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# An assessment of the prescribing preferences of Irish dermatology consultants for the treatment of severe psoriasis in the setting of a cancer diagnosis

--Manuscript Draft--

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| **Corresponding Author:** | Stephanie Bowe<br>South Infirmary Victoria University Hospital<br>Cork, Cork IRELAND |
| **Corresponding Author Secondary Information:** | |
| **Corresponding Author's Institution:** | South Infirmary Victoria University Hospital |
| **Corresponding Author's Secondary Institution:** | |
| **First Author:** | Stephanie Bowe |
| **First Author Secondary Information:** | |
| **Order of Authors:** | Stephanie Bowe |
| | Michelle Murphy |
| | John Bourke |
| | Caitriona Ryan |
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| **Abstract:** | Aim:<br>We aimed to investigate the systemic and biologic agent choices of dermatologists in Ireland for those patients with psoriasis and a cancer diagnosis.<br><br>Methods:<br>An electronic questionnaire was circulated to the Irish Association of Dermatology members using the survey platform, Jotform, between December 2023 - June 2025.<br><br>Results:<br>In total there were 27 responses. Methotrexate was selected most commonly for all scenarios >5 years remission. In all clinical scenarios, fumaric acid esters were the least frequently selected agents. In general, tumour necrosis factor-alpha inhibitors were the next least commonly selected. Apremilast was selected most commonly for a current malignancy of stage 1 breast cancer (26%), lymphoma (22%) and metastatic RCC (30%).<br><br>Conclusion:<br>In general, systemic and biologic agents are used by Irish dermatologists in the setting of psoriasis and cancer. |
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## Aim

We aimed to investigate which systemic and biologic agents dermatologists in Ireland would prescribe for those patients with psoriasis and a concomitant or previous diagnosis of malignancy.

## Introduction

The introduction of targeted therapies has significantly advanced the management of moderate-to-severe psoriasis, offering improved efficacy and safety over traditional systemic agents. However, treatment remains complex in patients with current or prior cancer diagnosis due to limited high-quality evidence and in general, exclusion from clinical trials[1]. In such cases, clinicians depend on personal experience, expert consensus, or extrapolation as available research and data sets are frequently underpowered or lack sufficient follow-up to assess long-term oncologic outcomes. While biologics show promising safety profiles, a disconnect persists between emerging data and clinical guidelines, particularly for patients with a cancer diagnosis.

For patients with malignancy, inadequately treated psoriasis can contribute to considerable physical and psychosocial burden[2]. Withdrawal of effective therapy may further reduce quality of life, underscoring the need for a balanced, yet cautious, treatment approach. This study explored how Irish dermatology consultants navigate treatment decisions in this complex population to identify prevailing practices and areas of uncertainty.

This questionnaire was also circulated to the International Psoriasis Council (IPC) members via their email which yielded a 40% response rate. The data from this expert group was published earlier this year[3].

## Methods

An electronic questionnaire was circulated to the Irish Association of Dermatology (IAD) consultant members (126 consultants) using the survey platform, Jotform. The non-standardised questionnaire was circulated between December 2023 - June 2025. The questions incorporated were multiple choice and based on applicable literature and additional clinically relevant questions. The clinical scenarios involved five types of malignancies: stage 1 breast cancer, stage 1 melanoma, stage 1 prostate cancer, stage 1 lymphoma, and metastatic renal cell carcinoma (RCC). For each case, participants were asked to indicate which systemic or biologic therapies they would be comfortable or somewhat comfortable prescribing at three different points in remission: currently active disease, remission for one to four years, and remission for over five years. Supplementary questions examined participants' familiarity with relevant clinical guidelines, their perceptions of malignancy risk associated with systemic therapies, and the frequency of interdisciplinary collaboration with oncology specialists. Ethical approval was obtained from the Clinical Research and Ethics Committee in Cork, Ireland, and responses were anonymised. Data were analysed using descriptive statistics in Statistical Package for the Social Sciences (SPSS) (version 27).

