

Med22

RCP annual
conference

Health services and policy abstracts



Royal College
of Physicians

Ethnic disparities in people accessing Free-Style Libre in the UK: insights from the association of British Clinical Diabetologists Audit

Authors: Harshal Deshmukh,^A Kazeem A Adeleke,^A Emma Wilmot,^B Najeeb Shah,^A Jane Patmore,^C Chris Walton,^C Robert E J Ryder^D and Thozhukat Sathyapalan^A

^AUniversity of Hull, Hull, UK; ^BUniversity Hospitals of Derby and Burton NHS Foundation Trust, Derby, UK; ^CHull University Teaching Hospital NHS Trust, Hull, UK; ^DCity Hospital, Birmingham, UK

Introduction

We have shown that FreeStyle Libre (FSL) use in people living with diabetes is associated with improvements in glycaemic control, hypoglycaemia awareness, diabetes distress and resource utilisation. In this study, we wanted to identify any ethnicity-specific differences in people who access this technology.

Methods

Clinicians were invited to submit anonymised FSL user data to a secure web-based tool held within the NHS N3 network. We collected baseline data before FSL initiation, such as patient demographics, previous structured education, duration of diabetes, body mass index (BMI), HbA1c values from the previous 12 months, Gold score and Diabetes Distress Screening scale (DDS2) score. We compared the baseline clinical characteristics across ethnicities using ANOVA and Chi-squared test. All the analyses were done in R 4.1.2.

Results

The study consisted of 11,652 people living with diabetes. The study included people of White (10,972), East Asian (396), African (92) and other (192) ethnicity. Those with African ethnicity had a higher baseline HbA1c 76.1(±22.4) mmol/mol, as compared to White 70.3(±17.8) mmol/mol and East Asian 70.2(±16.8) mmol/mol background (P-Anova <0.05). Those with African ethnicity also had higher diabetes-related distress at baseline as compared to other ethnicities (3.3(±1.4) in African vs 2.9(±1.3) in white and 3.02 (±1.3) in East Asian populations (P-Anova<0.05). There were no significant ethnicity-specific differences in hypoglycaemia awareness or severe hypoglycaemia in the study population.

Conclusion

This national audit demonstrates evidence of ethnic disparities in people living with diabetes who access FSL. This study supports a detailed analysis of national diabetes datasets such as the national diabetes audit (NDA) data to understand ethnic disparities in access to FSL and other diabetes technologies available for people living with diabetes in the UK.

Dignity at work in the NHS

Authors: Niladri Konar,^A Ritika Ghosh Dastidar,^B Indranil Chakravorty^C and Neha Shetty^C

^AThe Princess Alexandra Hospital NHS Trust, Harlow, UK; ^BRoyal London Hospital, London, UK; ^CSt Georges University Hospital, London, UK

What is dignity?

Dignity is defined as a personal sense of worth, value, respect, or esteem that is derived from one's humanity and individual social position, as well as being treated respectfully and fairly by others.

The NHS People Plan reminds us to ensure that staff must feel valued, supported and empowered to carry out their work. Therefore, we must address any bullying and create compassionate and inclusive cultures which have implications on staff-health wellbeing, staff engagement and ultimately patient care.

Why are 'bullying and harassment' problems?

The 2020 NHS Staff Survey gives employers and national stakeholders invaluable understanding and awareness of the situation faced by the largest workforce in the UK.¹

The Francis report highlighted the negative impact of improper working environments on patient safety.² Higher levels of bullying were linked to psychological distress, intentions to leave the job, self-reported sickness and reduced job satisfaction.³

Kline and Lewis described the cost of bullying and harassment to the NHS as £2.281bn per annum.⁴ With a decade of underfunding, overt financial pressures, and the economic hit of a global pandemic, it is more important than ever for the NHS to address the associated costs of bullying and harassment.

What can workplaces do to change the culture of bullying and harassment?

Intervention on reports of bullying should take place at the earliest stage to avoid health deterioration in the victims.⁵ Policies should be easily accessible and applicable to all employees.⁶ Organisations should ensure there is a Freedom to Speak Up guardian within the system where concerns can be addressed confidentially and with no repercussions.⁷ Staff need to be supported to 'whistle-blow' in order to tackle toxic culture.⁸

NHS trusts should be forced to publish anonymised data on complaints and independently audited data on key patient safety outcomes and performance indicators.⁹ Systems should be in place to allow bullying and undermining to be reported without fear of recrimination.¹⁰

Purpose and methodology

Our purpose of this study is to find out all the particular qualitative determinants of dignity in the workplace in the NHS.

In the first stage, we looked into all WRES data from all NHS trusts published from 2016 to 2021, to look for top and bottom performers. We enquired whether these organisations have their dignity awareness policies widely available. We looked to see whether there was any correlation. We used statistical analysis to determine the significance.

