

Evaluating the quality of clinical assessment notes when DemDx Clinical Assessment Platform Note Builder Tool is used by advanced healthcare professionals when assessing patients in primary care.

In submission

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July 2024

Abstract

This study evaluates the implementation of the DemDx Clinical Assessment Platform (CAP) among Allied Health Professionals (AHPs) to improve the quality of clinical assessment notes within primary care NHS settings. Accurate, contemporaneous clinical notes are essential for patient safety. High-quality note-keeping is guided by professional clinical bodies, commissioners, and regulators. Primary care consultation notes are regularly reviewed through internal audits, inspections, or during root cause analysis of clinical incidents.

Using a Pre-Post Intervention design, the research compared anonymised patient notes before and after implementing DemDx's CRP note builder tool. The notes were scored on various parameters such as clarity, completeness, and accuracy based on the RCPG framework. Results showed a notable improvement in note quality, with a 19% increase in average scores post-intervention, without an increase in assessment time. These findings suggest that the CRP and its note builder functionality can significantly enhance the quality, consistency, and safety of clinical notes, thus supporting improved patient care and compliance with clinical audit trail requirements.

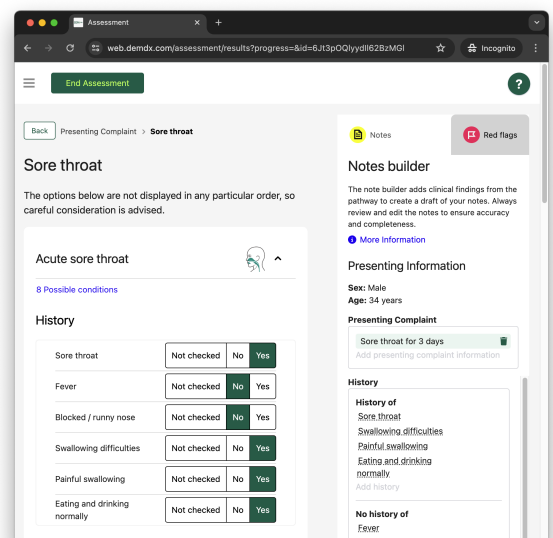
Study Introduction and Overview

This project aimed to implement the DemDx Clinical Assessment Platform (CAP) to support Allied Health Professionals (AHPs), including Nurse Practitioners and Physician Associates, in the clinical assessment of their patients. The primary objective of the implementation was to demonstrate the platform's potential for improving the quality, structure, and consistency of clinical notes, through the use of the DemDx CAP note builder tool.

High-quality clinical assessment notes are crucial as they communicate care, provide context, and guide follow-up treatment for patients, all of which ensure the safety of patients' care. The NHS and respective clinician professional bodies mandate that all providers of NHS care maintain accurate and reliable medical records (NHS England, 2022), and there are strict requirements for regular internal audits (Ogunsola & Bradley, 2020). Records are used to check the completeness, accuracy, and reliability of information that was used in or created by the delivery of care. Reviewing clinical notes is time-consuming, with General Practitioners (GPs) spending 14% of their clinical time on documentation and updating electronic health records (Sinnott et al, 2022). Additionally, the quality and structure of assessment notes affects the time and effort that it takes to properly audit clinical assessments and provide a clear clinical audit trail.

DemDx's note builder tool follows a set structure regardless of the presenting complaint or clinical outcome. As notes become ever more visible to patients, this set structure provides clarity and consistency for their ease of understanding. Moreover, the quality of clinical notes also impacts the supervision burden on senior staff. Supervisors, such as those overseeing the AHPs participating in this study, are required to review clinical notes against set criteria, such as the clarity of the presenting complaint. Standardised and structured clinical notes simplify this task by ensuring each set of notes follows the same steps, allowing quick identification of the set criteria.

Enhancing the quality of notes taken by AHPs can improve; information sharing among clinicians, coordination and consistency of



care, decision-making, risk assessment, clinical audit, and support the root cause analysis process of serious incidents. It can also reduce diagnostic repetition and improve time management. Conversely, poor clinical records can misinform clinicians and patients, increase medico-legal risks, lead to unnecessary repetition, negatively impact patient care, and result in serious incidents (Mathioudakis, Alexander et al. 2016).

Methods and Data collection

This study employs a Pre-Post Intervention design without a control group to evaluate the impact of implementing the DemDx Clinical Assessment Platform at the Bromley By Bow Health Centre. The aim was to support AHPs in improving their clinical notes during patient assessments.

GPs at Bromley by Bow Health reviewed anonymised clinical patient assessment notes from two groups. The first group consisted of pre-intervention notes, created before the AHPs used DemDx for their clinical assessments. The second group included post-implementation notes whereby AHPs were using DemDx during their assessment and therefore were assisted by the DemDx note builder tool.

