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Letter to Editor Open Access

Experiences of the Use of an Electronic Blood Results Monitoring System in Dermatology

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Electronic Monitoring of Blood Results for Dermatology

The monitoring of systemic medications is a requirement of MHRA in areas prescribing any systemic treatments and the British Associations of Dermatologists has issued guidelines for most agents now used [1,2]. Patient safety is a high priority in today's NHS and the risk of a harmful event in these patients are high given the nature of the treatments.

4S DAWN clinical software is a monitoring system used across the trust for monitoring Biologics and Immunotherapy-already well used in Rheumatology, it automatically imports blood results from pathology and has pre-established parameters set by the department that it will apply to these; any outliers will then be flagged for a review by the dermatology team, there is also the option to vary the parameters for individuals [3]. Customized treatment plans again set by the department for each medication ensures suitable guideline led monitoring is followed; it also highlights those patients who have missed their monitoring windows and allows automatic generation of a letter prompting testing.

On establishing this computerized blood monitoring system in January 2018 for use in Dermatology, the estimated population of patients using biologic and systemic treatments is 770 and at present 564 patients are monitored using this system. Previously a paper based system was used to monitor acute changes. This however relied on adherence to monitoring tests and clinic appointments. There was also no formal record of when testing was expected and relied on the clinic reviews or prescription issuing to highlight missed testing (Table 1).

	Number of patients	Number of results	Abnormal results	No. of delayed tests picked up and action	Days until action
DAWN	564	144	20	2	1-3 days
Paper Results	770+	146	9	2	3-8 days

Table 1: DAWN audit table.

As a comparison the paper results were collected over one week: 146 monitoring blood tests were received, the delivery delay was between 2 and 5 days and all these were reviewed within 72 hours of receipt. Nine of these tests (6.2%) were identified as requiring review of past results and two of these required further tests. In this time the DAWN system flagged 20 tests for review: Four of these required further action-2 for retesting and 2 for routine review at next clinic date. One of the retest requests overlapped with the paper systems.

Of note 38 patients were also highlighted as being over seven days late for their monitoring blood tests, these patients had prompting letters sent *via* the DAWN system. This is week-long observation of the two systems shows the benefits of an electronic record of testing regimes, as well as real time monitoring of results. No identifiable risks exist in the current system, but the potential to improve adherence to testing may reduce longer term risks. In conclusion the DAWN system has improved our monitoring process and should reduce the delay in acting on adverse monitoring blood tests.

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