In the second stage, we will try to get this project accepted by NHS England. We will form a questionnaire to interview relevant people in these trusts. We will require ethical committee clearance and funding by

that time to continue the bulk of the project by next year. Initial part is a quantitative policy review. The next part, however, would be a more qualitative one.

Initial results

Initial data show that the better performers have more widely available policies than the under-performers, this may not be the only factor contributing to these performances.

References

1. NHS England. *NHS Staff Survey 2020 National results briefing*. NHSE, 2020.
2. Francis R. *Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry*. Mid Staffordshire NHS Foundation Trust Public Inquiry, 2013.
3. Carter M, Thompson N, Crampton P *et al*. Workplace bullying in the UK NHS: a questionnaire and interview study on prevalence, impact and barriers to reporting. *BMJ Open* 2013;3:e002628.
4. Kline R, Lewis D. The price of fear: Estimating the financial cost of bullying and harassment to the NHS in England. *Public Money Manag* 2019;39:166–74.
5. Illing JC, Carter M, Thompson MJ *et al*. *Evidence synthesis on the occurrence, causes, consequences, prevention and management of bullying and harassment behaviours to inform decision making in the NHS*. NIHR, 2013.
6. Randle J. Workplace bullying in the NHS. *J Perioper Pract* 2011;21:391–4.
7. Hughes H. Freedom to speak up – the role of freedom to speak up guardians and the National Guardian’s Office in England. *Future Healthc J* 2019;6:186–9.
8. Grime P, McElvenny DM, Madan I. (2021) Factors associated with sickness absence in a large NHS Trust. *Occup Med* 2021;71:467–72.
9. Patrick K. Barriers to whistleblowing in the NHS. *BMJ* 2012;345:e6840.
10. Wild JRL, Ferguson HJM, McDermott FD, Hornby ST, Gokani VJ. Undermining and bullying in surgical training: A review and recommendations by the Association of Surgeons in Training. *Int J Surg* 2015;23:S5–S9.

A case for a bottom-up approach in the implementation of health policy in Africa

Author: Stella Anne Oloo^A

^AEast, Central and Southern Africa College of Physicians

Introduction

Implementation of healthcare reform remains a challenge for many low- and middle-income countries.¹ The ongoing COVID-19 pandemic has taken a toll on the health systems of even the most resilient countries and exposed inequities in health care access and the barriers presented by inadequate health sector financing^{2,3} This has prompted a renewed interest in health policy implementation. Planned improvements in health systems performance need to address the challenges of policy implementation.⁴

There is a paucity of evidence comparing how bottom-up policy implementation approaches have been used for health policy programs in sub-Saharan Africa. In Uganda, while reforms in the systems of governance in the form of decentralisation have been crucial to the success of health service reform, health policy implementation has traditionally taken on a top-down approach.⁵ This paper presents an analysis of a bottom-up approach used to implement a user fee policy in Uganda.

Methods

An in-depth qualitative analysis and review of policy implementation literature and case reports on the implementation of user fees in Uganda was conducted. The conceptual framework for this paper was based on a theoretical review of a top-down versus bottom-up approach to policy implementation.

Results

Analysis revealed that the decentralisation of public services was a key precursor to the success of a bottom-up approach. Decentralisation of public service delivery entailed the devolution of power from the central government to local authorities, enabling local district leaders to operate with a distinct amount of discretion to implement and adapt the user fee policy for their districts. Strategies used by district leaders to implement the user fee policy included delegation of roles to local community leaders, direct community engagement and adaptation of the policy to community needs and the local context. Local communities were more receptive to the policy given the opportunity to participate and contribute to its formulation alongside their local leaders.

Conclusion

The uptake and success of health policy in community-based populations in Africa may be reliant on the ability of local leaders to get involved in decision-making and adapt policy to their local needs. Policy practitioners should consider capacity development efforts for local health district teams beyond the traditional focus on administrative skills and focus on learning and leadership skills needed to adapt such policies at local level.

References

1. World Health Organization. *Improving health system financing in low-income countries*. WHO, 2005. www.who.int/management/background_5.pdf [Accessed 15 December 2021].
2. Mishra V, Sevedzenouzi G, Almohtadi A *et al*. Health inequalities during COVID-19 and their effects on morbidity and mortality. *J Healthc Leadersh* 2021;13:19–26.
3. Kabaniha GA, Gedam P, Bekedam H, Bhushan I. Reducing financial barriers for households due to COVID-19: The case in India. *Health Syst Reform* 2021;7:e1897323.