## Results

In total there were 27 responses (27/126, 21% response rate). The consultants worked in academic institutions (9, 33%), private practice (9, 33%) or a combination (9, 33%). When asked if the current literature/guidelines provide clear and instructive advice only 2 (7%) IAD members answered yes, 18 (67%) answered no, and 6 (22%) answered unsure. IAD consultants did report being familiar, however, with international guidelines on the treatment of psoriasis in the setting of malignancy, with 24 (89%) aware of the British

Association of Dermatology (BAD) Guidelines 2017[4], 13 (48%) aware of Joint American Academy of Dermatology/National Psoriasis Council (AAD/ NPF) Guidelines 2020[5] and 7 (26%) aware of EuroGuiDerm Guidelines 2020[6]. A total of 15 (56%) of IAD consultant members 'always' discuss the risks of malignancy with patients prior to commencing a systemic or biologic agent and 18 (67%) 'always' check if patients are engaging with national screening programmes. (Table 1)

For individuals with a cancer diagnosis, 2 (7%) IAD consultants would 'always' prescribe ultraviolet B radiation (UVB) therapy to avoid or delay systemic treatment, 10 (37%) responded very often, 10 (37%) responded sometimes, 5 (19%) responded rarely, and 0 responded never. Tumour necrosis factor(TNF)- inhibitors were most commonly associated with an increased perceived risk of immunosensitive cancers (18, 67%), followed by methotrexate (13, 48%), fumaric acid esters (FAE) (13, 48%), anti-interleukin(IL)-12/23 antibody (6, 22%), anti-IL-17 antibodies (5, 19%), anti-IL-23 antibodies (4, 15%) and apremilast (2, 7%). If systemic therapy was required within 5 years of a malignancy diagnosis 20 (74%) would 'always' contact a patient's oncology team, 4 (15%) 'very often', 3 (11%) 'sometimes' and no consultants responded rarely or never illustrating relative uniformity in the IAD consultant members approach to interdisciplinary collaboration. (Table 1)

**Therapeutic Prescribing Approaches in Clinical Scenarios**

The survey explored five malignancy scenarios (stage 1 breast cancer, stage 1 melanoma, stage 1 prostate cancer, stage 1 lymphoma, and metastatic RCC), with comfort in prescribing assessed at three remission intervals: over five years, one to four years, and current malignancy. (Table 2)

**1. Stage 1 Breast Cancer**

For patients in cancer remission over 5 years 26 (96%) of IAD consultants selected methotrexate, anti-IL-17 antibodies (18, 67%) and anti-IL-23 (19, 70%) antibodies most commonly. For the 1-4 year time interval, anti-IL-23 antibodies 16 (59%) was the most commonly selected treatment but consultants were also comfortable with methotrexate (13, 48%) and anti-IL-17 antibodies (13, 48%). For current malignancy, apremilast was chosen most frequently (7, 26%) indicating it is regarded as safe even in a high risk patient group. Only 8 (30%) of consultants would prescribe FAE for the over 5 year remission time interval, only 1 (4%) for those with a current malignancy diagnosis. Consultants were rarely comfortable with TNF-inhibitors for any time interval. (Table 2, Figure 1)

**2. Stage 1 melanoma**

Similarly for patients with stage 1 melanoma, the IAD consultants were most comfortable with methotrexate for the over 5 year remission (23, 85%) and 1-4 year remission (16, 59%) category. Anti-IL-23 antibodies were also selected by 16 consultants (59%) for the 1-4 year remission category and were most commonly selected for a current malignancy (11, 41%). However, approximately 30% of consultants selected methotrexate, apremilast and anti-IL-17 antibodies for a current malignancy diagnosis. FAE were selected least frequently for all clinical scenarios. TNF-inhibitors were selected less commonly for the 1-4 year (8, 30%) and current malignancy (3, 11%) scenario; this may reflect concerns about the potential tumour-promoting effects of some immunomodulators in melanoma[7]. (Table 2, Figure 2)

**3. Stage 1 prostate cancer**

Methotrexate was favoured by almost all consultants for the over 5 years remission scenario (25, 93%) and was also selected most commonly for the 1-4 years (19, 70%) and current

malignancy (9, 33%) scenario. Consultants were equally as comfortable with anti-IL-23 antibodies for a diagnosis of current malignancy (9, 33%). Consultants were generally comfortable with apremilast (17, 63%), TNF-inhibitors (14, 52%), ustekinumab (17, 63%), anti-IL-17 antibodies (16, 59%) and anti-IL-23 antibodies (18, 67%) for the over 5 year remission time interval. FAE were selected least frequently for all clinical scenarios. (Table 2, Figure 3)

