Improving Practice to Improve Quality of Life in Patients with Psoriasis and Psoriatic Arthritis
ID: 23485653

Submitted by the American Academy of Dermatology

Abstract

The goal of the project is to improve quality of life (QOL) in patients with psoriasis and psoriatic arthritis (PsA) through improving physician and non-physician clinicians' knowledge, competence, confidence, and performance in assessing psoriasis, PsA, and QOL using scales and tools. To achieve this, the project will target dermatologists, other interested physicians, and non-physician clinicians from the US who have shown a commitment to improving the quality of care for patients with psoriasis and PsA. Participants will attend a workshop comprised of didactic presentations, interactive patient assessment demonstrations, and virtual patient assessment experiences. During the workshop, participants will complete pre- and post-questionnaires to measure the direct impact of the workshop on their knowledge, competence, confidence, and self-reported practice patterns. After the workshop, participants will be asked to complete an evaluation to measure the perceived impact the workshop will have on their knowledge and practice. Participants will continue their learning experience following the workshop by completing baseline and follow-up chart audits, completing a follow-up questionnaire, and recruiting patients to complete baseline and follow-up questionnaires. Chart audits will measure documented improvements in participants' practice, while the follow-up questionnaire will measure participants' retention of knowledge, competence, and confidence. These data will be correlated with improvements in patients' QOL and treatment satisfaction as measured by the patient questionnaire to determine if a blended learning experience like the one described here leads to improved QOL among patients with psoriasis and PsA.

Table of Contents

Overall Goal & Objectives

The goal of this project is to improve quality of life (QOL) in patients with psoriasis and psoriatic arthritis (PsA) through improving physician and non-physician clinicians' knowledge, competence, confidence, and performance in assessing psoriasis, PsA, and QOL. This project supports the American Academy of Dermatology's (AAD) educational mission to provide its members with comprehensive and innovative educational opportunities for life-long learning designed to improve learner competence and enhance the practice performance of dermatology professionals with the ultimate goal of improving patient care outcomes. In addition, this project embodies The France Foundation's (TFF) charge to create education that will improve the results that medical professionals achieve. This important educational initiative aligns with the RFP's specific interests of treating disease appropriate to the severity of disease, and improving patient QOL and long-term health outcomes. The goals of this project directly align with the National Psoriasis Foundation's goal of reducing the percentage of individuals who report their disease to be a problem in their everyday life.

The key objectives of this project are to: 1) increase knowledge, competence, and confidence in using assessment tools for psoriasis, PsA, and QOL; 2) increase the clinical use of tools for assessing psoriasis, PsA, and QOL in patients with psoriasis; and 3) increase QOL and treatment satisfaction as reported by patients with psoriasis and PsA.

Needs Assessment

It has been shown that a low QOL correlates with greater disease severity in patients with psoriasis and PsA.[1-3] In addition, over 50% of patients with psoriasis and over 45% of patients with PsA report dissatisfaction with their treatment.[1, 4, 5] It is reasonable to predict that increased treatment satisfaction will accompany increases in QOL for patients with psoriasis and PsA; however, both are dependent upon proper disease assessment and management. The importance of disease assessment is exemplified by a known practice gap in the assessment of PsA. Estimates of up to 42% of patients with psoriasis develop PsA,[2, 6] yet a recent meta-analysis has reported that PsA remains undiagnosed 15.5% of the time.[7] There are multiple knowledge, competence, and practice gaps that may contribute to these unfortunate patient outcomes.

We have identified knowledge and competence gaps during *Translating Evidence into Practice: Psoriasis Guidelines* sessions.[8] Participants were asked to answer case-based clinical questions pertaining to psoriasis. The resulting data were assessed for aggregate responses below 70% to determine gaps. Prior to the session, the average correct responses for 31 of 42 questions (74%) fell below the 70% cut-off, thus indicating multiple knowledge and competence gaps.

We also identified practice gaps during *Translating Evidence into Practice: Psoriasis Guidelines* sessions.[8] Less than 70% of participants self-reported the use of body surface area (BSA) and physician global assessment (PGA) to assess patients' disease severity, the overall assessment of QOL, and the use of multiple tools to assess QOL (Table 1). The 6 month to 2.5 year follow-up results shown in Table 1 revealed persistent practice gaps in the use of PGA to assess disease severity and in the use of QOL assessment tools.