4. Campos PA, Reich MR. Political analysis for health system implementation. *Health System Reform* 2019;5:224–35.
5. Greenhalgh T, Robert G, Macfarlane F, Bate P, Kyriakidou O. *Diffusion of innovations in service organizations: a systematic literature review*. New Jersey: Blackwell Publishing, 2005

Service evaluation of the impact of direct ambulance calls from paramedics to the ambulatory assessment unit in the John Radcliffe hospital, Oxford

Authors: Barbara Onen,^A Nicola Fawcett,^A Stephen Daniel,^B Edward Samm,^A Daniel Lasserson,^A Jordan Bowen^A and Sudhir Singh^A

^AOxford University Hospitals NHS Foundation Trust, Oxford, UK; ^BSouth Central Ambulance Service NHS Foundation Trust, UK

Introduction

NHS England/Improvement wrote standard guidance (2021) supporting increased paramedic direct referrals (PDRs) to same day emergency care.¹ In 2018, a pilot project looking at PDRs to senior decision makers was initiated at the John Radcliffe Hospital.² A service evaluation was undertaken to assess the impact on the ambulatory assessment unit (AAU).

Methods

Five dedicated referral phones, in a cascade system, between 8.00am and 9pm, enable senior decision makers (consultants/registrars) to receive PDRs. An analysis of phone calls to AAU from 2018 to 2021 was carried out. Qualitative questionnaires were sent to paramedic referrers and AAU phone holders.

Results

PDRs were able to be triaged appropriately working with the referrals team, as evidenced by care pathway after clinical assessment (Fig 1). Anecdotal feedback showed that occasional calls from paramedics were clearly not appropriate for medicine, but the vast majority were appropriate. Phone call data show a steady increase in referrals made via the AAU telephone service over time (Fig 2). This was not just due to PDRs, but reflected a global increase in referrals from all sources. Paramedics were very confident in the service and felt that shared decisions were made, especially regarding non-conveyance. Paramedics referred generally one to two patients per shift, waiting <5minutes to get through via phone, with quick booking times on arrival in AAU (<5 minutes). A small minority of paramedics were unable to get through to AAU on first attempt, but were happy to wait and retry.

Fig 1. Sources of admission to acute/general medicine and outcome for all referrals, and paramedic direct referrals (PDRs) in a 3-day service evaluation exercise.

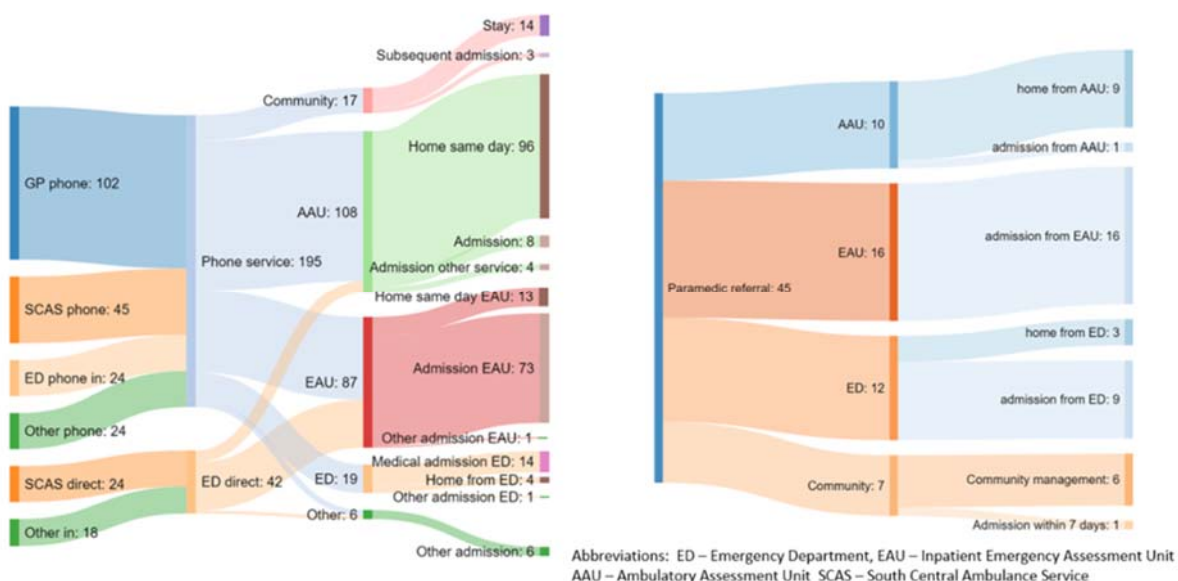
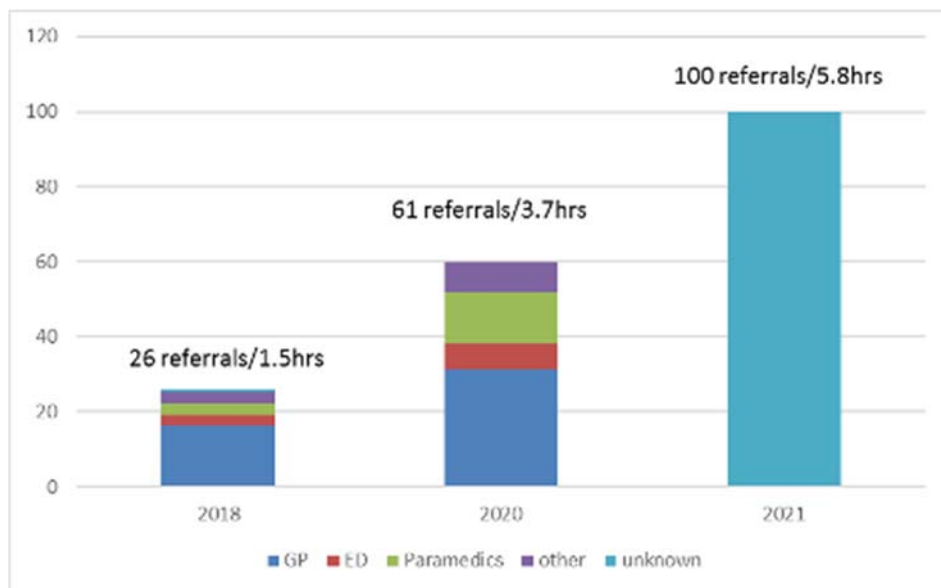


