The assessment and management of patients with psoriasis – where are we?

A national clinical audit by the British Association of Dermatologists based on NICE clinical guidelines and audit standards

M. Firouz Mohd Mustapa
BAD Clinical Standards Manager

Catherine Smith
Chair, NICE guidelines development group for CG153

David de Berker
Chair, BAD Health Informatics sub-committee (HISC)

1. Background and introduction

Clinical audits are important in their role to ascertain and consequently improve the quality of care for patients. The British Association of Dermatologists (BAD) has clinical audit support[1] as one of its key objectives in provision of data on quality standards in British Dermatology.

In October 2012, the National Institute for Health and Care Excellence (NICE) published its clinical guidelines for the assessment and management of patients with psoriasis (NICE CG153).[2] Audit tools were published to aid the implementation of the guidelines through both local and national audits, across all services caring for patients with psoriasis.[3]

2. Aims and purpose

The main objective of the audit was to determine current clinical practice amongst dermatologists in the UK, as measured against the NICE standards. It is envisaged that a re-audit after a period of 2 years would examine the uptake of NICE clinical guidelines and associated standards. A secondary objective was to undertake an appropriate benchmarking exercise to ascertain geographic variations in the assessment and management of patients with psoriasis, acknowledging that NICE guidelines are applicable only in England and Wales.

3. Methodology

All NICE clinical guidelines are accompanied by the production of clinical audit tools to support implementation. The psoriasis audit tool for specialist services focuses on prioritised areas which include the assessment of the condition, identification of psoriatic arthritis with appropriate referral, as well as access to phototherapy and systemic therapies. This NICE audit tool was re-configured to resemble those of BAD audit proforma spreadsheets already in existence for other topics and standards, which are intended to facilitate both the undertaking of local audits and initial offline data collection for web-based national audits. Survey Monkey was used as a convenient platform for online audit data entry, with no patient-identifiable data requested. The audit was then piloted amongst HISC members (n=9) resulting in several changes, including the exclusion of audit standard 6.[3]

Several service evaluation questions were added to the audit, intended as follow-up to the BAD psoriasis service audit in 2007[4] for comparison and to provide context, as well as other patient-specific general questions to ascertain the patient population categories.

The invitation to participate was circulated to the BAD membership (n=1211 as of 14th March 2013) by email, with weekly reminders circulated during the 7-week data collection period. Based on previous feedbacks from the membership with regard to the need for national audits to be both quick and easy, members were requested to enter relevant data for three consecutive psoriasis patients each who had been in their care for at least 15 months. The re-configured audit proforma spreadsheet was also circulated to facilitate initial offline data entry, for smoother online entry at a later stage; it was envisaged that this would be helpful in cases where a medical secretary or student would enter an entire department's audit data. The spreadsheet was also intended for audit departments who would wish to extend the audit locally with a greater total number of patients.

A prize draw was announced as incentive to increase participation levels.

4. Results

4.1 Responses

A total of 364 respondents provided data on 1092 patients; this represented a 30.1% response rate, which is the second-highest of all BAD surveys carried out using Survey Monkey. Four unidentifiable responses with a total of twelve patients were excluded from the benchmarking exercise, reducing the sample size to a total of 1080 patients. The responses predominantly came from BAD members, with some contributions from non-members through their colleagues (six entries in total, where the clinician with ultimate patient responsibility was not a BAD member), from 170 identifiable hospitals or clinics across the country.

4.2 Patient population

The majority of the 1092 patients suffered from chronic plaque psoriasis (91.0%) with the remainder having localised pustular psoriasis (1.6%), generalised pustular psoriasis (0.6 %), erythroderma (1.7%) and other types of psoriasis (4.6%).

The majority of the 1092 patients (76.9%) had been attending a Dermatology clinic for the treatment of their psoriasis for at least 2 years; a total of 45.6% of patients had been attending for 6-10 years, 26.7% for 11-20 years and 9.9% for over 20 years.