**4. Stage 1 Lymphoma**

For stage 1 lymphoma consultants were most frequently comfortable with methotrexate (20, 74%) for the over 5 year remission time interval but for the 1-4 year interval they were equally comfortable with methotrexate (13, 48%) and anti-IL-23 antibodies (13, 48%). The trend for a diagnosis of current malignancy indicated the most comfort with apremilast (6, 22%) and anti-IL-23 antibodies. TNF-inhibitors (2, 7%) and ustekinumab (2, 7%) were infrequently selected for a diagnosis of current malignancy. Consultants were not comfortable prescribing TNF-inhibitors for the over 5 year (10, 37%) or the 1- 4 year time interval (4, 15%) highlighting a perception of an elevated risk of exacerbating lymphoproliferative disorders. (Table 2, Figure 4)

**5. Metastatic Renal Cell Carcinoma**

Metastatic RCC was a relatively higher risk clinical scenario and the consultant's responses reflected a more cautious approach. For patients in remission > 5 years, methotrexate (16, 59%) remained the most frequently chosen therapy though anti-IL-23 antibodies (15, 56%), anti-IL-17 antibodies (12, 44%) and apremilast (12, 44%) were also popular choices. For the 1- 4 year time interval, Anti-IL-23 antibodies (12, 44%) was the agent councilors felt most comfortable in prescribing. For current malignancy, apremilast (8, 30%) was the option consultants were most comfortable prescribing, followed by methotrexate (6, 22%). Consultants were least comfortable with TNF-inhibitors (2, 7%) or FAE (1, 4%) for current malignancy. (Table 2, Figure 5)

**Discussion**

This study reveals diverse prescribing approaches and emphasizes the need for clearer guidance to balance oncologic safety with effective psoriasis care. While caution toward systemic therapies in malignancy is common, it often stems from theoretical risk rather than strong evidence. Data from registries such as British Association of Dermatologists Biologic and Immunomodulators Register (BADBIR), CorEvitas, Psoriasis Longitudinal Assessment and Registry (PSOLAR), and Psonet have not shown a significant increase in cancer risk with biologic use, supporting their safety in psoriasis patients with prior malignancy[8–11].

In all clinical scenarios (15/15), FAE were the least frequently selected agents.
One consultant indicated comfort with prescribing FAE across all clinical scenarios for all time intervals. This singular response may disproportionately influence overall trends, particularly given the limited sample size. FAE were least commonly selected for stage 1 lymphoma and metastatic RCC for all time intervals and their association with T-cell lymphopenia may have influenced this[12]. Although longitudinal studies have consistently demonstrated a favourable safety profile[13], FAE were rarely selected by the IAD consultants which is in agreement with the IPC councilor selections[3].

TNF-inhibitors were the next least commonly selected for almost all scenarios (14/15), except stage 1 lymphoma over 5 years remission by the IAD consultant group. They were prescribed particularly infrequently in the setting of active malignancies in all clinical

scenarios. This emulates the IPC councilor responses[3]. In general, the majority of IAD consultants selected TNF-inhibitors (67%) and Methotrexate (48%) as being associated with an increased risk of immunosensitive cancers[14]. Although some registry data found an association with TNF-inhibitors and lymphoproliferative disorders and non-melanoma skin cancers in long-term users[15], retrospective studies have shown no significant negative association for overall survival or cancer-specific survival for prostate, lung or colon cancer though this study cohort had a diagnosis of RA and early stage malignancies[16]. In our survey, only 7% of respondents would consider using TNF-inhibitors in the setting of metastatic RCC. This contrasts sharply with the results of clinical trials where infliximab was evaluated for the treatment of metastatic RCC[17]. However, despite this evidence, the reluctance to prescribe TNF-inhibitors in such cases reflects a broader hesitancy among dermatologists and oncologists to embrace treatments that might theoretically increase the risk of cancer progression, even when clinical data suggests otherwise[18].

Methotrexate was a particularly popular agent among IAD consultants. It was selected most commonly for all clinical scenarios for the over 5 year remission category. It was also selected most commonly for the 1-4 year time interval for stage 1 prostate (70%), lymphoma (48%) and melanoma (59%) cancer. In fact, IAD consultants were most comfortable with methotrexate for all time intervals in prostate cancer, but this was the only current malignancy diagnosis (33%) where it was chosen most frequently. In contrast, it was not selected most commonly for any scenario by IPC councilors [3]. Methotrexate is generally considered a safe and effective long term treatment[19,20]. Although methotrexate is not used as a first line treatment of prostate cancer currently, it was previously trialled in hormone resistant disease[16]. This may have contributed to the comfort of the IAD consultant group with methotrexate in this cancer type.