Table 1. Participant practice patterns

Measure and response options	Pre-session % (n)	≥6 mo. Follow-up % (n)
Use of severity assessment scales*		
BSA	62.4% (68)	73.1% (19)
PGA	10.1% (11)	23.1% (6)
Assessment of QOL		
Assess	65.1% (71)	73.1% (19)
Do not assess	34.9% (38)	26.9% (7)
Use of QOL assessment tools*		
SF-36	4.2% (3)	7.7% (2)
DLQI	21.1% (15)	19.2% (5)
Skindex	2.8% (2)	3.8% (1)
Psoriasis QOL	21.1% (15)	11.5% (3)
Koo Menter	4.2% (3)	7.7% (2)

BSA, body surface area; *dna*, did not ask; *PASI*, psoriasis area severity index; *PGA*, physician global assessment; *QOL*, quality of life; *SF-36*, short form 36; *DLQI*, dermatology life quality index. Data are percentage of responses with participant and respondent N values of 109 and 26, respectively.

*Participants were asked to check all response options that applied. Data for these measures are shown as percent of total responders for each question with the n value representing the number of times an individual response option was selected.

We have identified related practice gaps from an online performance improvement module on psoriasis where 192 participants completed at least 10 chart audits (stage A), reviewed educational materials and developed an implementation plan, then audited an additional 10 charts (stage C).[9] Less than 70% of participants had documented important patient history details or counseled their patients on comorbidities associated with psoriasis, indicating numerous practice gaps that could relate to a decreased QOL for patients (Table 2).[9] While significant improvements in almost every topic were observed at stage C, there were persistent practice gaps for every topic.

Together, these data suggest that there is room to improve the AAD's live and online educational activities for psoriasis and PsA. The project described here aims to do so by offering an enhanced, blended-learning experience focused on the assessment of psoriasis, PsA, and QOL, which will include interactive elements and implementation resources designed to help participants improve their knowledge, competence, and confidence and achieve improved results in their practice.

Table 2. Documentation of patient history topics

Patient history topic	Stage A Completers	Stage C Completers	*p*-value
Alcoholism	18.5%	26.5%	<0.001
Alcohol use	48.6%	52.8%	<0.05
Cardiovascular disease	38.0%	45.3%	<0.001
Crohn's disease	11.0%	19.1%	<0.001
Cutaneous T-cell lymphoma	10.4%	21.5%	<0.001
Depression	21.8%	29.5%	<0.001
Diabetes	32.3%	35.6%	<0.05
Hodgkin's lymphoma	12.2%	21.7%	<0.001
Multiple sclerosis	13.3%	21.3%	<0.001
Metabolic syndrome	13.8%	25.6%	<0.001
Melanoma	28.0%	32.4%	<0.01
Non-melanoma skin cancer	33.9%	39.6%	<0.001
Obesity	23.1%	36.3%	<0.001
Psoriatic arthritis	38.9%	42.2%	<0.05
Smoking	45.3%	43.2%	ns
Ulcerative colitis	10.4%	18.5%	<0.001

ns, not significant. Data are shown as average percent of responses with a participant N of 192.

Target Audience

This project targets dermatologists (including residents), other interested physicians (e.g., primary care physicians and rheumatologists), and non-physician clinicians (e.g., nurse practitioners and physician assistants) from the US who provide dermatologic care to patients with psoriasis and PsA. These clinicians have shown outstanding commitment to improving the quality of care for patients with psoriasis and PsA through participation in live sessions, online modules, and performance improvement activities focused on psoriasis. The workshops described here will be advertised to this target audience through AAD marketing and

communications channels such as its web site, its monthly publication *Dermatology World*, the weekly digest *Dermatology World Weekly*, the daily e-mail blast *Dermatology Daily*, the bi-weekly highlights email *AAD Member to Member*, the *Journal of the American Academy of Dermatology*, and AAD meeting-specific web sites and program books.

We expect robust participation numbers based on previous psoriasis sessions and online modules. Even so, we will also recruit participants through targeted outreach and engagement by champion psoriasis and PsA experts who are active members of the AAD. Participation will be incentivized with a framed completion certificate signed by the chair of the AAD's Council on Education and a $30 AAD store gift certificate that can be used toward additional educational activities or 100 psoriasis and PsA pamphlets for patients. These incentives will only be available to participants who complete the entire learning experience, thus reducing attrition rates. Of the 700 allowable workshop participants, additional online participants, and controls, we anticipate 250 clinicians will complete the entire learning experience. We anticipate that 1,000 patients will be successfully recruited to complete both patient questionnaires and will receive a $50 Visa gift card for their participation.