Of the 1092 patients, 73.6% were seen in adult general Dermatology clinics, 15.7% in dedicated psoriasis clinics, 5% in nurse-led clinics, and 1.6% in other settings. Patients seen in paediatric Dermatology clinics accounted for 3.1% of the responses.

The main treatments given to each of the 1092 patients were classified as "topical therapy alone" (11.2%), "topical therapy with phototherapy" (10.0%), "systemic non-biologic therapy with/out phototherapy" (51.2%), "biologic with/out non-biologic systemic therapy" (25.6%) and other types of therapies (1.1%).

4.3 Service provision

The following are the comparative data for service provision, between the results from this audit and the 2007 BAD psoriasis service audit. It is worth noting the caveat of the difference in sample sizes between the two audits, hence requiring some caution in any interpretations:

- Nursing support: the sample size has increased by 70% between the audits from 2007 and 2013
- Psychological support: the sample size has increased by just over 75% between the audits from 2007 and 2013

a. Nursing and psychological support

The responses from the 170 participating hospitals highlighted that there has been a slight increase in the availability of nursing support specifically for patients with psoriasis from 80.2% to 88.8%, however, the availability of psychological support has more than halved in the last 6 years from 44% of participating centres to 20% (see Figure 2).

b. Availability of phototherapy services

There has been a slight decrease in the availability of phototherapy services for patients with psoriasis, from 90% of participating centres to 87.1% (see Figure 3).

c. Phototherapy services waiting times

Despite the widespread availability of PUVA and UVB services, average waiting times have increased in the last 6 years (see Figure 4).
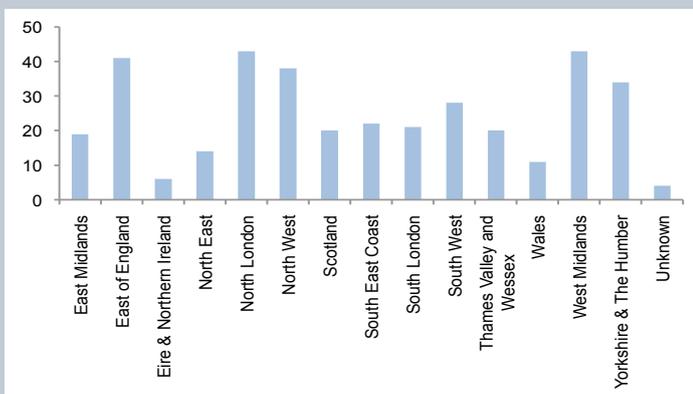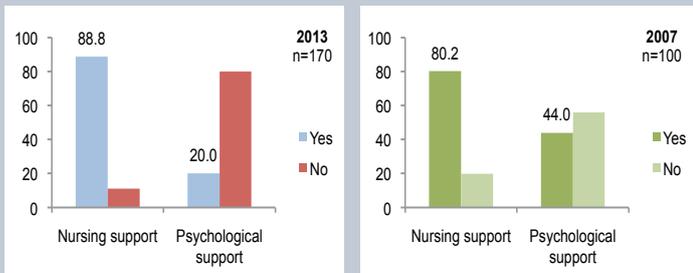
Figure 1. Breakdown of the 364 participants by region

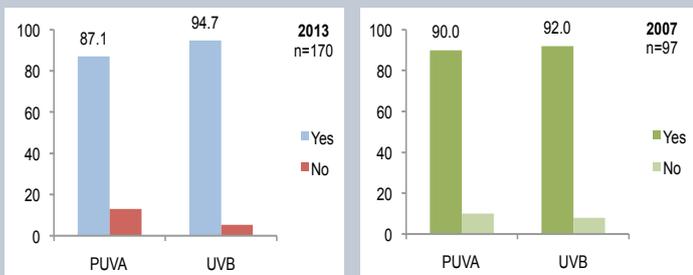*Figure 2.* Responses (in percentages) for the level of nursing and psychological support for patients with psoriasis