One key finding from our survey is the growing confidence in the safety of anti-IL-17 and anti-IL-23 inhibitors, particularly in the setting of remission. Anti-IL-23 antibodies were selected for almost all (4/5) scenarios of the 1-4 years remission category. They were selected most commonly in current malignancies of stage 1 melanoma (41%), prostate (33%) and lymphoma (22%). Anti-IL-23 inhibitors were a common choice of the IPC councilor group but were not selected most often in any clinical scenario[3]. Anti-IL-17 antibodies were selected relatively commonly for all clinical scenarios by the IAD consultant group, though they were not selected most commonly in any scenario. However, the IPC councilor group selected anti-IL-17 antibodies most often in all clinical scenarios for the over 5 year time interval and those with a current malignancy diagnosis of stage 1 lymphoma[3].

This confidence in anti-IL-17 or anti-IL-23 therapies is bolstered by mounting evidence from registry data such as the Psonet and Corrona psoriasis registry and studies such as the PSOLAR have not shown an increased risk of malignancy[21,22]. IL-23 inhibitors have also been associated with a reassuring safety profile[23]. Pooled analyses from trials such as VOYAGE 1 and 2 demonstrated that malignancy rates in patients receiving guselkumab are comparable to those of the general population[1].

The disconnect between clinical trial data and real-world prescribing decisions suggests that many clinicians prioritize safety and risk minimization, often opting for treatments perceived to have a lower oncogenic potential. This is especially evident in the preference for newer biologics, such as IL-17 and IL-23 inhibitors, which have rapidly gained acceptance. A recent Delphi consensus by Puig et al. (2024) provides expert recommendations for managing

psoriasis in patients with a history of malignancy and are largely consistent with the prescribing patterns observed in our study[24].

IAD consultants were commonly comfortable with ustekinumab in cancer remission scenarios but less so in the setting of a current malignancy diagnosis. Data from longitudinal registries, such as PSOLAR, have not shown a heightened risk of malignancy, with mortality rates aligning closely with those of the general population[25] which aligns with prescribing tendencies.

The comfort of consultants was high for apremilast for previous and current malignancy diagnosis. It was selected most commonly for current malignancies of stage 1 breast (26%), lymphoma (22%) and metastatic RCC (30%). This was a similar comfort level in prescribing shown by the IPC responses who selected apremilast most commonly for a current malignancy diagnosis in all scenarios except lymphoma[3]. Apremilast exerts its effects largely on the innate immune system which is a key component of cancer immunosurveillance[26]. The 5 year safety data has been reassuring[27] but it has not been evaluated on a longer-term basis in international registry data[8,20,25,28]. It is mentioned specifically in the EuroGuiDerm guidelines[29] for patients with a previous history of malignancy which may reassure consultants prescribing systemic agents in this complex cohort of patients.

The IAD consultants' responses indicate a familiarity with current guidelines such as the BAD, AAD/NPF and EuroGuiDerm guidelines[4,5,29]. Only 7% of consultants felt the guidelines provided clear and instructive advice despite the complex nature of this patient group. The United Kingdom is geographically close to Ireland and BAD guidelines are often referenced in clinical practice. The BAD guidelines regarding biologic therapy and cancer risk in 2017 provided a total of 3 recommendations and this increased to 4 recommendations of under 200 words in the 2020 guideline update[4,30].

The BAD guidelines recommend caution when prescribing biologics in patients with psoriasis and a history of malignancy, especially within five years of diagnosis. They advise assessment for malignancy risk prior to and during treatment, emphasise participation in national screening programmes, and recommend risk–benefit discussions with the patient and oncology team[30]. In our cohort, 74% of consultants reported they would always consult the relevant cancer specialist suggesting caution and a preference for interdisciplinary collaboration for this complex patient group which is a higher percentage than IPC councilors (50%)[3]. In the IAD cohort, 56% discussed malignancy risk prior to initiating systemic therapy and 67% asked about cancer screening. The guidelines do not provide malignancy-specific or agent-specific recommendations[30].

