

Brief Report

Inflammatory Bowel Disease in Turkish Populations Served by English NHS Trusts

Affifa Farrukh *  and John Francis Mayberry 

Department of Gastroenterology, Nuffield Hospital, Scraftoft Lane, Leicester LE5 5HY, UK;
johnfmayberry@yahoo.co.uk

* Correspondence: farrukh_affi@yahoo.com

Abstract: It is estimated that there are about 500,000 Turkish people living in the UK, of whom about 300,000 are of Cypriot origin. A Freedom of Information request was sent to the four NHS Trusts in London which served areas with significant Turkish communities. The request sought information on the total number of patients admitted between 2016 and 2020 with inflammatory bowel disease. Between 2016 and 2020, 1936 patients with inflammatory bowel disease were admitted to North Middlesex University Hospital NHS Trust. Some of these patients will have been readmitted in different years, leading to an inflation of the overall number. The average number of cases admitted each year was approximately 387. The proportion of White British patients with ulcerative colitis was 0.4; for Turkish Cypriots, it was 0.43 and for Turkish patients, 0.45. A z test comparison of these proportions showed that there was no difference between the Turkish communities ($z = 0.52$ ns) and no overall difference between White British and all Turkish patients ($z = -1.5$, ns). Between 2016 and 2020, the Homerton Healthcare Foundation Trust admitted 215 English patients with inflammatory bowel disease, of whom 113 had ulcerative colitis. Of the 26 Turkish patients, 4 had ulcerative colitis. The proportion of Turkish patients with Crohn's disease was significantly greater than that amongst English patients ($z = 3.58$, $p < 0.0003$). In the context of the relatively large number of Turkish people with inflammatory bowel disease in both trusts, the absence of published work on the impact of these chronic diseases is of concern. The results from this investigation should prompt specific qualitative research into the Turkish experience in the UK following a diagnosis of inflammatory bowel disease with the intention of developing better patient-centred care.



Citation: Farrukh, A.; Mayberry, J.F. Inflammatory Bowel Disease in Turkish Populations Served by English NHS Trusts. *Gastrointest. Disord.* **2023**, *5*, 376–382. <https://doi.org/10.3390/gidisord5030031>

Academic Editor: Andrew Day

Received: 13 July 2023

Revised: 29 August 2023

Accepted: 11 September 2023

Published: 13 September 2023



Copyright: © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Keywords: inflammatory bowel disease; Crohn's disease; ulcerative colitis; Turkish population

1. Introduction

The aetiology of both Crohn's disease and ulcerative colitis remains unclear [1]. Over the years, there have been many suggestions pointing towards environmental factors and infections as possible causes. The contrary role of smoking in the two conditions is well established, although its role in their development is unknown [2]. Against this background, there has been an interest in the emergence of these conditions in new populations, particularly in the Far East, as well as in the role of migration [3]. Migrant studies have contributed to the understanding of the role of changes in social and dietary practices in a number of gastrointestinal diseases, such as gastric cancer [4]. They have a potential role in inflammatory bowel disease, but more research needs to be conducted in countries with socialised health services, which encompass both indigenous and migrant communities. Ideally, they will be countries where there are significant migrant communities from different parts of the world, such as Moroccans and South Americans in Spain or South Asians and Caribbean people in the United Kingdom (UK). However, prior to conducting such detailed studies, there is a need to establish some idea of the size of the patient group and, also, to assess whether they have equitable access to healthcare compared to the indigenous population. Centralised medical records are needed for such scoping studies, although

they generally refer to hospital admissions rather than outpatient care and so represent those patients with severe flares of their disease.

Over the last 50 years, there has been significant migration of Turkish people into Europe [5]. Driving factors have been the need to obtain employment, the consequences of the emergence of the Turkish Republic of Northern Cyprus and the social circumstances in a number of Eastern European countries [5]. The largest migration has been into Germany. However, there has also been significant migration into the UK [5].