Dermatologists play an important role in screening, identifying, and managing patients with psoriasis and PsA. Hence, the targeted audience for this educational activity is in a prime position to improve the QOL and treatment satisfaction of patients with psoriasis and PsA by increasing the use of scales and tools for assessing psoriasis, PsA, and QOL in their own practice, and by encouraging the same improvements in their colleagues' practice. As a result, we predict this project will have a widespread, positive impact on care and outcomes for patients affected by psoriasis and PsA. The methodologies described here can be replicated by other member specialty societies or educational providers who host live meetings, maintain a web site or learning management system, and wish to provide their affiliates with a blended learning experience.

Project Design and Methods

This project uses both live and online participant engagement to provide a blended learning experience, which has been shown to be effective for continuing medical education in other specialties.[10-13] The blended learning design described here includes live workshops, printed resources, online chart audits, and online questionnaires (Figure 1).

Workshops

Participants will attend a live workshop that includes didactic presentations, psoriasis, PsA and QOL assessment demonstrations, and patient case vignettes. During the assessment demonstrations, up to 5 patient volunteers will be assessed by faculty who in part will use questions submitted by the participants via ARS. Patient volunteers will be recruited by expert psoriasis and PsA faculty, and will sign all appropriate consent and release forms prior to participation. The patient demonstrations will be followed by patient case vignettes featuring patient videos or photographs and ARS questions designed to provide a virtual patient assessment experience for the participants. All patient photographs and/or videos used in the vignettes will be unidentifiable. The workshops will be created with input from expert psoriasis

and PsA faculty to ensure they will be effective at improving participants' knowledge, competence, and confidence in assessing psoriasis, PsA, and QOL using assessment scales and tools. Participants will also receive implementation resources consisting of laminated pocket cards, reference booklets, score cards, checklists, and apps, as deemed appropriate by expert psoriasis and PsA faculty to ensure practicality in aiding participants in improving their clinical practice. As a part of the workshop, participants will complete pre- and post-questionnaires. Participants will also complete an evaluation at the conclusion of the workshop.

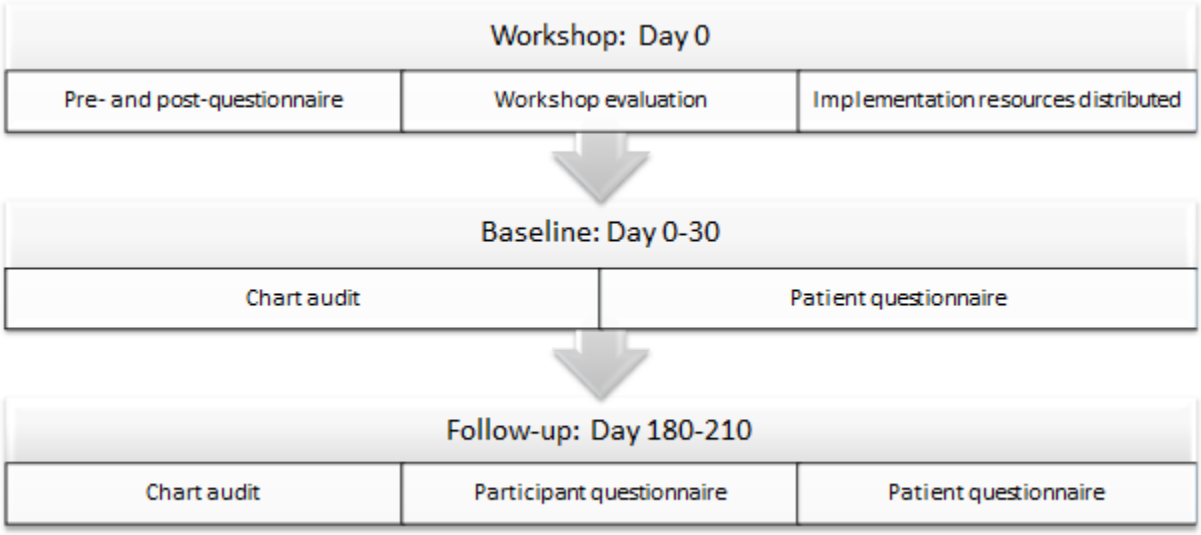

Figure 1. Methodology Visual Aid.