Fig 2. Estimated number of weekday referrals and source (where known) to acute/general medicine phone referral service from data collection exercises 2018–2021.



Discussion and conclusion

PDR has been well received as a support function, access service and as input into decisions regarding non-conveyance, and has resulted in a more efficient service bypassing ED and going straight to a more appropriate place of care. Possible causes for increasing use of AAU are increasingly older, comorbid patients, pressure on primary care, and an increasing focus on providing care closer to home using ambulatory/community pathways.

References

1. NHS England and NHS Improvement. *Standard guidance: Ambulance clinician (on scene) referral to same day emergency care. Increasing direct referral from ambulance clinicians to same day emergency care*. NHSE, 2021. www.england.nhs.uk/wp-content/uploads/2021/11/B0866_i_National-guidance-for-ambulance-clinician-referral-to-same-day-emergency-care.pdf [Accessed 26 January 2022].
2. Vaziri L, Rajwani M, Bowen J *et al*. Paramedic direct referrals to senior decision maker: is this the way forward? A pilot project in acute general medicine and ambulatory care at the John Radcliffe Hospital, Oxford. *Clin Med* 2019;19(Suppl 3):49.

The national census of UK endoscopy services 2021

Authors: Ravindran Srivathsan,^A Siwan Thomas-Gibson,^B Madeline Bano,^C Emma Robinson,^C Anna Jenkins,^C Sarah Marshall,^C Hutan Ashrafian,^D Ara Darzi,^D Mark Coleman^C and Chris Healey^C

^AJoint Advisory Group on Gastrointestinal endoscopy (JAG); ^BSt Mark's Hospital, Harrow, UK; ^CJoint Advisory Group on GI Endoscopy (JAG); ^DImperial College London, London, UK

Introduction

The Joint Advisory Group on Gastrointestinal Endoscopy (JAG) biennial census provides an insight into the provision of UK endoscopy services.^{1,2} Since the last census 2 years ago, there has been a significant change in every aspect of endoscopy, brought on by the COVID-19 pandemic.³⁻⁵ We report on the 2021 census which was conducted to understand both the impact of COVID-19 and ongoing pressures on endoscopy services.

Methods

The JAG Quality working group developed an initial question set which was refined and reviewed by key JAG stakeholders. The census was disseminated to all JAG-registered services in April 2021 using an online survey platform. Prior to analysis, any missing data from services were sought as part of a second-step verification process. Data were analysed across the domains of endoscopic activity, waiting time targets, workforce, COVID-19, safety, gastrointestinal (GI) bleeding, anaesthetic support, equipment and decontamination. Outcome variables from each section of the census were analysed against independent variables derived from service-specific core demographic data (JAG accreditation status, sector and region) using a variety of statistical methods. Statistical significance is indicated by $p < 0.05$.

Results

Overall, 321 services completed the census, with information pertaining to 393 individual units (response rate 79.2%). In the first 3 months of 2021, 66.0% of services met urgent cancer waits, 38.7% met routine waits and 33.9% met surveillance waits (Fig 1). Workforce redeployment was the predominant reason cited for not meeting targets. There were significant regional differences in the proportion of patients waiting 6 or more weeks ($p = 0.001$). During the pandemic, 64.8% of NHS endoscopy services had staff redeployed and there was a mean sickness rate of 8.5% with no clear variation across sectors or regions. Endoscopic activity was outsourced. Services were, on average, at 79.3% activity compared to 2 years ago. JAG accredited services were more likely to meet urgent cancer waits, with a lower proportion of patients waiting 6 weeks or more ($p = 0.03$). Clinical endoscopists, who make up 11.0% of the endoscopist workforce, had a significantly greater number of annual planned sessions per individual than consultant colleagues ($p < 0.001$), who make up 81.0% of the workforce (Fig 2). Out of acute services, 86.9% had access to out-of-hours GI bleed cover. Anaesthetist-supported lists were provided in 65.4% of services. Over 10% of services stated that equipment shortage interferes with service delivery. Overall, 42.7% of services would require additional building works to decontaminate more scopes.