Figure 3. Responses (in percentages) for the availability of PUVA and UVB services for patients with psoriasis
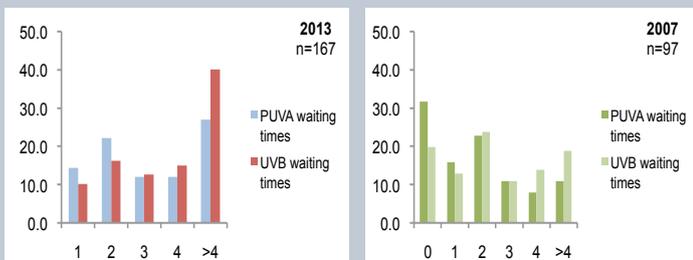

Figure 4. Responses (in percentages) for the average waiting times (in weeks) for PUVA and UVB service waiting times for patients with psoriasis
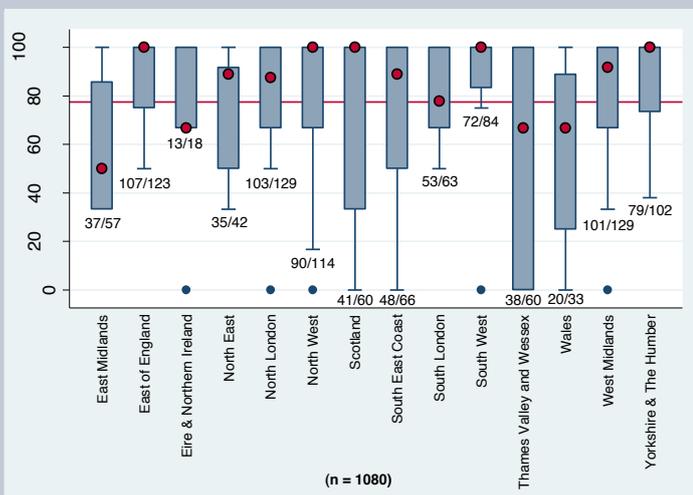

Figure 5. Boxplots showing the distributional mean percentage of "Yes" responses to having recorded a PGA for each patient, per hospital, in each region

4.4 NICE standards – recording assessments
a. Physician's global assessment (PGA)
Overall, PGA was recorded in a considerable proportion of sampled patients (77.5%, national mean), and unrecorded in 21.7% (blank entries = 0.8%).

There is some variation across the country when the data are broken down by region, as well as variations within each region (see Figure 5).

KEY: In all boxplots, the national mean is denoted by the horizontal red line; regional sample medians are denoted by red dots; absolute figures for each region are indicated either at the top or bottom of each boxplot; the lower or upper quartiles are denoted by 'whiskers'; outliers are denoted by blue or other appropriately coloured dots. High median values indicate widespread alignment with the appropriate standards; small interquartile ranges indicate little variation in practice.

b. Psoriasis area and severity index (PASI)
PASI scores were recorded in 59.6% (national mean) of sampled patients, unrecorded in 37.7% and not applicable in 2.2% of cases involving single lesions, scalp-only involvement and pustular or palmar pustular psoriasis (blank entries = 0.5%).

There are regional variations, as displayed in Figure 6 (overleaf).

c. Dermatology life quality index (DLQI)
Overall, DLQI or children's dermatology life quality index (cDLQI) scores were recorded in 57.1% (national mean) and unrecorded in 42.4% of sampled patients (blank entries = 0.5%).

4.5 NICE standards – recording clinical information
a. Involvement of nails, high-impact and difficult-to-treat sites
Overall, the involvement of nails, high-impact and difficult-to-treat sites when assessing the severity of psoriasis were recorded in 70.9% (national mean) and unrecorded in 28.6% of sampled patients (blank entries = 0.5%).

b. Psoriatic arthritis
Overall, assessments for psoriatic arthritis were recorded in 61.7% (national mean) and unrecorded in 37.8% of sampled patients (blank entries = 0.5%).