Baseline

After the workshop, participants will continue to be engaged in learning through participation in the online portion of the blended learning experience. Within a month (30 days) of attending the session, participants will complete a baseline audit of at least 5 patient charts. Inclusion criteria for the charts will be that the patient is an established patient with psoriasis aged 18 years or older who is not clear of disease and who was last seen within 2 months prior to the date of the workshop. At this same time, participants will recruit at least 10 of their patients with psoriasis to complete a baseline questionnaire. Patient inclusion criteria will be that the patient is an established patient with psoriasis aged 18 years or older who is not clear of disease and who was last seen within 2 months prior to the date of the workshop.

Follow-up

Six months (180 days) following the workshop, participants will complete a follow-up chart audit. Inclusion criteria for the patient charts will be that the patient is an established patient with psoriasis aged 18 years or older who was last seen within the past 2 months. At this time, participants will ask patients who participated in the baseline questionnaire and have been seen at least once since then to complete a follow-up questionnaire. Finally, participants will complete a follow-up questionnaire, which will include an overall evaluation of the learning experience. The 2 year project is comprised of 3 workshops, each following the same methodology.

Online Module

In addition to the blended learning experience, a fully online learning experience will be made available for those who are interested in participating, but are not able to attend the live workshops. For this, 2 of the live workshops will be recorded and edited into an online module. The implementation resources will be provided as downloadable files. Online participants and their patients will have access to the same chart audit and questionnaire portals as those who participated in the live workshops. Online participants will be free to begin at any time but will be required to follow the timing described above in order to be included in any analysis.

Previous Work

The concept for this project was conceived by AAD members and staff as a means to improve current educational offerings. This project builds upon the success of the AAD's *Translating Evidence into Practice: Psoriasis Guidelines* sessions and psoriasis performance improvement module.[8, 9] The previous sessions aimed to improve clinical knowledge and competence among participants. At pre-session, 53% of session participants (N=325) correctly answered case-based clinical questions. This improved to 74% at post-session indicating that the sessions were effective.[8]

Translating Evidence into Practice: Psoriasis Guidelines session participants also rated their confidence in treating patients with psoriasis and PsA. Confidence levels were measured at pre-session, post-session, and follow-up. An increase in confidence in treating both psoriasis and PsA was evident from pre-session to post-session, and was maintained at a 6 month follow-up, which demonstrates the success of the sessions in this measure (Figure 2).[8]

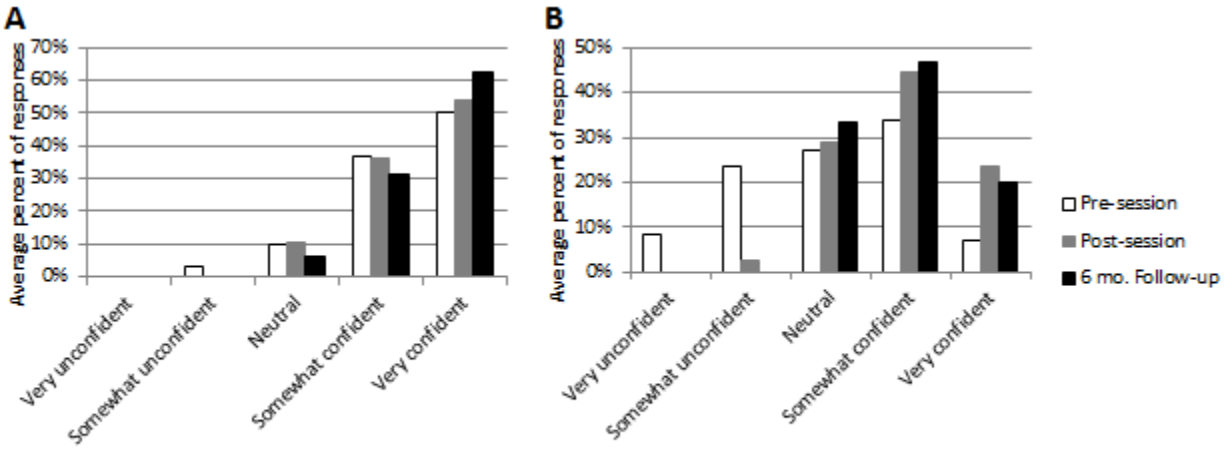

Figure 2. Improvements in Confidence. Participants self-rated their confidence in treating psoriasis (A) or PsA (B) at pre-session (white), post-session (grey), and at the 6 month follow-up (black). Data are presented as percent of responses with pre-session participant, post-session participant, and follow-up respondent N values of 64, 41, and 15, respectively.

