and 11 patients with anxiety. During the pandemic, 79 adolescents were diagnosed with an eating disorder and 37 out of the 53 were diagnosed with co-morbid depression. The majority of cases were adolescent females above 12 years of age. This study shows a 27% increase in the number of cases diagnosed with anorexia and bulimia nervosa during the pandemic. In addition, there’s a rise in the number of associated psychiatric comorbidities, including depression, anxiety, and other conditions like irritability and inattention.

Conclusions This study showed an increased rate of eating disorders and co-morbid mental health diseases in Qatar during the COVID-19 pandemic. The increase of young people with an eating disorder could be attributed to disruptions of their routines, quarantine, and interruptions of treatment. Our results agree with previous research suggesting that mental health disorders such as depression, anxiety, substance misuse, PTSD, and suicidal tendencies increase in times of economic instability and natural disasters. Long term impact must be further examined to prevent long term detrimental mental health effects on the young generation and the health care system in Qatar.

REFERENCE

1870 THE IMPORTANCE OF BELONGING: PATIENT CO-PRODUCTION OF A SERVICE LOGO DESIGN

Laura Croucher, Terry Segal, Holle Shackley, Harrison Todd, Sophie Breward, Georgia Setchell, Charlotte Rosendale, UCLH; 2 Patient at UCLH

Objectives Patients with functional conditions often feel unheard, isolated and disillusioned in healthcare environments. Many patients who are referred to TRACCS (the Treatment & Rehabilitation of Adolescents with Complex Conditions Service) have had negative healthcare experiences, leaving them questioning their body and the capability of professionals to help them. At TRACCS we pride ourselves in ensuring the patient voice and experience is at the heart of all we do.

Project aim: to co-produce with young people a service logo that engenders a positive healthcare experience.

Methods We commissioned a graphic design company and explained project requirements. Shortly afterwards we approached six young people who were using/had graduated from our service, asking them if they would like to be part of a focus group. Four agreed, meeting the design team via zoom sessions facilitated by the Clinical Nurse Specialist (CNS) and Clinical Fellow. The initial consultation established initial ideas, concepts and priorities. The second enabled the focus group to provide feedback on ideas that had been produced. Following this further focus group input was provided via email. Once four final options were agreed opinions were sought from patients and staff. Over a 1-month period we canvassed the opinion of ward patients and those seen in clinic. Additionally, the CNS utilised an email bank of 300 patients asking them to feedback on the designs. We also sought the opinion of our TRACCS multi-disciplinary team via service development meetings, email and face-to-face contact.

Results
1. Initial consultation process
It was important for the design team to better understand what TRACCS means to the young people it serves. Patient recollections of how they felt at the start of their journey through TRACCS were particularly powerful. Words used included:
- collaboration
- make invisible, visible
- positive
- kind
- professional
- lifesaving
- hidden illness
- approachable
- caring
- quality
- journey
- welcoming
- what we feel is real
- uplifting
- explain unexplained

Additionally, preferences regarding typography, brand identity and visual language were sought. When design options were revised the focus group saw logos in a range of contexts such as letterheads, clothing, stationary and posters.

2. Canvassing opinions

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<tr>
<th>Abstract 1870 Table 1</th>
<th>Patient &amp; staff votes</th>
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<tbody>
<tr>
<td></td>
<td>Design 1</td>
</tr>
<tr>
<td>Patient votes</td>
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</tr>
<tr>
<td>Staff votes</td>
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Patients felt design 2 had connotations of health and wellbeing, and was the most professional.

Conclusions
- Patient participation and engagement is key when designing services for young people. It is important our service is welcoming to the young people we treat from the outset.
- Patients and staff had different preferences. We chose the logo that patients preferred.
- Our patients were instrumental in the design and final selection process, thus ensuring they feel heard and that they matter.
- The logo will now be used on all TRACCS correspondence and on our website. In time, it is hoped staff will be able to wear badges, or wear clothing with the logo on it, and there will be merchandise for young people to purchase.

1871 ALIGNING NATIONAL AND LOCAL DATA TO PREDICT CLINIC NON-ATTENDANCE IN ADOLESCENT AND YOUNG ADULT RHEUMATOLOGY USING MACHINE LEARNING MODEL


10.1136/bmjpo-2022-RCPCH.35
Objectives Non-attendance of scheduled hospital appointments represents a major issue affecting service effectiveness, efficiency and quality of care costing the NHS over £1 billion annually. This impact is even more detrimental at a time where the NHS is experiencing record high waiting times in the peri-COVID-19 pandemic era.

Rather than a reactive model of discharging patients for nonattending their appointments, we propose a proactive model identifying patients at risk of not showing up and provide them with right support at the right time. This approach is especially important for vulnerable population including young people (YP) due to the complex interplay between developmental, socio-economic factors can impact significantly on their medical care.

The increasing use of electronic health record systems (EHRS) and data availability creates opportunities to develop risk scores for specific patient populations.