It is estimated that there are about 500,000 Turkish people living in the UK, of whom about 300,000 are of Cypriot origin, with the majority living in various parts of London, such as Haringey, Enfield, Stoke Newington and Wood Green, amongst others [5]. However, despite the significant size of this migrant community and its localisation to a few geographical areas, there have been no studies on its experience within the National Health Service (NHS). This is in marked contrast to the South Asian and Afro-Caribbean communities in the United Kingdom (UK) [6–11]. With such limited knowledge of disease frequency, potential difficulties of access to healthcare and an understanding of patient experience in using those facilities, it is impossible for the National Health Service (NHS) to plan and deliver an appropriate and effective program. The situation is exacerbated by the fact that it is not a mandatory requirement for NHS facilities to record the Turkish ethnicity of their patients and in many trusts, they are included in the amorphous “Other White” category to which patients who are neither British nor Irish are allocated. As far as healthcare is concerned, the Turkish community in the UK may be considered a “lost community”. In a study in 2010, “the health and well-being of members of the Turkish speaking community living in London were affected by social aspects of their lives but also point to the need for urgent action by local statutory services to address the social issues raised, such as language barriers and integration” [12]. At present, the main effective response has been the provision, in Hackney, of “regular health advocacy/interpreting sessions within 13 different GP surgeries” by the self-help charity, Derman [13].

Ideally, studies on the incidence and prevalence of disease require a review of all potential cases identified from different sources, such as family practices, private clinics and government hospitals, and a knowledge of the population’s size and structure. Such information was not available for a review of inflammatory bowel disease in the Turkish community, and so government healthcare trusts in areas of London with significant numbers of such populations were approached to provide details of cases admitted to hospital through Freedom of Information requests. Such an approach has been used in a number of studies on gastrointestinal disease and allows access to official data.

2. Methods

The main Turkish communities in London were linked to trusts, which provided healthcare services to those areas. As a result, four trusts were identified. A Freedom of Information request was then sent to those four NHS trusts in London. The request sought information on the total number of patients admitted between 2016 and 2020 with each of these diseases:

1. Crohn’s disease;
2. Ulcerative colitis.

Information was requested separately for each of the following groups:

1. White British (A);
2. White Turkish (CH);
3. White Turkish Cypriot (CJ).

The codes A, CH and CJ refer to the coding used by the NHS for patients admitted to hospital. C, on its own, covers all non-British White patients, and within that coding, there is the option to breakdown the cohort into more specific communities, with J representing Turkish people of Cypriot origin and H representing Turkish people from Turkey and elsewhere, such as Bulgaria, Germany and the Netherlands, amongst other countries.

Four trusts were approached for this information:

1. Barts Health NHS Trust;
2. North Middlesex University Hospital NHS Trust;
3. Whittington Health NHS Trust;
4. Homerton Healthcare Foundation Trust.

Responses were then collated into total numbers of patients with inflammatory bowel disease, and the proportions with ulcerative colitis were compared using a z statistic [14].

3. Results

Of the four trusts, only the North Middlesex University Hospital NHS Trust collected detailed data routinely. The Homerton Healthcare Foundation Trust collected data on English patients and those of Turkish origin, combining Turkish Cypriots with all other Cypriots (Figure 1). Between 2016 and 2020, 1936 patients with inflammatory bowel disease were admitted to the North Middlesex University Hospital NHS Trust; some of these patients would have been readmitted in different years, leading to an inflation of the overall number (See Table 1). The average number of cases admitted each year was approximately 387. The proportion of White British patients with ulcerative colitis was 0.4; for Turkish Cypriots, it was 0.43 and for Turkish patients, 0.45. A z test comparison of these proportions showed that there was no difference between the Turkish communities ($z = 0.52$ ns) and no overall difference between White British and all Turkish patients ($z = -1.5$, ns) [14].