There is considerable variation across the country when the data are broken down by region, as well as variations within each region (see Figure 9).

c. Psoriasis epidemiological screening tool (PEST)
The median for all but one region was zero, indicating very low take-up on the PEST tool for assessing psoriatic arthritis (see Figure 10).

5. DISCUSSION
It is noted that any findings for regions with low response rates and associated interpretations need to be treated with caution.

5.1 Responses
This audit had the greatest level of participation by BAD members since commencement of national BAD audits; however, it was still relatively low at 30.1%. We would welcome feedback from members on how the BAD could facilitate participation in future national audits.

5.2 Patient population
Psoriasis affects around 2% of the UK population with the majority suffering from chronic plaque psoriasis. A significant proportion of the sampled cases have been attending dermatology clinics for a prolonged period of time, highlighting the long-term care needs for patients with psoriasis and the associated costs. Approximately half of sampled patients are treated with conventional systemic therapies (with or without phototherapy), whereas around a quarter are treated with biologic therapies (with or without conventional systemic therapies).
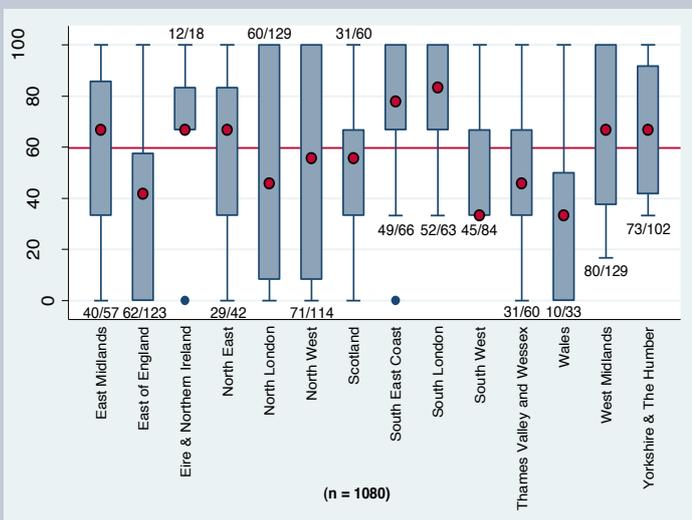
Continued overleaf…

FIGURE 6. *Boxplots showing the distributional mean percentage of "Yes" responses to having recorded a PASI scoring for each patient, per hospital, in each region. See* **"KEY"** *above.*
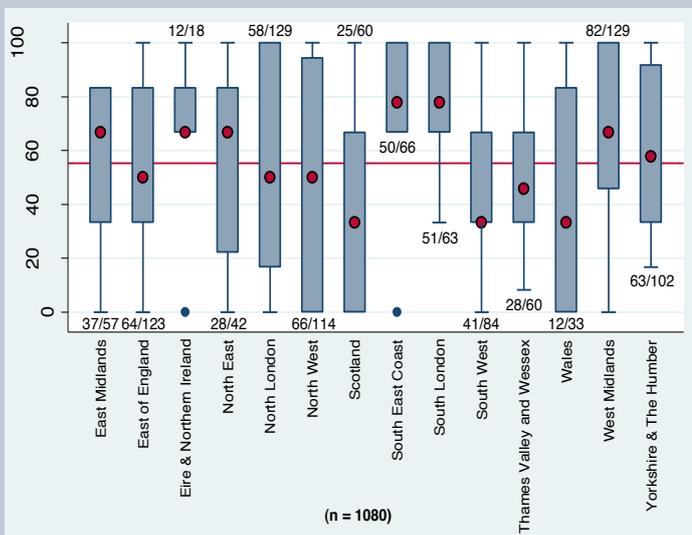