In this study, we aim to develop a machine learning approach to develop a complex, multi-dimensional predictive model to identify YP at risk of clinic nonattendance.

Methods University College London Hospital (UCLH) switched to a new EHRS in April 2019. We extracted data on outpatient Adolescent and Young Adult Rheumatology (AYAR) between 2019-2022.

Our primary outcome was nonattendance of a scheduled appointment.

Our predictor variables were defined after literature review, consultation with clinical and operational teams. We extracted data on 67 predictors of nonattendance. These variables are broadly divided into demographics (age, sex, ethnicity) and index of multiple deprivation (IMD) extracted from office of national statistics (ONS) database. We also included service utilisation history (e.g., previous history of clinic non-attendance), appointment information (month, day, time, clinic codes), and patient engagement (e.g., active in MyChart [online patient portal]).

Using data from 11602 outpatient appointments in (AYAR) clinics at UCLH, we built and assessed the performance of a predictive model as to whether a YP would not attend a scheduled outpatient appointment. We used logistic regression analysis to fit and assess the Model built. We evaluated it's fit based on discrimination and calibration.

Results We identified a total of 1517 clinic non-attendance out of total of 11602 (13.1%) appointment.

Female/male ratio was 2.03 in non attendance group as compared to 2.33 in total clinic population.

In terms of age group, 10% (606/5547) of clinics booked for YP aged 14-18 were not attended as compared to 15% (651/4282) in those aged [19-24].

Feature engineering analysis revealed that the most significant factors were IMD followed by distance, previous history of Non-attendance, age group and appointment hour.

Conclusions Aiming to identify YP at risk of Non-attendance, we used a step-by-step approach to build a model that can be applied using EHR and IMD data at the point of care. High proportion of YP nonattending their appointments were from deprived areas. Accurate stratification of non-attendance risk can provide us with unique opportunity for preventative interventions, supporting to most vulnerable YP and improve the use of resources within the wider system.

Abstracts

1872 WHAT DO WE KNOW ABOUT THE LONG TERM CARDIOVASCULAR HEALTH OF CHILDREN AND YOUNG PEOPLE WITH ANOREXIA NERVOSA? 1Lee Hudson, 2Hind Hind Al-Khannilia, 3Alizia Rapala, 2Matthew Maicon, 2Russell Viner, 4Dasha Nicholls, 4Alun Hughes. 1GOSH UCL Institute of Child Health, 2Ellen Meade Eating Disorder Unit, 3University College London; 4Imperial College London

Objectives Anorexia Nervosa (AN) is a leading cause of underweight in children and young people (CYP) in high income countries. Acute cardiovascular complications are well recognised sequelae of underweight in AN, yet less is known about longer term cardiovascular disease (CVD) risk - for example acute MI and stroke later in life. It is now well established that CVD processes leading to disease and death in adulthood begin during childhood. There are a range if important and biological plausible reasons as to why CYP with AN may be at greater risk of CVD later in life. Pulse wave velocity (PWV) is a non-invasive proxy for arterial stiffness (greater PWV indicating greater stiffness) which is well established as a predictive for future adverse cardiovascular disease events in early life.

Methods In this presentation, the potential biological mechanisms and existing evidence for risk of later CVD for CYP in AN will be discussed. Interim, new data from a pilot longitudinal study of PWV in underweight young adolescents with AN admitted to an eating disorder unit in the UK will be presented. We measured carotid-fem PWV in all new admissions to a single eating disorder unit from December 2020 who met inclusion criteria: 1) Diagnosis of AN; 2) Aged 12–18 years; 3) underweight (<85% of average BMI for age and sex). PWV was measured using Vicorder by a single operator at admission and weekly for 12 weeks. Ethics approval was provided by a London ethics committee. Standardised PWV Z-score for age (PWVz) was derived from published data.

Results Previous existing data for changes in arterial changes in AN will be presented and biological models. From our study, 16 participants have been recruited so far. Median age 16.3. Baseline median PWV was 7.47 (IQR 7.07–7.94) m/s. Mean PWV z-score was 4. Baseline PWV was not associated with baseline BMI or sex. In multi-level, mixed effects models PWV decreased over time in weeks (coefficient -0.05, 95%CI -0.07 to -0.02). BMI increased in all cases over time (coefficient 0.22, 95%CI 0.21 to 0.23. PWV was negatively associated with BMI (coefficient -0.2, 95% CI -0.28 to -0.11).

Conclusions There is emerging evidence of increased CVD risk in later life for CYP with AN. Our data are the first time longitudinal measures of arterial stiffness in CYP with AN have been measured and analysed in a group of CYP with severe AN and underweight, and association to time and weight gain. The preliminary data is suggestive of the positive benefit of weight gain in AN for arterial stiffness, and potentially improving long term life time CVD risk which is an important new focus compared to usual acute cardiac risk consideration. This presentation will discuss the long term implications of CVD risk for CYP with AN through their life and potential biological models for this.

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