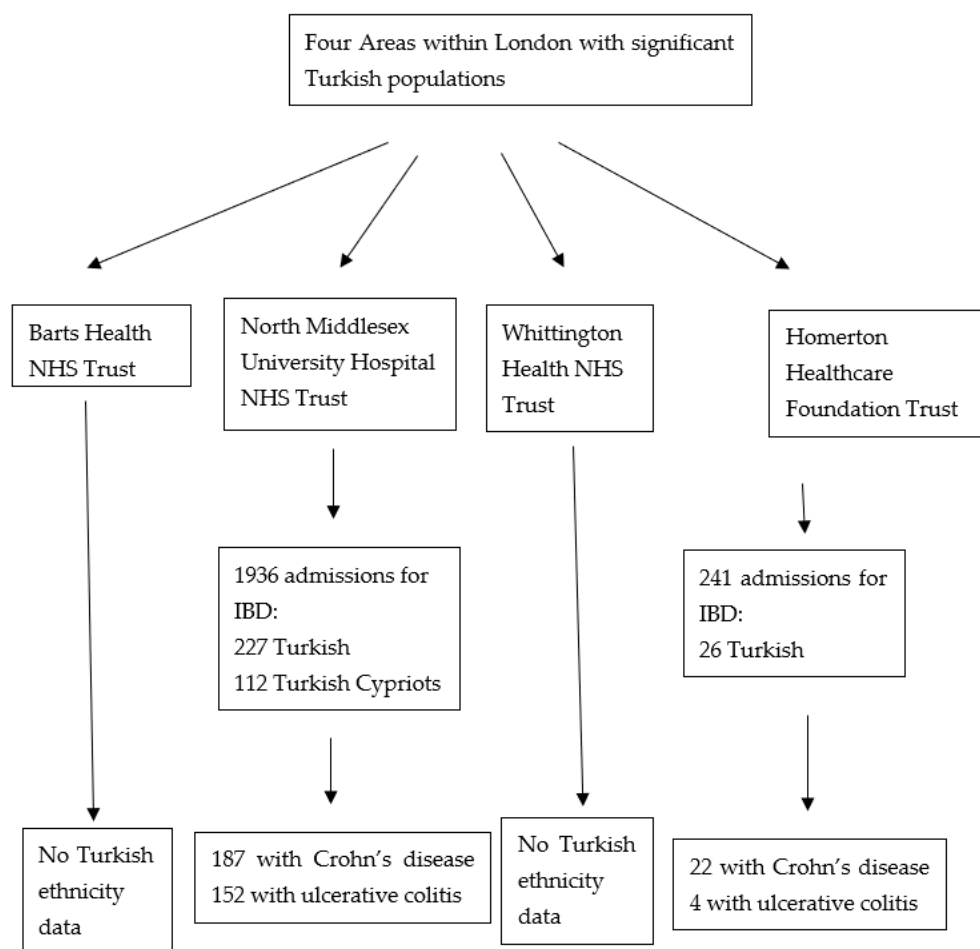


Figure 1. Workflow and distribution of cases of inflammatory bowel disease (IBD).

Table 1. Number of patients admitted to hospital with inflammatory bowel disease between 2016 and 2020.

Trust	Turkish		Turkish Cypriot		White British	
	Crohn's Disease	Ulcerative Colitis	Crohn's Disease	Ulcerative Colitis	Crohn's Disease	Ulcerative Colitis
North Middlesex	123	104	64	48	953	644

Between 2016 and 2020, the Homerton Healthcare Foundation Trust admitted 215 English patients with inflammatory bowel disease, of whom 113 had ulcerative colitis. Of the 26 Turkish patients, 4 had ulcerative colitis. The proportion of Turkish patients with Crohn's disease was significantly greater than that amongst English patients ($z = 3.58$, $p < 0.0003$). However, based on the data for White British patients, the expected number of Turkish patients with inflammatory bowel disease would have been 46 patients, of whom 21 would have had ulcerative colitis. This proportion is significantly different to that reported by the Homerton Healthcare Foundation Trust ($z = 2.6$, $p < 0.01$). These findings would suggest that patients within this trust might have a very different disease experience to those in the North Middlesex University Hospital NHS Trust.

4. Discussion

There have been exceptionally few studies on the health of Turkish migrants in the United Kingdom. This is despite the fact that migration from Cyprus mainly started after the Second World War, increasing as a result of hostilities on the island during the 1950s and continuing until the early 1960s. In contrast, Turkish mainland migration to Britain was an extension of migration to Europe, which had been taking place on a wider scale since the early 1950s. After the military coup in Turkey in 1980, a number of doctors, solicitors, teachers and academics arrived in Britain [15]. The disunity of official bodies in dealing with crises in the Turkish community has been well demonstrated in their failure to address educational underachievement by Turkish children [16]. The fact that half of the trusts approached were unable to identify Turkish patients within their databases is of particular concern in that they serve areas with large Turkish populations and, indeed, they are likely to be the largest minority community in that area.

