# Progress in cardiology in northern England?

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## Abstract

**Patients attending cardiology clinics, particularly those with chronic heart failure (CHF), frequently have co-morbidities and attend other hospital medical clinics. We examined the case notes of 162 patients attending two cardiology clinics. Many patients' notes extended to more than one volume (20%). Patients with CHF were more likely to require rubber bands to maintain control of their notes than other cardiac patients. Despite efforts to move to a paperless record keeping system, rubber bands still play a major role in the NHS.**


**Key words:** heart failure, case notes, rubber bands.

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## Methods

The number of attendees at each of four randomly selected general cardiology clinics in two cardiology centres in the north of England was recorded, and the proportion of case notes requiring rubber band support documented. We also identified those case notes extending to more than one volume. A subset of patients being followed-up with a diagnosis of chronic heart failure (CHF) was identified in each clinic to investigate any possible link between left ventricular ejection fraction (LVEF) and the need for rubber bands. We used the Chi-squared test to compare between nominal variables and unpaired Student's *t*-test for between group comparisons. Continuous data are reported as means (SD). A p-value of $< 0.05$ was taken to be significant.

## Results

We examined the case notes of 162 patients: 32 (20%) were new referrals and 45 (28%) had CHF. We found 33 (20%) sets of notes that consisted of more than one volume and five sets consisted of three or more volumes. Rubber bands were employed in 47 (29%) case notes. Only four of those requiring rubber bands were new referrals. Patients with CHF were more likely to require rubber bands than other cardiology patients (46% *vs*. 22%; p<0.02) and more likely to have several sets of notes (52% *vs*. 8%; p<0.01). In patients with CHF, LVEF was lower in those whose notes required a rubber band (26 [12] *vs*. 35 [15]%; p<0.02).

## Discussion

Patients with cardiac disease, particularly those with CHF, commonly have co-existent conditions requiring attendances at many clinics, frequent admissions and multiple investigations.[1] The system of record storage and communication within hospitals in the NHS continues to be paper-based and is cumbersome and inefficient.[2] We have previously demonstrated an inverse relationship between case-note weight and LVEF in a large population of patients with CHF.[3] The present data demonstrate that a large proportion of patients attending general cardiology clinics requires rubber bands to maintain control of their case notes. Many sets of case notes extend to more than one volume. The notes of patients under follow-up are more likely to require rubber bands and more than one folder than new referrals. Patients with CHF are more likely to have rubber bands around their case notes, and to have multiple volumes than general cardiology patients. CHF patients whose notes required rubber band support had a significantly lower LVEF than those not requiring rubber bands.

## Conclusion

Despite efforts to move to a paperless system of note storage and communication, the rubber band continues to play an essential role in NHS cardiology clinics. In CHF patients, the presence of a rubber band around the notes predicts a lower LVEF.

## Funding

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## Conflicts of interest

None declared.

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