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Expansion of an electronic adjudication system to monitor disease progression and effectiveness of therapy as part of an HIV/AIDS disease management programme (DMP)

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BACKGROUND

Southern Africa has a significant burden of HIV infection. Aid for AIDS (AfA) is a confidential HIV/AIDS DMP available to beneficiaries and employees of contracted medical funds and companies. More than 34 000 members, 66% of whom are on HAART, have been registered. The DMP review process is managed by healthcare professionals in line with AfA Clinical Guidelines. In the past, clinical adjudication was performed manually. To improve operational efficiencies, innovative electronic solutions were proposed to streamline the process.

An initial electronic adjudication system (EAS1) was developed to monitor full blood counts, liver function tests, qualitative HIV RNA PCR and HIV serology. This was partially successful, with 15% of the files being processed electronically. Here we report on an enhanced system (EAS2) which was developed to include the monitoring of disease progression (CD4 count) and effectiveness of therapy (quantitative HIV PCR).

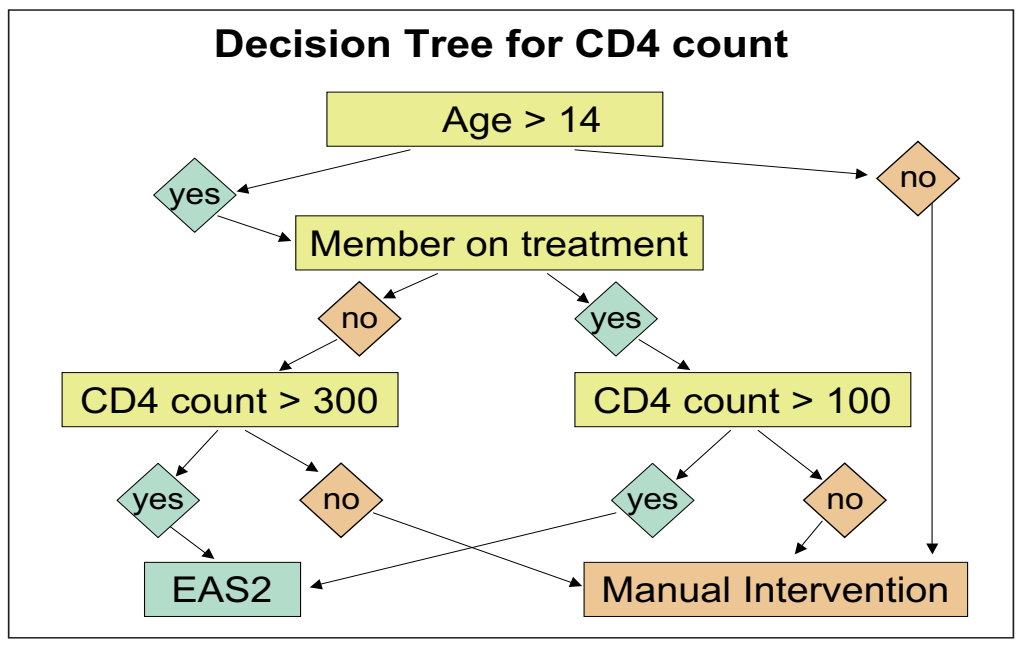
METHODS

Electronic adjudication:

(i) identified new or existing files requiring review,
(ii) assessed all captured results and identified which files needed manual intervention,
(iii) automatically assigned routine follow-up investigations where necessary,
(iv) printed the appropriate letters for the member and the treating doctor.