FIGURE 7. *Boxplots showing the distributional mean percentage of "Yes" responses to having recorded a DLQI scoring for each patient, per hospital, in each region. See* **"KEY"** *above.*
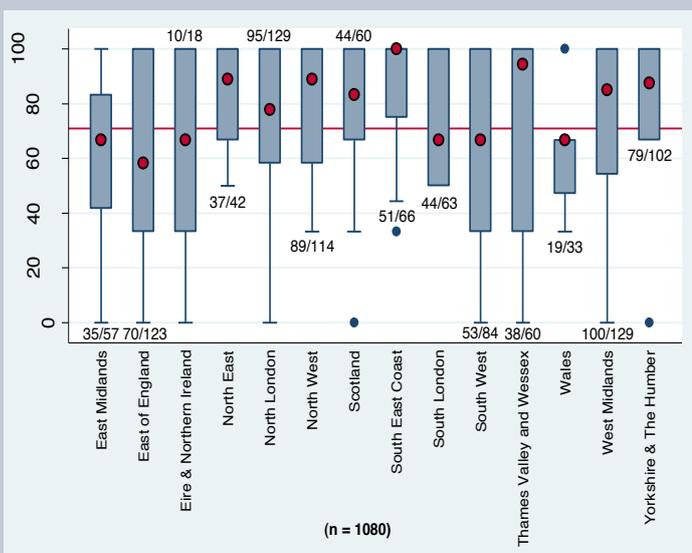

FIGURE 8. *Boxplots showing the distributional mean percentage of "Yes" responses to having recorded the involvement of nails, high-impact and difficult-to-treat sites in assessing disease severity for each patient, per hospital, in each region. See* **"KEY"** *above.*

Nearly all of the 364 responses indicated that they generally prescribe systemic non-biologic therapies, with just over nine in ten also prescribing biologic therapies; participation with the British Association of Dermatologists Biological Interventions Register (BADBIR)[5] for both types of systemic therapies was high amongst the 364 respondents, at 81.6%.

5.3 Service provision

On a much increased sample size since 2007 (170 vs. 100), the results from this audit suggest that the availability of psychological support for psoriasis patients has more than halved in the last 6 years. Some respondents commented that, where it is available, waiting times can be very long. The availability of such support can be part of the overarching services provided by Trusts, or a dedicated psychodermatology service albeit with limited and infrequent (e.g. monthly) access. Local arrangements with nearby hospitals have also been reported. Some respondents also noted that access to psychological support may not be equitable; for example, only patients seen in severe psoriasis clinics may be referred, again due to local arrangements. Specialist nurse clinics, in which 5% of sampled patients were seen, could arguably be categorised as providing supportive psychological support to patients with psoriasis.

Despite a slight decrease in the availability of phototherapy services and increase in average waiting times, such services remain widely available based on the responses received. Some respondents noted that it was difficult to ascertain a true picture of the average waiting times due to seasonal variations during any given year. Many commented that working patients compete for appointments just before or after the working hours and this acts as a bottleneck, extending waiting lists. Other comments include disruption in services due to disagreement over outsourcing and costing contracts, variations within a hospital due to multiple day units in operation, as well as improvements in waiting times as a result of collaboration with local private clinics.

5.4 NICE standards – recording assessments and clinical information

Generally, the data suggest that there is widespread alignment with a number of NICE standards, both nationally and regionally, especially for PGA where it was recorded in almost four out of five cases overall.

Recording the involvement of nails, high-impact and difficult-to-treat sites was also prevalent in just over seven out of ten cases.

PASI and DLQI were recorded in around six out of ten cases. It was noted that PASI scores were recorded in *some* paediatric cases, which made up 3.1% of the total number of patients. Some of the feedbacks received indicated that PASI scores were used only upon initiation of phototherapy, non-biologic systemic or biologic therapies.

Similar overall figures were also found for the assessment for psoriatic arthritis; among the 61.7% of patients who had been assessed for psoriatic arthritis, just over a third (n=459) had the assessment carried out in the 12 months prior to their last visit, as recommended by NICE. Psoriatic arthritis was suspected in a total of 21.4% of cases, of which around one-tenth was *not* referred to a rheumatologist; a further one-tenth of the responses for suspected psoriatic arthritis cases was categorised as "Not applicable".