To date, there have been no epidemiological studies on inflammatory bowel disease in the Turkish community in the UK. This contrasts with extensive published work on South Asians and Afro-Caribbeans, as well as studies on Mormon and Jewish communities [6–11] and recent work on Māori in New Zealand [16]. The reasons for this are unclear, but might reflect a failure to engage with political processes and promote an awareness of their educational, social and health needs. However, there appears to be no Turkish representation on the executive boards of any of the four trusts involved in this study, indicating a failure to reach out to the Turkish community. It is also likely that hospital trusts have failed to recognise internal issues within the "Turkish" community, such as the presence of a significant number of Alevi Kurds. Difficulties between Kurds and Turks within Turkey and issues related to the recognition of Alevism within Islam will also have fragmented the community's ability to call attention to deficits in its healthcare. The need to engage with the Turkish community is underlined by the fact that Turkish people are at significant risk of Behçet's disease, with a prevalence of 80–350 cases/10⁵ population [17]. In its intestinal form, it has many similarities to inflammatory bowel disease, and for the community this may act as a barrier to seeking medical help.

This study is the first attempt to measure, in any form, the frequency of any gastrointestinal disease within the Turkish communities in the UK. It was limited by the lack of any detailed demographic data on the Turkish populations within any of the localities in which they are based. This lack of basic population data needed to form a denominator in any calculation means that there would be little value to identifying individual cases in

the hope of using these figures to measure the incidence and prevalence of inflammatory bowel disease. Rather, this study undertook comparisons of the proportions of patients with different types of inflammatory bowel disease.

In one trust, this study identified a significant number of Turkish patients with Crohn's disease (171) and ulcerative colitis (152). There are no readily available sources of information in Turkish for patients who are residents in Britain. Earlier research has shown that self-help groups tend not to attract members from minority communities [18]. It seems likely, therefore, that Turkish patients will tend to feel isolated and have difficulties in obtaining culturally appropriate advice. Concerns arising from such a situation are reflected in the fact there were significant issues with medication adherence in a Turkish study where non-adherence was 42% in ulcerative colitis and 24% in Crohn's disease ($p = 0.006$). This was intentional in 29% of patients with ulcerative colitis and 16% of those with Crohn's disease ($p = 0.03$) [19]. Further issues with inflammatory bowel disease were identified in a recent Turkish study where young patients lowered their career expectations [20].

Between 1998 and 2001, the incidence of ulcerative colitis in Trakya ranged between 0.6 and $0.9/10^5$ population/year, with the disease being twice as common in urban compared with rural areas [21]. A nationwide questionnaire-based study between 2001 and 2003 reported a higher incidence for ulcerative colitis of $4.4/10^5$ population/year, with a figure of $2.2/10^5$ /year for Crohn's disease [22]. Between 2004 and 2013, the incidence of ulcerative colitis in the western Black Sea region of Turkey increased from $1/10^5$ population/year to $4.9/10^5$ population/year. A parallel increase was seen with Crohn's disease, which increased from $0.5/10^5$ /year to $2.1/10^5$ /year over the same period. However, in contrast to the situation in Trakya, ulcerative colitis was commoner in rural areas, although Crohn's disease was more common in urban areas [23]. There have been no other recent studies on the incidence of inflammatory bowel disease in Turkey. However, these studies would indicate that the disease frequency in Turkey is approaching that in Western Europe. Studies on migrant populations have shown that, in general, the second and third generations experience more severe disease than that seen in the host community [8]. There are no reasons to believe that this would not also be the case for the children and grandchildren of Turkish migrants to the UK.

North Middlesex serves the Enfield and Haringey areas of London. Turkish is the most common language spoken after English in the area, with about 50,000 people speaking it. Based on studies from Turkey, one would expect to see about 12 new cases of ulcerative colitis and 5 of Crohn's disease during the quinquennium. The reported number of hospital admissions, with an average of 37 patients per year, would suggest that the condition is much more common amongst Turkish people living in the UK, and this is consistent with studies on other migrant communities [8]. Census data would suggest that about 11,000 Turkish people live in Homerton, and so one would expect 2 new cases of ulcerative colitis and 1 of Crohn's disease during the quinquennium compared to the 4 reported cases of ulcerative colitis and 22 of Crohn's disease. This again suggests that inflammatory bowel disease, in particular Crohn's disease, is significantly commoner than would be expected.