Following the *Translating Evidence into Practice: Psoriasis Guidelines* sessions, participants completed evaluations to measure the perceived impact of the session on their knowledge and practice. The majority of participants reported at least some increase in their knowledge as a result of participating in the session, and most felt that the session would have a very positive impact on their clinical practice (Table 3).[8] In addition, most participants indicated that they

would recommend the session to their colleagues. Together, these data indicate that the sessions were well received by participants.

Table 3. Session evaluation

Measure and response options	Responses % (n)
Increase in knowledge	
Significant	48.3% (157)
Somewhat	49.5% (161)
Same	2.2% (7)
Impact on practice	
Very positive	67.7% (220)
Somewhat positive	29.5% (96)
No impact	2.7% (9)
Would recommend session to colleagues	
Definitely	80.7% (262)
Might	18.4% (60)
Undecided	0.7% (2)
Probably not	0.2% (1)
Definitely not	0.0% (0)

Data are percentage of responses with a participant N value of 325.

The AAD's psoriasis performance improvement module was based on a chart audit process similar to the one described here. There were significant increases in the percentage of performance improvement module participants who documented collecting patient history information on almost every topic included in the module (Table 2).[9] These data indicate that an educational activity which utilizes an online chart audit contributes to improvements in clinical practice. This method of measuring documented improvements in practice is preferred over the self-reported improvements in practice that were reported following the *Translating Evidence into Practice: Psoriasis Guidelines* sessions (Table 1) as clinicians have been shown to be poor at self-assessment.[14]

Participants of the *Translating Evidence into Practice: Psoriasis Guidelines* sessions were asked to complete a follow-up questionnaire 6 months to 2.5 years following the session. At the time of follow-up, 95% of participants felt their knowledge was somewhat or significantly increased as a result of the session, suggesting a lasting impact of the sessions.[8]

Together, these data demonstrate the success of the AAD's live and online education for psoriasis and PsA, and support improving and combining the AAD's *Translating Evidence into Practice: Psoriasis Guidelines* sessions and psoriasis performance improvement module into the interactive, blended learning workshops described here. The specific improvements that will be made upon the previous session and module include updating the content based on the latest findings in psoriasis and PsA, and providing implementation resources that will aid in the application of key learnings into clinical practice, which will be exclusive to those who participate in this project. The workplan described here also includes capturing the workshops in video format so that the activity will be available as online module with downloadable resources, which will allow for participation by those who are not able to attend the AAD's live meetings. Finally, the data collection throughout this project will be more robust than in the previous activities, allowing for pairing of de-identified data whenever possible, comparison with control data, and assessment of multiple levels of educational outcomes from a single blended learning educational activity.

To our knowledge, through extensive literature searches and discussions with other education providers, no project of this scope has been previously performed or is currently underway for dermatology. Therefore, this project will serve as an example of a successful blended learning activity for other member specialty societies and education providers.

Evaluation Design

Pre- and Post-Questionnaire

Immediately prior to the start of the workshop, participants will complete a pre-questionnaire via an ARS using a unique identifier number to measure their baseline knowledge and competence through multiple-choice, case-based clinical questions (Table 4). Their baseline confidence will be measured at the same time using 5-point Likert scale-based questions. Finally, the participants' will self-report their current practice patterns by answering polar and checklist questions regarding how they perform assessment of psoriasis, PsA, and QOL. These baseline data will allow us to identify knowledge, competence, confidence, and practice gaps based on results that fall below 70% for the preferred responses.

At the conclusion of the workshop, participants will complete an ARS-based post-questionnaire that will repeat the measures of the pre-questionnaire (Table 4). Regarding practice patterns, the post-questionnaire will measure the participants' intent to perform assessments of psoriasis, PsA, and QOL as well as their intent to use assessment scales and tools in their practice. By comparing the pre-questionnaire results to the post-questionnaire results, we will determine if improvements in knowledge, competence, and confidence occurred. Pre- and post-questionnaire data will be recorded by the ARS using unique identifier numbers, paired based on the identification numbers, and analyzed using paired t tests. As these questionnaires will be administered immediately prior to and following the workshop, any improvements will directly result from participation in the workshop. In addition, the data will be compared to control data from clinicians identified by the AAD who treat psoriasis and who answered the same questions but did not participate in the workshop or the online module.