Fig 1. Clustered bar chart demonstrating percentage of services meeting waiting time targets over successive census years.

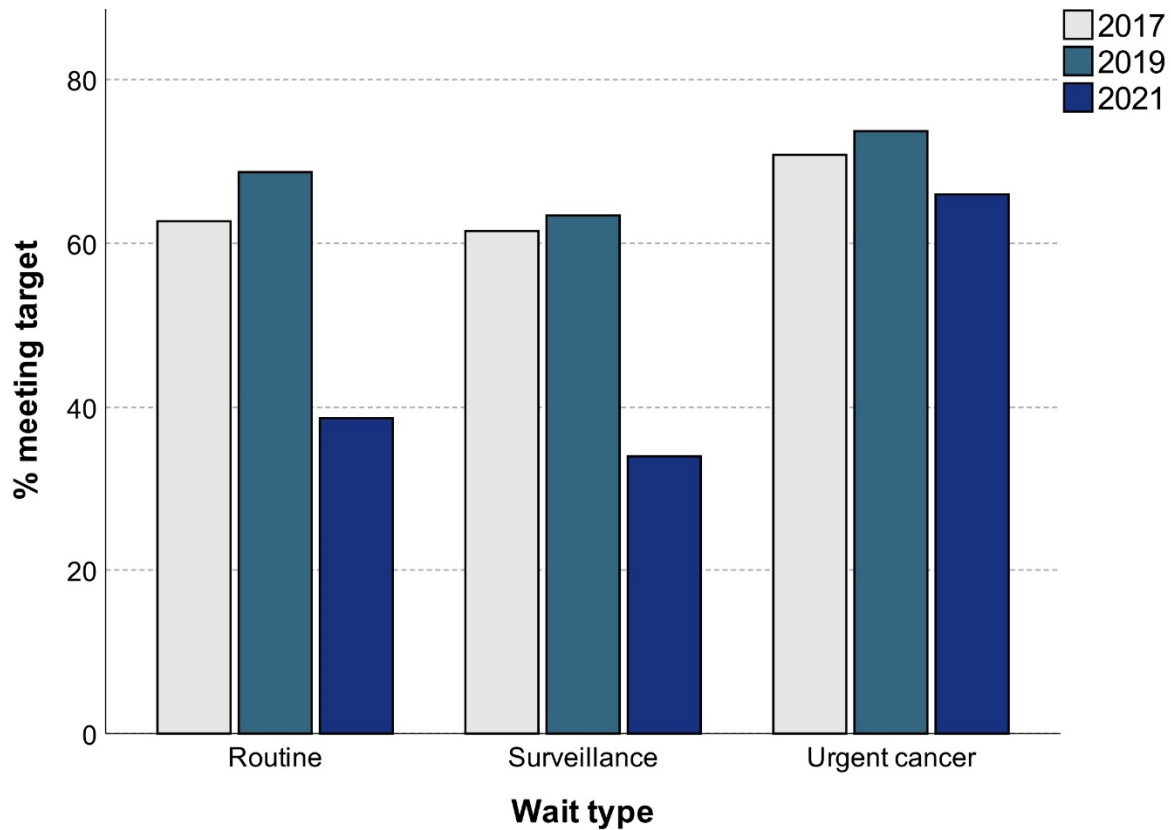
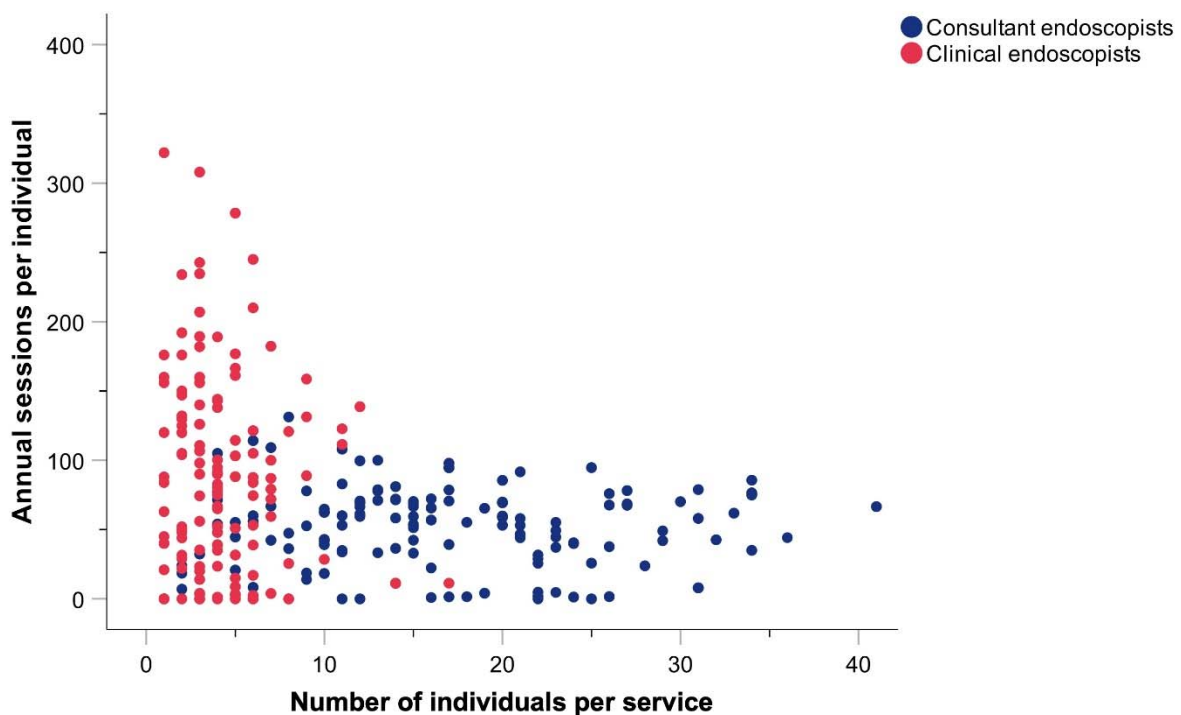