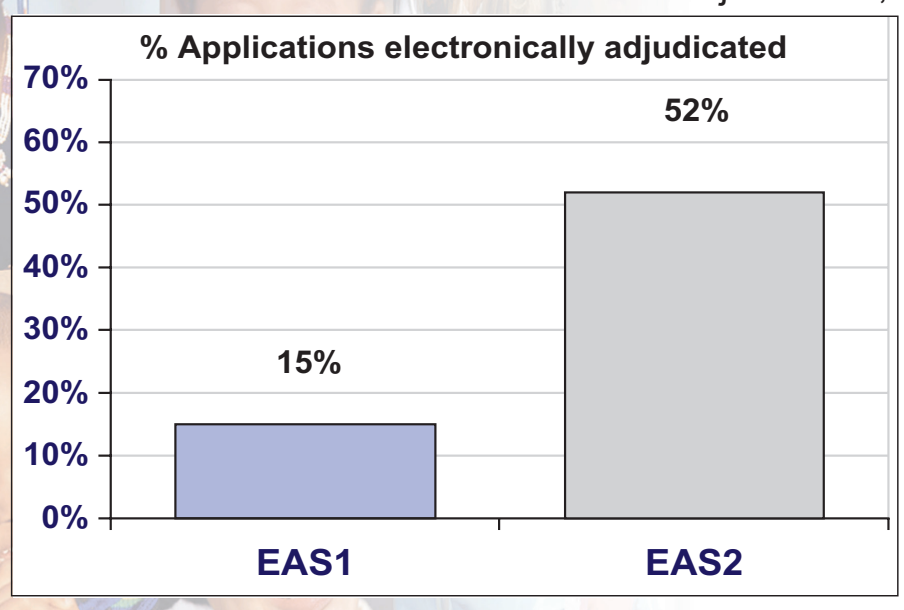
Additional 'decision trees' were added to include the results of CD4 count and HIV PCR. The limits for the selection of results were set conservatively to ensure that any potential problem would receive manual attention.

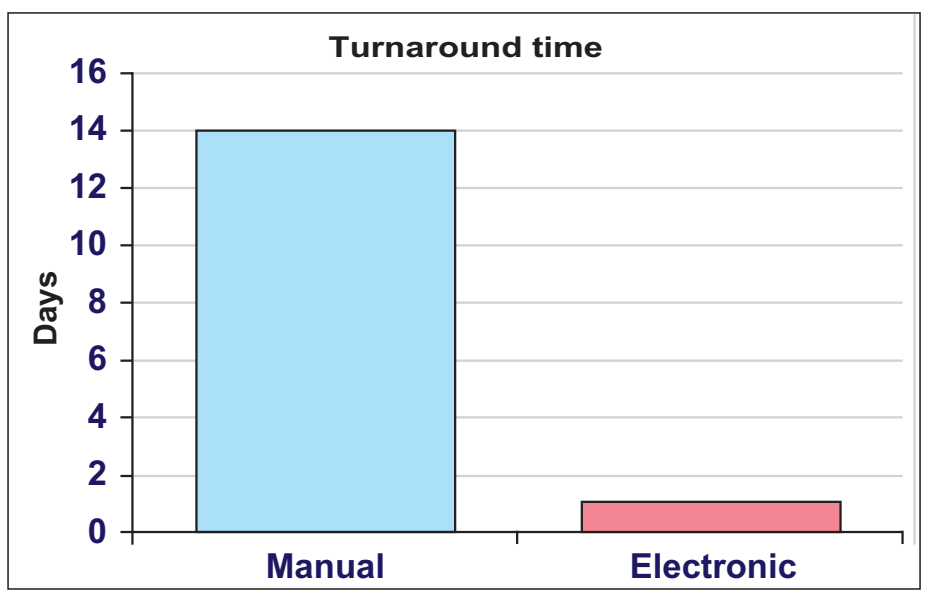
New files, files for children (<14 years) and those with new prescriptions, AIDS defining conditions or other results were routed for manual intervention. Manual quality control (QC) was used to monitor the accuracy of the system.



RESULTS

Of all files, 52% could be fully automated with EAS2, an increase of 37% over EAS1. The remainder required manual intervention. Turnaround time for clinical adjudication, from request to authorisation, was reduced from 14 days to 1 day. No significant errors were identified during the QC process.





Twenty five percent of updates received telephonically were captured and sent to EAS2 directly, reducing the time spent on each call from 5 minutes to 2 minutes. This enabled more calls to be taken at a lower cost per call.

CONCLUSION

Many aspects of managed healthcare, such as the interpretation of certain follow-up investigations, are simple and lend themselves to automation. Electronic adjudication of disease progression and effectiveness of therapy improves operational efficiencies and can be done accurately. This allows clinical staff to spend their time more appropriately.

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