In the context of the relatively large number of Turkish people with inflammatory bowel disease in both trusts, the absence of published work on the impact of these chronic diseases is of concern. During the last decade, it has become apparent that patients with inflammatory bowel disease from minority communities have poorer access to expensive biologic therapy [24,25] and poorer hospital-based care [26]. A number of these studies used Freedom of Information legislation to access official data on clinical practice. This approach was confirmed to be robust in a study from Leicester, UK [25].

The results from this investigation should prompt specific qualitative research into the Turkish experience in the UK following a diagnosis of inflammatory bowel disease with the intention of developing better patient-centred care. There is also a need to assess the true incidence of these diseases in the community through robust epidemiological techniques. There is an urgent need to educate local clinicians about the Turkish community and to ensure that there is comprehensive support for patients, including adequate translation

services and appropriate literature in Turkish. This will necessitate direct involvement of members of the community in hospital management systems [27].

Author Contributions: Conceptualisation, methodology, software, validation, formal analysis, investigation, research, data curation, writing—original draft preparation, writing—review and editing, visualisation, supervision, project administration were equally contributed to by both authors. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: This study did not require institutional review as it utilised publicly available data through Freedom of Information legislation.

Informed Consent Statement: Informed consent was not required as this study utilised only publicly available anonymous data.

Data Availability Statement: Sources of Data, Freedom of Information Requests. Barts Health NHS Trust, FOI 23-0472; North Middlesex University Hospital NHS Trust, 344/23; Whittington Health NHS Trust, 23-JM-0707; Homerton Healthcare Foundation Trust, FOI 7329.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Singh, N.; Bernstein, C.N. Environmental risk factors for inflammatory bowel disease. *United Eur. Gastroenterol. J.* **2022**, *10*, 1047–1053. [CrossRef] [PubMed]
2. Rozich, J.J.; Holmer, A.; Singh, S. Effect of lifestyle factors on outcomes in patients with inflammatory bowel diseases. *Am. J. Gastroenterol.* **2020**, *115*, 832–840. [CrossRef] [PubMed]
3. Farrukh, A.; Mayberry, J.F. Inflammatory bowel disease and the South Asian Diaspora. *JGH Open* **2019**, *3*, 358–360. [CrossRef] [PubMed]
4. Kaucher, S.; Kajüter, H.; Becher, H.; Winkler, V. Cancer incidence and mortality among ethnic German Migrants from the former Soviet Union. *Front. Oncol.* **2018**, *8*, 378. [CrossRef]
5. Communities and Local Government. *The Turkish and Turkish Cypriot Muslim Community in England Understanding Muslim Ethnic Communities*; Change Institute: London, UK, 2009.
6. Jayanthi, V.; Probert, C.S.; Pinder, D.; Wicks, A.C.; Mayberry, J.F. Epidemiology of Crohn's disease in Indian migrants and the indigenous population in Leicestershire. *Q. J. Med.* **1992**, *82*, 125–138.
7. Probert, C.S.; Jayanthi, V.; Pinder, D.; Wicks, A.C.; Mayberry, J.F. Epidemiological study of ulcerative proctocolitis in Indian migrants and the indigenous population of Leicestershire. *Gut* **1992**, *33*, 687–693. [CrossRef]
8. Carr, I.; Mayberry, J.F. The effects of migration on ulcerative colitis: A three year prospective study among Europeans and first- and second-generation South Asians in Leicester (1991–1994). *Am. J. Gastroenterol.* **1999**, *94*, 2918–2922. [CrossRef]
9. Farrukh, A.; Mayberry, J.F. Apparent disparities in hospital admission and biologic use in the management of inflammatory bowel disease between 2014–2018 in some Black and Ethnic Minority (BEM) populations in England. *Gastrointest. Disord.* **2020**, *2*, 141–151. [CrossRef]
10. Mayberry, J.F.; Judd, D.; Smart, H.; Rhodes, J.; Calcraft, B.; Morris, J.S. Crohn's disease in Jewish people—An epidemiological study in south-east Wales. *Digestion* **1986**, *35*, 237–240. [CrossRef]
11. Penny, W.J.; Penny, E.; Mayberry, J.F.; Rhodes, J. Prevalence of inflammatory bowel disease amongst Mormons in Britain and Ireland. *Soc. Sci. Med.* **1985**, *21*, 287–290. [CrossRef]
12. Topal, K.; Eser, E.; Sanberk, I.; Bayliss, E.; Saatci, E. Challenges in access to health services and its impact on quality of life: A randomised population-based survey within Turkish speaking immigrants in London. *Health Qual Life Outcomes* **2012**, *10*, 11. [CrossRef] [PubMed]
13. Available online: <https://www.derman.org.uk/health-advocacy-service/> (accessed on 17 July 2023).
14. Social Science Calculator. Available online: <https://www.socscistatistics.com/tests/ztest/default2.aspx> (accessed on 13 July 2023).
15. Issa, T. Turkish-speaking communities in Britain: Migration for education. *Wales J. Educ.* **2004**, *13*, 69–94.
16. Qiu, M.; Patel, R.N.; Kerrison, R.B. Low but increasing rates of inflammatory bowel disease in Māori: A report from Lake District Health Board IBD. *N. Z. Med. J.* **2022**, *135*, 99–105. [PubMed]
17. Valenti, S.; Gallizzi, R.; De Vivo, D.; Romano, C. Intestinal Behçet and Crohn's disease: Two sides of the same coin. *Pediatr. Rheumatol.* **2017**, *15*, 33. [CrossRef]
18. Moody, G.A.; Bhakta, P.; Mayberry, J.F. Disinterest in local self-help groups amongst patients with inflammatory bowel disease in Leicester. *Int. J. Color. Dis.* **1993**, *8*, 181–183. [CrossRef]
19. Can, G.; Yozgat, A.; Tezel, A.; Ünsal, G.; Soyly, A.R. Beliefs about medicines and adherence to treatment in Turkish patients with inflammatory bowel disease. *Turk. J. Gastroenterol.* **2022**, *33*, 743–750. [CrossRef]