Fig 2. Scatter diagram of planned annual sessions per individual by number of individuals, defined as clinical or consultant endoscopist.



Conclusions

Services are adapting to continued pressure and there are signs of a focused response to demand during a time of ongoing uncertainty. Adherence to service performance was more likely in JAG accredited services. Additionally, a significant minority of services reported equipment shortage and the need to improve infrastructure. These findings will inform ongoing guidance from JAG and key stakeholders.

References

1. Shenbagaraj L, Thomas-Gibson S, Stebbing J *et al.* Endoscopy in 2017: a national survey of practice in the UK. *Frontline Gastroenterol* 2019;10:7–15.
2. Ravindran S, Bassett P, Shaw T *et al.* National census of UK endoscopy services in 2019. *Frontline Gastroenterol* 2021;12:451–60.
3. Rutter MD, Brookes M, Lee TJ *et al.* Impact of the COVID-19 pandemic on UK endoscopic activity and cancer detection: a National Endoscopy Database Analysis. *Gut* 2021;70:537.
4. Hayee B, Thoufееq M, Rees CJ *et al.* Safely restarting GI endoscopy in the era of COVID-19. *Gut* 2020;69:2063–70.
5. Rees CJ, East JE, Oppong K *et al.* Restarting gastrointestinal endoscopy in the deceleration and early recovery phases of COVID-19 pandemic: Guidance from the British Society of Gastroenterology. *Clin Med* 2020;20:352–8.

Improving adolescent care in a cross-sector system

Authors: Aarthi Ravishankar,^A Lauren Fraser,^A Tom Holliday^A and James Biggin-Lamming^A

^ALondon North West University Healthcare Trust, Harrow, UK

Introduction

Adolescence represents a critical life stage in which there is rapid physical, cognitive and psychosocial development.¹ It is the time where the patterns and foundations for future health are laid and thus presents a unique opportunity to promote health and subsequently improve life-long wellbeing and reduce health inequalities.¹⁻³ Historically, this age group has attracted less policy interest and investment.⁴ In addition to the health benefits of investing in adolescents and young adults (AYAs), there are economic advantages as well as the possibility of greater societal gains.²⁻³ Mental health problems represent the greatest contributors to disease burden for this population and this contribution is forecast to rise.⁵ The NHS Long Term Plan states that by 2028 we should move towards service models for AYAs that are person-centred and offer age-appropriate care for physical and mental health needs.⁶ Furthermore, the World Health Organization states that AYAs need health services that are supportive, equitable and effective.¹ The project aims to scope out AYA care at London North West University Healthcare NHS Trust (LNWH) with a view to improve quality of care for this group of patients.

Materials and methods

Quantitative data were obtained and used to assess patterns of presentation to the emergency department (ED). Qualitative data was obtained through stakeholder interviews with healthcare professionals, AYA patients and their caregivers. As of January 2022, 113 stakeholders were interviewed. The data obtained informed the creation of the 'LNWH AYA Manifesto' (Fig 1). This was converted into a questionnaire for all professionals involved in the care of AYA patients to assess organisational culture around AYA care.