The PEST tool is validated only for use in adult patients. NICE CG153 audit standard 4 asks that patients with psoriasis are offered annual assessment for psoriatic arthritis. Of the 61.7% of cases where assessment for psoriatic arthritis was carried out (regardless of whether or not it was done in the preceding 12 months), nearly one-tenth (national mean) was done using the PEST tool, noting that paediatric cases accounted for 3.1% of *total* cases.
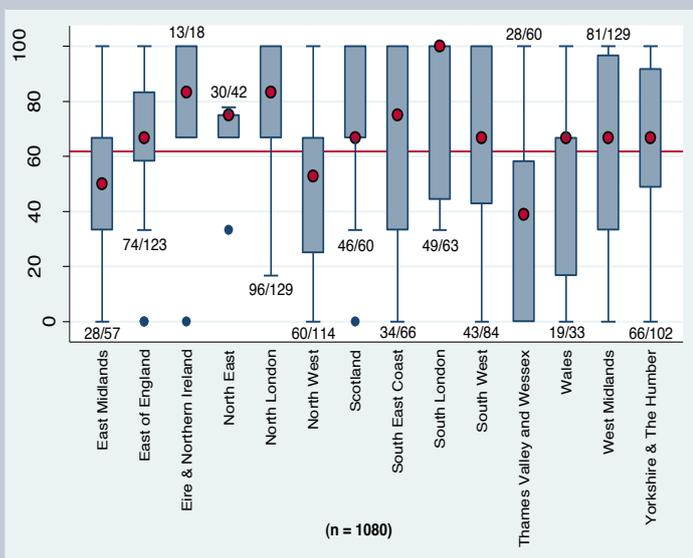
*Figure 9. Boxplots showing the distributional mean percentage of "Yes" responses to having recorded the assessment for psoriatic arthritis for each patient, per hospital, in each region. See **"KEY"** above.*
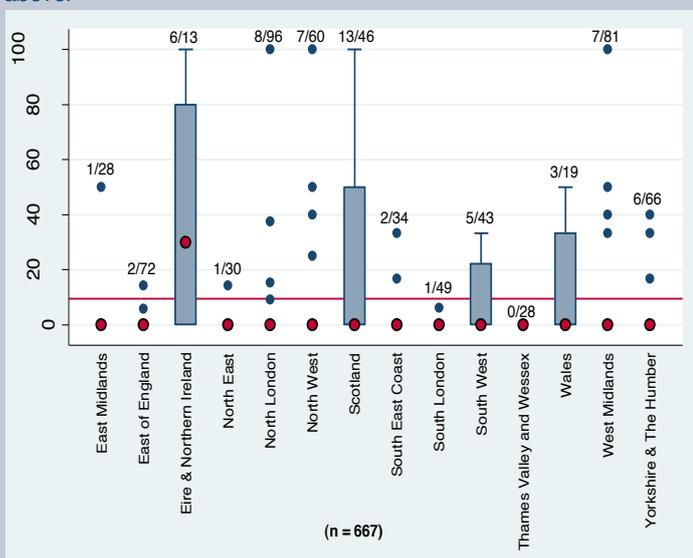