20. Topal, F.; Camyar, H.; Yuksel, E.S.; Gunay, S.; Topa, F.; Gür, O. Work Productivity Loss in Inflammatory Bowel Disease Patients in Turkey. *Gastroenterol. Res. Pract.* **2020**, *2020*, 6979720. [[CrossRef](#)]
21. Tezel, A.; Dökmeçi, G.; Eskiocak, M.; Umit, H.; Soylu, A.R. Epidemiological features of ulcerative colitis in Trakya, Turkey. *J. Int. Med. Res.* **2003**, *31*, 141–148. [[CrossRef](#)]
22. Tozun, N.; Atug, O.; İmeryuz, N.; Hamzaoglu, H.O.; Tiftikci, A.; Parlak, E.; Dagli, U.; Ulker, A.; Hulagu, S.; Akpınar, H.; et al. Clinical characteristics of inflammatory bowel disease in Turkey: A multicenter epidemiologic survey. *J. Clin. Gastroenterol.* **2009**, *43*, 51–57. [[CrossRef](#)]
23. Can, G.; Poşul, E.; Yılmaz, B.; Can, H.; Korkmaz, U.; Ermiş, F.; Kurt, M.; Dağlı, Ü. Epidemiologic features of inflammatory bowel disease in Western Blacksea region of Turkey for the last 10 years: Retrospective cohort study. *Korean J. Intern. Med.* **2019**, *34*, 519–529. [[CrossRef](#)]
24. Farrukh, A.; Mayberry, J. Apparent discrimination in the provision of biologic therapy to patients with Crohn’s Disease according to ethnicity. *Public Health* **2015**, *129*, 460–464. [[CrossRef](#)] [[PubMed](#)]
25. Farrukh, A.; Mayberry, J. Ethnic variations in the provision of biologic therapy for Crohn’s Disease: A Freedom of Information Study. *Med.-Leg. J.* **2015**, *83*, 104–108. [[CrossRef](#)] [[PubMed](#)]
26. Farrukh, A.; Mayberry, J.F. Patients with ulcerative colitis from diverse populations: The Leicester Experience. *Med.-Leg. J.* **2016**, *84*, 31–35. [[CrossRef](#)]
27. Farrukh, A.; Mayberry, J.F. NHS Trust Boards and Health and Well-Being Boards: Do they play any role in the management of disparate levels of care for South Asian patients with inflammatory bowel disease. *Ulst. Med. J.* **2023**, *92*, 38–42.

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.