Familiarity with other international guidelines was lower: 48% of respondents reported awareness of the AAD/NPF guidelines and 26% of EuroGuiDerm. The AAD/NPF guidelines recommend avoiding ciclosporin and FAEs in malignancy, note no current evidence linking TNF-inhibitors, ustekinumab, or IL-17 inhibitors to malignancy, and advise against anti-IL-23 use in patients with current or prior malignancy, pending further research[5]. EuroGuiDerm supports the use of phototherapy and apremilast in patients with a malignancy history, advises against ciclosporin, and acknowledges potential skin cancer risk with methotrexate. They note no clear difference in malignancy risk between methotrexate and TNF inhibitors[29]. Although only 26% of consultants reported familiarity with these guidelines, most were comfortable prescribing methotrexate, consistent with EuroGuiDerm advice. Use of UVB was low (7%), despite its recommendation, indicating confidence in systemic therapy when

needed. The importance of shared decision-making and oncology collaboration is emphasised across all guidelines due to limited long-term safety data for newer agents.

**Limitations**

There was a relatively low response rate from the consultant group of 21%. Given the sample size of 27 consultant responses, observed differences in reported comfort levels should be interpreted with caution, as they may not reflect clinically or statistically significant variation. The consultant group works exclusively in Ireland in Europe which may have introduced regional biases to the responses. In Section 2, respondents were limited to indicating therapies they felt ‘somewhat comfortable’ or ‘comfortable’ prescribing, without the option to express discomfort or negative views—feedback that might have been captured through a Likert scale. The use of positively framed options was a deliberate design choice aimed at minimizing survey length and promoting respondent engagement.

**Conclusion**

This study highlights the limitations of current guidelines and the need for robust population-level data to guide treatment decisions in patients with psoriasis and a history of malignancy. In clinical practice, systemic and biologic therapies are already being used despite the lack of definitive evidence. Addressing this gap requires improved integration between dermatology and oncology, incorporation of real-world registry data into guidelines, and acknowledgment of the psychosocial impact of untreated disease. Clinicians must balance oncologic caution with the ethical imperative to manage a burdensome, systemic condition. Our findings reveal considerable variation in practice and underscore the need for clear, evidence-based, patient-centred guidance.

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Figure 1 illustrates the percentage of IAD consultants who feel comfortable or somewhat comfortable with various systemic or biologic agents for clinical scenario 1

Figure 1.
Question 1. X axis shows the biologic or systemic option. Y axis shows the percentage of councilors who would be somewhat comfortable or comfortable treating the patient with that agent. More than 1 systemic or biologic agents could be selected for each time interval for each malignancy.