Workshop Evaluation

Participants will also complete an evaluation of the workshop within the AAD's meeting evaluation system. The evaluation will include 5-point Likert scale-based questions to measure the amount participants felt their knowledge increased as a result of participating in the workshop and how strong of an impact they felt the workshop would have on their clinical practice (Table 4). The perception of increased knowledge data will be correlated with actual improvements in knowledge determined from the pre- and post-questionnaire using single and multiple regression analyses.

Chart Audit

Documented practice pattern data will be collected through online chart audits. Participants will answer polar and checklist questions based on their assessment of the patients' psoriasis, PsA, and QOL as documented in the charts (Table 4). These measures will be repeated in the follow-up chart audit. By comparing baseline and follow-up chart audit data, we will determine if improvements in the assessment of patients' psoriasis, PsA, and QOL, and in the use of assessment scales and tools occurred. As the data extracted from the patient charts will <u>not</u> contain any patient identifier information in accordance with the Health Insurance Portability and Accountability Act (HIPAA) and cannot be paired, these data will be analyzed in aggregate using 2-sample t tests. Since these measures occur outside of the workshop where other events

could impact the outcomes, we will determine if there is an impact from participation in the workshop by comparing the data to chart audit data from controls. These data will also be compared to the self-assessment results from the pre-questionnaire to determine if participants are accurately self-assessing their practice, which is unlikely based on published reports.[14] Additionally, these data will be compared with the intent to assess data from the post-questionnaire to determine if there is a discrepancy between intent to improve and documented improvements.

Table 4. Evaluation measures and question examples

Pre- and post-questionnaires	
Specific measures:	• Clinical knowledge and competence • Treatment confidence level • Self-reported performance of psoriasis, PsA, and QOL assessment • Self-reported use of scales and tools (e.g., BSA, PGA, CASPAR, HAQ, VAS, SF-36, DLQI, Skindex, Psoriasis QOL, and Koo Menter)
Sample questions:	• *Patient vignette*. Which of the following next steps would be most appropriate? • Please rate your confidence in treating PsA. • Do you assess your patients with psoriasis for the presence of PsA symptoms? • Which of the following tools do you use to assess QOL in your patients with psoriasis and/or PsA? (check all that apply)
Workshop evaluation	
Specific measures:	• Perception of impact on knowledge • Perception of impact on practice
Sample questions:	• Please rate the impact participating in this workshop had on your knowledge. • Please rate the impact participating in this workshop will likely have on your clinical practice.
Chart audits	
Specific measures:	• Documented performance of psoriasis, PsA, and QOL assessment • Documented use of scales and tools (see examples in pre- and post-questionnaires)
Sample questions:	• Does the patient chart indicate that disease severity assessment was performed at the most recent visit? • Which of the following tools is documented as having been used to perform the QOL assessment? (check all that apply)
Patient questionnaires	
Specific measures:	• Perception of QOL • Treatment satisfaction
Sample questions:	• How would you rate the impact that psoriasis and/or PsA has on your daily life? • How satisfied are you with your current psoriasis and/or PsA treatment?
Participant follow-up questionnaire	
Specific measures:	• Retention of knowledge and competence • Retention of confidence • Evaluation of blended learning experience
Sample questions:	• *Patient vignette*. What BSA percentage does this patient mostly likely have? • Please rate your confidence in treating psoriasis. • Please rank the following portions of this activity according to the impact they had on your clinical practice.

PsA, psoriatic arthritis; *QOL*, quality of life; *BSA*, body surface area; *PGA*, physician global assessment; CASPAR, classification criteria for psoriatic arthritis; *HAQ*, health assessment questionnaire; *VAS*, visual analog scale; *SF-36*, short form 36; *DLQI*, dermatology life quality index.

Patient Questionnaire

Patient perceptions of their QOL and treatment satisfaction will be collected through baseline and follow-up online questionnaires using 5-point Likert scale-based questions (Table 4). Patient identification data will not be collected in accordance with HIPAA; instead, patients will be provided with an identification number that is specific to their clinician participant. As a

result, the patient data will be analyzed in aggregate using 2-sample t tests. By comparing these data to control data, we will determine if there are observed improvements credible to the clinicians' participation in the workshop. As these data will be collected using the same unique identifier numbers as the workshop ARS, we will then determine if there are correlations between improvements in the participants' knowledge, competence, confidence, or documented practice and improvements in their patients' QOL and treatment satisfaction using single and multiple regression analyses.

