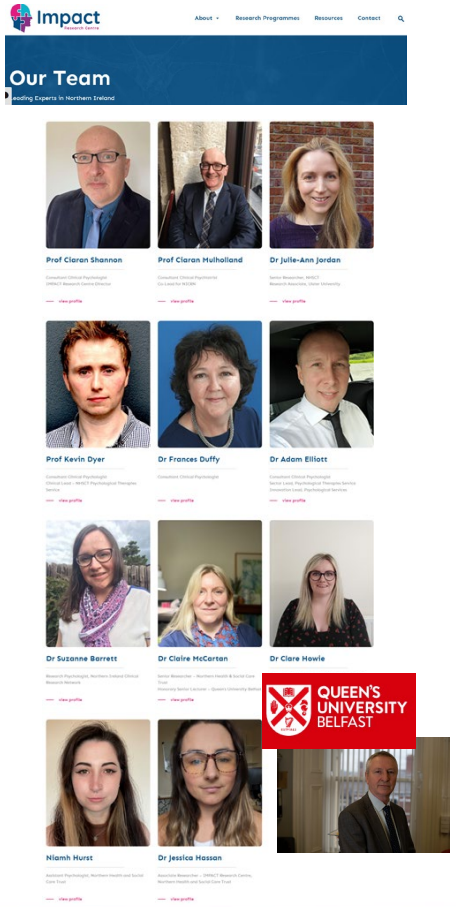

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