Results and discussion

It was found that AYA care at LNWH lies across a complex cross-sector system. The commonest code for presentation to the ED for those ages 13 to 25 was 'depressive disorder'. Key themes from stakeholder interviews included the following:

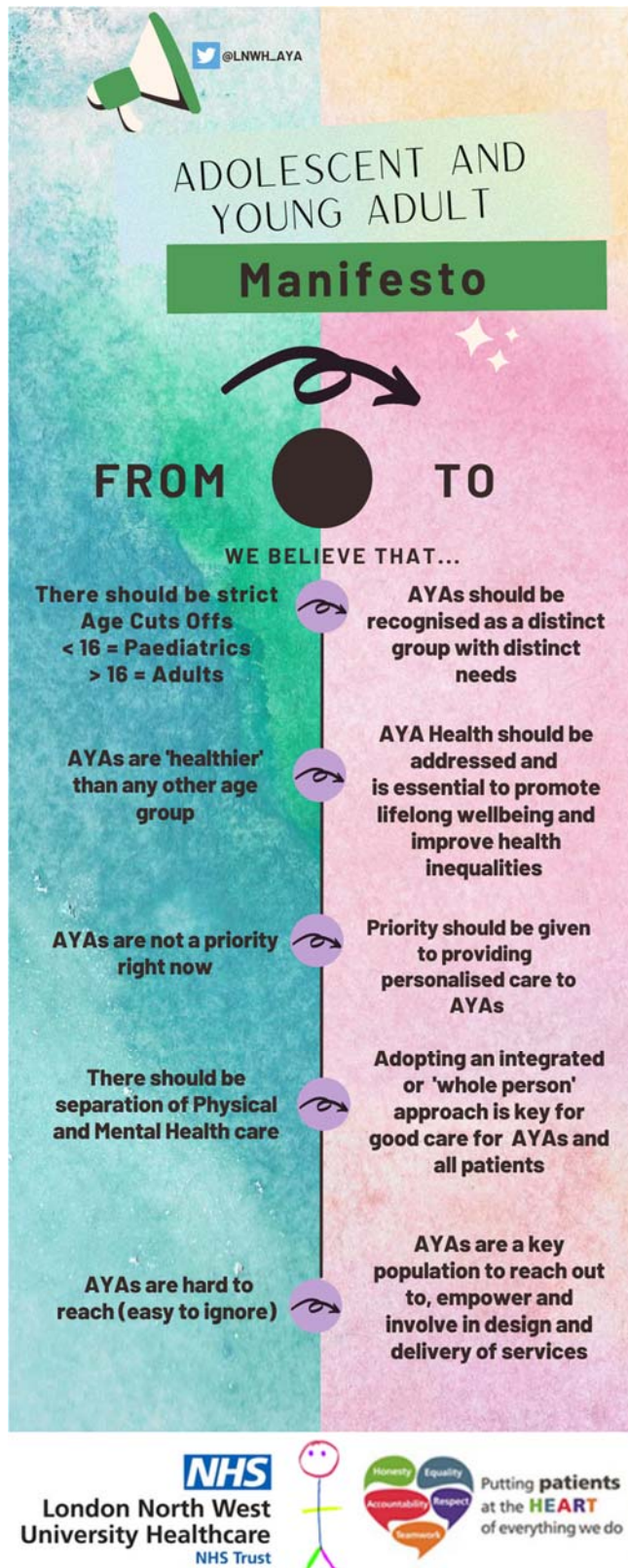
- AYAs are not always provided with age-appropriate care.
- Acute trusts may serve as a catalyst for change for AYA patients and youth workers may be better placed to connect with them
- There is a need for an integrated approach to physical and mental health, with better relationships needed between the acute teams and CAMHS.

The 'LNWH AYA Manifesto' questionnaire found disparate opinions regarding the approach to integrated physical and mental health; of the 47 responses obtained, 25.6% reported not feeling confident with recognising and managing mental health and social issues in AYAs and 44.7% believed that physical and mental health problems should be addressed separately by the relevant specialties.

Conclusion

AYA care lies across a complex cross-sector system and thus requires a multifactorial approach to create a culture change towards recognising the distinct needs of this population. One such intervention proposed is the introduction of a youth worker outreach model similar to the King's Adolescent Outreach Service as a way to create a shift towards an integrated approach to physical and mental health care.^{6,7}

Fig 1. The 'LNWH AYA Manifesto'.



References

1. World Health Organisation. *Adolescent health*. www.who.int/health-topics/adolescent-health#tab=tab_1 [Accessed 13 December 2021].

2. Clark H, Coll-Seck AM, Banerjee A *et al.* A future for the world's children? A WHO–UNICEF–Lancet Commission. *Lancet* 2020;395:605–58.
3. Shah R, Hagell A, Cheung R. *International comparisons of health and wellbeing in adolescence and early adulthood*. Nuffield Trust, 2019. Available from www.nuffieldtrust.org.uk/research/international-comparisons-of-health-and-wellbeing-in-adolescence-and-early-adulthood [Accessed 13 December 2021].
4. Hagell A, Wortley E, Ross L, Whitaker E. *Key Data on Young People 2021: Overview and Policy Implications*. Association for Young People's Health, 2021 Available from <https://ayph-youthhealthdata.org.uk/key-data/> [Accessed 13 December 2021].
5. Ward JL, Hargreaves D, Turner S, Viner RM. Change in burden of disease in UK children and young people (0-24 years) over the past 20 years and estimation of potential burden in 2040: analysis using Global Burden of Disease (GBD) data. *medRxiv* 2021;2021.02.20.21252130
6. Department of Health and Social Care. *The NHS Long Term Plan*. DHSC, 2019. www.longtermplan.nhs.uk/publication/nhs-long-term-plan [Accessed 13 December 2021].
7. Pickard L, Baynes H, Evans C *et al.* 894 managed KAOS: medical and social complexity of adolescent inpatients at an inner-city teaching hospital, a two-year experience. *Arch Dis Child* 2021;106:A153.