Follow-up Participant Questionnaire

The online follow-up questionnaire for participants will measure their retention of knowledge and competence gained from participation in the workshop through multiple-choice, case-based clinical questions (Table 4). Additionally, 5-point Likert scale-based questions will be used to measure the retention of confidence. These data will be collected using the same unique identifier numbers used in workshop ARS and will be compared to both pre- and post-questionnaire results using paired t tests. Controls who completed the pre-and post-questionnaires will also be asked to complete this portion of the follow-up questionnaire to determine if there is a relationship between retention of knowledge, competence, and confidence and participation in the workshop. In addition, the follow-up questionnaire will include evaluation questions related to the entire blended learning experience so that additional improvements to the methodology and resources described here can be made after the completion of the research project.

Anticipated Outcomes and Next Steps

Based on our previous findings with the *Translating Evidence into Practice: Psoriasis Guidelines* sessions, we expect average increases in correct responses to case-based clinical questions from pre-questionnaire to post-questionnaire of approximately 25% as well as a 15% increase in treatment confidence from pre-questionnaire to post-questionnaire.[8] It is possible that the results will not meet our expectations, which would indicate either poor delivery of educational content or poor question design that require revisions. We believe such an outcome is unlikely as the content and questions will be developed and presented by expert psoriasis and PsA faculty who have teaching experience.

Based on our previous results from the *Translating Evidence into Practice: Psoriasis Guidelines* sessions and the psoriasis performance improvement module, we expect average increases of approximately 15% in the use of assessment scales and tools and an average increase of approximately 10% in the overall assessment of QOL from baseline to follow-up.[8, 9] Our previous data did not show any improvement in the use of QOL assessment tools, but we anticipate that improvements will occur as a part of this enhanced educational activity. However, it may turn out that participants' performance is not improved by this activity. We find this to be unlikely based on our previous data and the provision of implementation resources to participants, which will aid participants in making measureable improvements in their practice. It is more likely that the participants' intent as reported in the post-questionnaire will not match the documented improvements in practice. While the provided implementation resources aim to prevent this, it would not be a completely unexpected result as there may be

unpredictable barriers to the implementation of clinical practice improvements in the assessment of psoriasis, PsA, and QOL. In this case, we will work to identify the barriers and revise the implementation resources to aid participants in overcoming them.

To our knowledge, the assessment of patient QOL and treatment satisfaction before and after an educational intervention targeted at physicians and non-physician clinicians has not been published thus making it difficult to quantify our expectations. Any improvement would be a novel finding and would serve as a benchmark for continuing medical educational providers. A lack of improvement would indicate that additional steps need to be taken to ensure patient outcomes are positively impacted by continuing medical education activities, such as the provision of patient interaction resources.

We fully expect that the evaluations will indicate that the vast majority of participants will have found this to be a beneficial learning experience. Based on this and our other expected results, we will expand the availability and impact of this blended learning experience by offering regional meetings and developing additional content and interactivity to address any newly identified gaps. If participants do not find this experience to be beneficial, we will redesign the structure, content, and workflow of the activity, as appropriate, to meet learner expectations and deliver highly regarded, high quality education with a proven impact.

Dissemination of Outcomes

The outcomes of this project will be submitted by to national educational congresses (e.g., Annual Conference of the Alliance for Continuing Education in the Health Professions and Society for Continuing Medical Education Annual Meeting). In addition, the outcomes will be submitted for publication to a leading dermatology journal (e.g., *Journal of the American Academy of Dermatology* and *JAMA Dermatology*). Expert psoriasis and PsA faculty who are involved in this project will present the findings to their peers at various dermatology and rheumatology conferences. Finally, the AAD will promote the outcomes via its web site, its monthly publication *Dermatology World*, the weekly digest *Dermatology World Weekly*, the daily e-mail blast *Dermatology Daily*, and the bi-weekly highlights email *AAD Member to Member*.

Workplan

This project will be initiated in February 2016 and will proceed through August 2018. From February to early July 2016, AAD and TFF staff with work with expert psoriasis faculty to develop didactic content and implementation resources and write questionnaire and chart audit questions. Upon faculty approval of the components, the AAD will program and test the ARS questions (including pre- and post-questionnaire questions, and patient vignette questions), print the implementation resources, coordinate with patient volunteers, prepare the activity information and downloadable resources for the online module, and program the evaluation. At the same time, TFF will program and test the online portals for the chart audits, patient questionnaires, and follow-up participant questionnaire. Detailed timelines for the development of each component are in Tables 5-9 at the end of this section.