*Figure 10. Boxplots showing the distributional mean percentage of "Yes" responses to having recorded a PEST scoring for each of the 667 patients from identifiable hospitals who has been assessed for psoriatic arthritis, per hospital, in each region. See **"KEY"** above.*
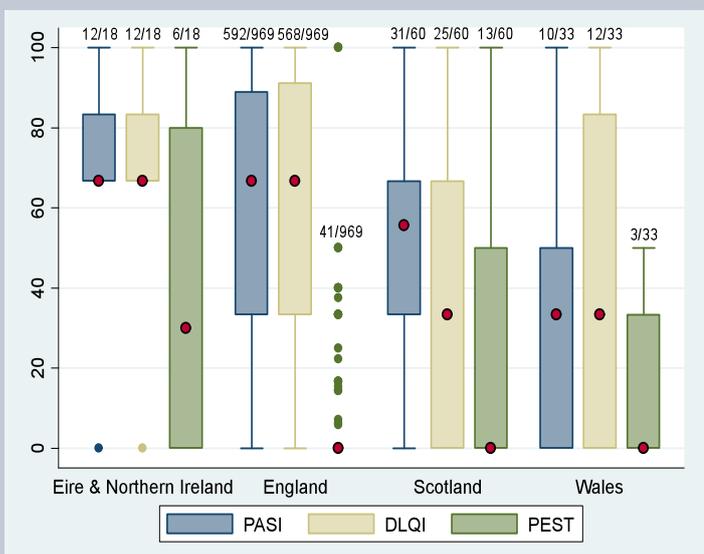

Figure 11. Boxplots showing the distributional mean percentage of "Yes" responses to having recorded PASI, DLQI and PEST for each patient, per hospital, in each country

Data for the scoring tools were also analysed by country for comparison (see Figure 11). Caution is required in interpreting these data due to the predominance of the number of cases for England. However, it is noted that the total proportion of cases in each country is comparable to the 2011 census data (see Table 1).[6]

	Sampled cases (%)	Total population (%)
EIRE & NORTHERN IRELAND	1.6	2.9
ENGLAND	88.7	83.9
SCOTLAND	5.5	8.4
WALES	3.0	4.8

***Table 1.** Comparison of the percentage of sampled cases by country against the 2011 UK population breakdown*

6. Conclusions

This audit has been a useful exercise in ascertaining the national baseline for the assessment and management of patients with psoriasis around the time of publication of the NICE CG153 guidelines and audit standards. There is currently good compliance with standards relating to global clinical assessments; use of quantitative scoring tools is less widespread. The latter are more common in the setting of the use of biologic therapies and are a requirement in data provided for BADBIR for patients treated with both biologic and non-biologic systemic therapies. The utility of scoring in all patients is not a topic for this report. There *may* be a number of potential barriers to widespread implementation of formal assessment tools in routine clinical practice, including time, availability of the tools and perhaps, acceptance by both clinicians and patients. The tools themselves are typically paper-based and can sometimes be difficult to locate within a normal clinic. The BAD aims to provide the main scoring tools online within a single resource to facilitate their use in clinic.

7. Action points

1. BAD provision of central resource for access to scoring tools:
   a. PGA b. PASI c. DLQI d. PEST

2. BAD provision of structured proformas for new and follow-up patients to facilitate data capture, particularly in areas less well-documented highlighted in this audit:
   a. involvement of nails, high-impact and difficult-to-treat sites
   b. annual assessment for psoriatic arthritis and referring patients to rheumatologists where applicable

3. A re-audit is recommended after 2 years to ascertain the effectiveness or indeed uptake of NICE CG153 and associated standards.

4. Audit process:
   • Audit proforma to be improved to reduce ambiguities.
   • All future BAD audits to be hosted on a secure domain (https://); although there were no patient-identifiable data requested, some personal details of BAD and non-BAD participants were required and it would be a good practice point to implement such security feature.

If you have any comments, or if you participated in the audit and would like to obtain the collective data for your hospital, please email **clinicalaudit@bad.org.uk**.

DdB is the lead for this clinical audit with project management support by MFMM.

References
1. www.bad.org.uk/Portals/_Bad/Audits/BAD_Quantitative_Standards_FEB%20 2013.pdf
2. www.nice.org.uk/Cg153
3. guidance.nice.org.uk/CG153/ClinicalAudit
4. www.bad.org.uk/Portals/_Bad/Audits/BAD%20Psoriasis%20Audit%20 18.02.08.pdf
5. www.badbir.org/
6. www.ons.gov.uk/ons/guide-method/census/2011/index.html