A tertiary care ambulatory heart failure pathway managing one third of all admissions including older patients with similar quality to inpatient management

Authors: Amy Thomson-Anderson,^A Nicola Fawcett,^A Saniya Naseer,^A Anurup Kumar,^A Barbara Onen,^A Helen Nolte,^A Rebecca Bone,^A Jordan Bowen^A and James Gamble^A

^AOxford University Hospitals, Oxford, UK

Introduction

Heart failure (HF) is the commonest cause of adult hospital admissions in the over 65s, accounting for over 67,000 admissions in England and Wales per year 1.¹ The average hospital stay lasts 13 days and costs around £3,800.² The increased use of same day emergency care (SDEC) services provide opportunity for novel HF management pathways while still achieving quality and best practice tariff targets³ in this setting.

Methods

An ambulatory HF pathway was established in a 'medical' SDEC unit supported by a specialist HF team and a Hospital At Home service providing intravenous diuretic therapy, clinical assessment and point-of-care diagnostics. Data were collected on every index HF admission as part of the National Heart Failure Audit, and as a service evaluation.

Results

From August 2019 to January 2021, 598/1,919 (31%) HF admissions were managed on an ambulatory pathway. Factors associated with inpatient management were hypotension, higher New York Heart Association Classification (NYHA) class, faster heart rate, higher NT-proBNP, lower haemoglobin, and living alone. Age was not associated with inpatient management. Patients managed via the ambulatory pathway were more likely to be referred to heart failure nurses and cardiology follow-up on discharge. There was no difference in the proportion seen by the specialist team within 24 hours, or having an echocardiogram. Independent and comorbidity-corrected 30-day mortality was lower for ambulatory patients. Savings of approximately 5,000 bed-days are estimated.

Discussion

A third of heart failure management can be achieved via an ambulatory pathway irrespective of age without a clear difference in outcomes when compared with inpatient care. A large saving in inpatient bed usage can be achieved, despite cost of outreach teams. Mortality differences demonstrated are confounded by patient selection. Further evaluation of ambulatory pathways is needed to understand which patients benefit from ambulatory management, and better develop these services.

Characteristics (N = 1,919)	Inpatient (N =1,321) N(%) or med(IQR)	Ambulatory (N=598) N(%) or med(IQR)	Data missing	p ^a
Age	82 (74–88)	81 (73–88)	0	0.218
Prior comorbidities				
Ischaemic heart disease	441 (33)	199(33)	0	0.964
Pulmonary disease	284 (22)	117(20)	3	0.627
Cerebrovascular disease	205 (16)	63(11)	8	0.014

Diabetes	383 (29)	181(30)	3	0.847
Hypertension	691 (52)	337(56)	3	0.255
Valvular heart disease	225(17)	96(16)	4	0.835
Smoker	108 (8)	52(9)	395	0.093
Characteristics at admission				
Hypotension (bp<100 systolic)	128 (10)	30(5)	0	0.001
NHYA breathlessness scale (1–4)	3(3–4)	3(3–3)	31	0.024
Heart rate on admission	86(71–102)	82(69–97)	0	0.012
NtProBNP (pg/mL)	6015(2,398–14,340)	3,516(1,773–8,717)	934 ^b	<0.001
Creatinine (umol/l)	104(70–149)	102(78–140)	62	0.367
Haemoglobin (g/L)	119(101–136)	124(108–138)	1	0.002
Living alone	523(40)	196(33)	103	0.016
Outcomes				
30-day mortality ^c	570(34)	28(11)	0	<0.001
30-day mortality ^d (comorbidity corrected)				<0.001

Table 1. Patient characteristics and mortality for heart failure index admissions

^ap values calculated using ranksum tests for continuous variables and chi-squared test for categorical variables. ^bNTProBNP reading collected by heart failure nurses, awaiting confirmation from direct lab testing results. ^c30 day mortality - death in hospital or death within 30 days of discharge. ^dFrom multivariable regression models based on backwards elimination p<0.05, from mortality plus Table 1 factors.

References

1. National Institute of Health and Care Excellence. *Acute heart failure: diagnosis and management*. NICE, 2014. Available from www.nice.org.uk/guidance/cg187 [Accessed 10 February 2022].
2. British Heart Foundation. *An integrated approach to managing heart failure in the community*. BHF, 2015.
3. NHS England. *2021/22 national tariff payment system*. NHSE, 2021. www.england.nhs.uk/wp-content/uploads/2020/11/21-22-National-tariff-payment-system.pdf [Accessed 10 February 2022].