Between July 28 and July 31, 2016, the first workshop will occur during the AAD's Summer Academy Meeting in Boston, Massachusetts with a capacity of 150 participants. The chart audit and patient questionnaire portals will be available immediately following the workshop for both workshop participants and controls. Participants and controls will receive reminders to complete each portion of learning experience in accordance with the timing described.

The second and third workshops will be held between March 3 and March 7, 2017 at the AAD's Annual Meeting in Orlando, Florida (room capacity of 400 participants) and between July 27 and July 30, 2017 at the AAD's Summer Academy Meeting in New York, NY (room capacity of 150 participants), respectively. Based on feedback from prior workshops, minor improvements may be made to subsequent workshops under the conditions that they are not expected to bias data collection or results compared with the first workshop. For example, improvements to the seating layout or presentation slide design would be acceptable whereas introducing a new presentation topic or editing question wording would not be acceptable. Following the conclusion of the 3rd workshop, data analysis will begin and is expected to be completed by August 2018.

Table 5. Workshop Presentations

Milestone	Timing
Kick-off with faculty to discuss topics	Week of February 1st, 2016
Faculty develop content	February 8th – April 4th, 2016
TFF provide medical editing and formatting	April 4th – April 18th, 2016
Faculty review suggestions and revise	April 18th – May 16nd, 2016
AAD compiles presentations and adds questionnaire content (see Table 7)	May 16nd – June 13th, 2016
Slides uploaded to A/V meeting portal	June 20th, 2016
Onsite testing	At each meeting

Table 6. Implementation Resources

Milestone	Timing
Kick-off with faculty to discuss content and formatting	Week of March 7th, 2016
AAD develops drafts	March 14th – May 16th, 2016
Faculty review	May 16th – May 30th, 2016
AAD makes revisions	May 30th – June 24th, 2016
Faculty review and approve	June 24th – July 1st, 2016
AAD prints and ships to meeting site	July 5th – July 15th, 2016
Distribution to participants	At each meeting

Table 7. Pre/Post Questionnaire

Milestone	Timing
Kick-off with faculty to discuss details	Week of April 4th, 2016
Faculty write case-based clinical questions	April 11th – April 25th, 2016
AAD writes other questions	April 11th – April 25th, 2016
AAD compiles and formats questions	April 25th – May 6th, 2016
Faculty review of full questionnaires	May 6th – May 16th, 2016
AAD inserts into presentations	May 16th – June 13th, 2016

Table 8. Online Portal (Chart Audit, Patient Questionnaires, Follow-up Participant Questionnaire)

Milestone	Timing
Kick-off call with faculty and TFF	Week of February 1st, 2016
AAD drafts questions	February 8th – March 21st, 2016
Faculty review questions	March 21st – April 4th, 2016
AAD revises questions	April 4th – April 18th, 2016
Faculty reviews and approves questions	April 18th – May 2nd, 2016
TFF programs portal sites	May 2nd – June 13th, 2016
AAD tests portal sites	June 13th – June 27th, 2016
TFF makes revisions	June 27th – July 11th, 2016
AAD tests and approves portal sites	July 11th – July 25th, 2016
Sites go live	July 25th, 2016

Table 9. Online Module

Milestone	Timing
AAD films 1st workshop	July 28th – July 31st, 2016
TFF edits 1st workshop footage	August 1st – August 15th, 2016
Initial review by AAD	August 15th – August 31st, 2017
AAD films 2nd workshop	March 3rd – March 7th, 2017
TFF edits 2nd workshop footage	March 8th – April 5th, 2017
Initial review by AAD	April 5th – April 19th, 2017
Call to discuss selection of final footage	April 20th or April 21st, 2017
TFF compiles footage into module	April 21st – May 19th, 2017
AAD review of module	May 19th – June 2nd, 2017
TFF make revisions	June 2nd – June 16th, 2017
Faculty review of module	June 16th – June 30th, 2017
TFF make revisions	June 30th – July 14th, 2017
AAD and faculty final review and approval	July 14th – July 21st, 2017
Upload of module and resources	July 21st – July 26th, 2017
Launch of module in conjunction with AAD meeting	July 27th – July 30th, 2017

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