The notes were audited and scored based on the Royal College of General Practitioners (RCGP) framework. Each note was scored between 0 and 2 on a series of attributes, recorded in a spreadsheet. The total score was then calculated and expressed as a percentage.

RCGP Framework criteria (with adjustments):

The points allocated to each category range from 0 (poor/absent) to 2 (fully compliant with framework requirements).

- Clearly elicits reason for consultation (0,1,2)
- Good Hx of Presenting Complaint (0,1,2)
- Full appropriate examination inc obs where relevant (0, 1,2)
- Appropriate diagnosis/ differential diagnoses (0,1)
- Appropriate mgmt plan (inc referral, meds, advice etc) (0,1,2)
- Proposes/ prescribes relevant meds or otc meds (0,1)
- Displays good safety netting (0,1,2)

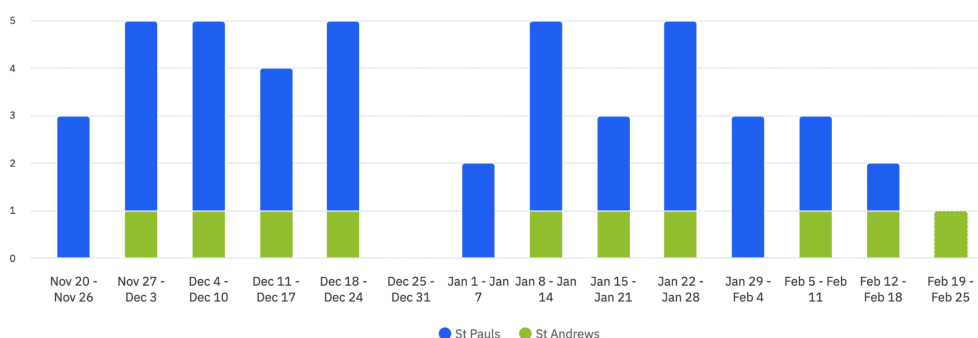
Intervention Phase

The intervention phase mirrored the baseline assessment in terms of data collection procedures. DemDx recorded the pathways followed, management actions taken, and logs of discussions with senior staff. GPs continued to record the frequency and type of guidance they provided to AHPs using the same prospective logging method as in the baseline assessment. Scheduled debriefs between healthcare professionals and GPs were also recorded, detailing the session duration, case discussions, and outcomes in a manner consistent with the baseline phase.

Results

During the study period, AHPs conducted clinical assessments using the DemDx platform and used the notebuilder tool to assist them in writing their clinical assessment notes. These notes were then edited (if required) and copied into their electronic healthcare record system. Bromley By Bow Health Centre's usage of the DemDx platform was monitored to ensure the platform was being used consistently in multiple sites and across user groups. This included daily capture of the range of presenting complaints searched and the number of assessments completed.

Of the 166 clinical assessments carried out by clinicians during the wider project period, 39 assessments had their notes scored by GPs for the pre-intervention period and 41 for the post-intervention period.



Clinical Assessment Note Audit Scores

Pre-Implementation Audit Notes	75%	39 assessments scored Score range 33%-100%, St.dev. 0.13
Post-Implementation Audit Notes	89%	41 assessments were scored Score range 58.3%-100% St. dev. 9.8, Comparison p-value <0.001
% change post implementation audit notes/pre implementation notes	18.7%	
Assessment duration change	+42 seconds	Assessment duration went from 19.5 mins -> 20.2 minutes. Statistically insignificant change

The results show a statistically significant 19% increase in the quality score of clinical notes when using DemDx CRP. During the study period, the average time for an assessment increased by 42 seconds from 19 minutes and 30 seconds to 20 minutes and 12 seconds. This 3% increase is not statistically significant and also took place during the learning period where AHPs were asked to use the DemDx platform for the first time during their assessments. This means that the quality of clinical notes taken by the healthcare professionals were significantly improved without taking additional time for the clinical consultation.

FY2 productivity gain

Previous appt	5 weeks post DemDx	Productivity gains
30 min	18 min	40%

The results show a 40% reduction in appointment times with a Foundation Year 2 doctor (FY2), indicating the potential of DemDx to provide a structure for consultations to flow more seamlessly. However, more studies would be required to validate this as this data was based on a small sample size.

Discussion & Conclusion

The results indicate that using the DemDx platform leads to a significant improvement in the quality of clinical notes without requiring additional time. The data collection occurred immediately after the clinicians started using the platform, a time period typically involving a learning curve, during which clinicians may not yet operate at peak efficiency, however this did not occur when DemDx was introduced. These findings were corroborated by feedback from supervisors..

The improved quality and structure of the clinical notes have the potential to enhance future patient care and clinical safety whilst reducing senior clinician audit burden and increasing their confidence in junior clinical staff's documentation.

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