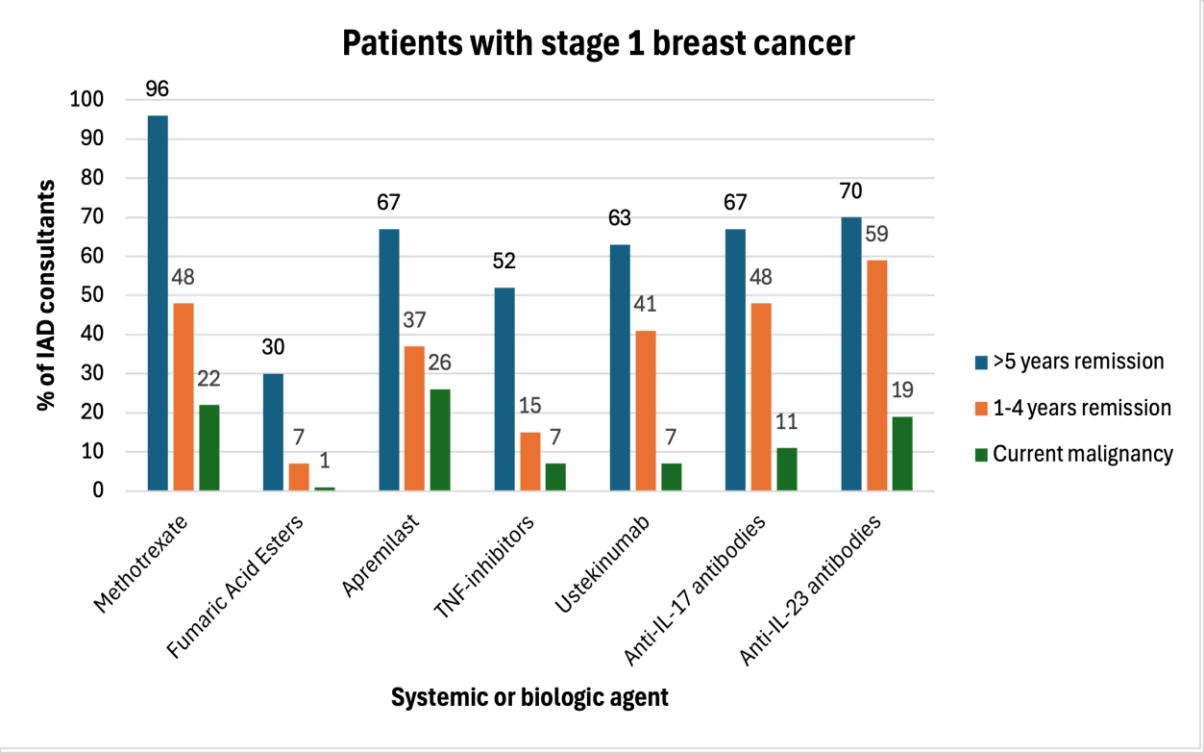

Figure 2 illustrates the percentage of IAD consultants who feel comfortable or somewhat comfortable with various systemic or biologic agents for clinical scenario 2

Figure 2.
Question 2. X axis shows the biologic or systemic option. Y axis shows the percentage of councilors who would be somewhat comfortable or comfortable treating the patient with that agent. More than 1 systemic or biologic agents could be selected for each time interval for each malignancy.

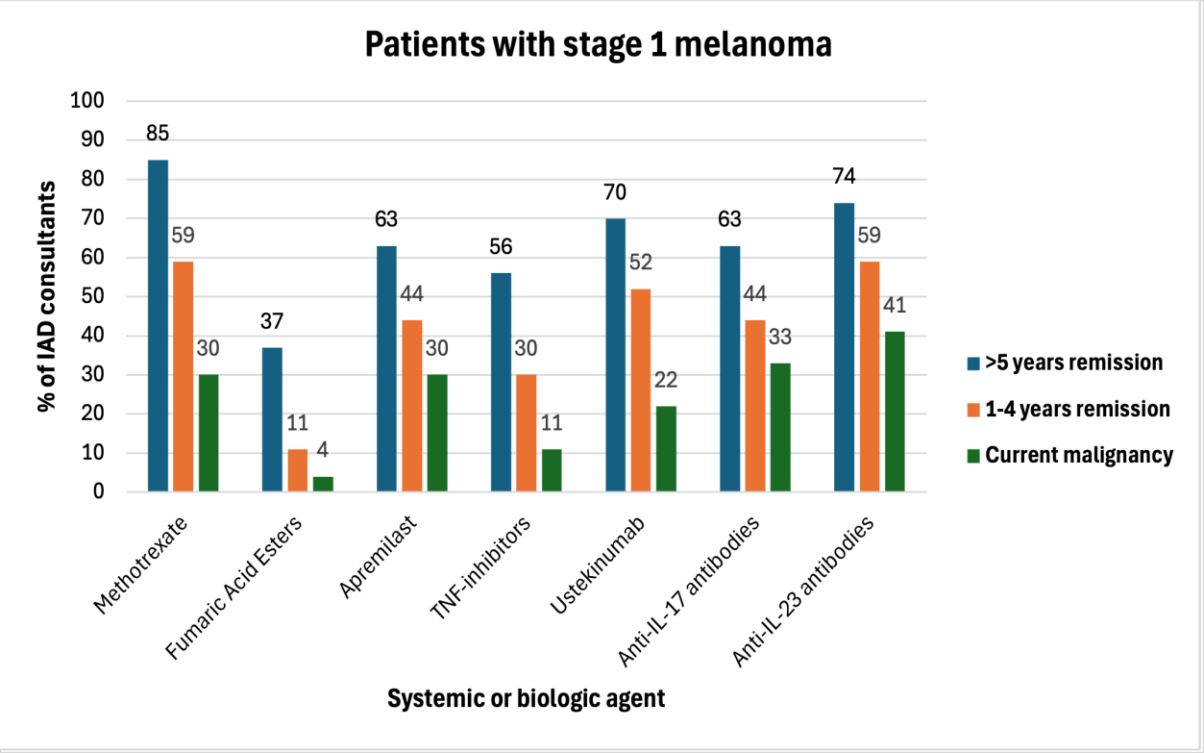

Figure 3 illustrates the percentage of IAD consultants who feel comfortable or somewhat comfortable with various systemic or biologic agents for clinical scenario 3

Figure 3.
Question 3. X axis shows the biologic or systemic option. Y axis shows the percentage of councilors who would be somewhat comfortable or comfortable treating the patient with that agent. More than 1 systemic or biologic agents could be selected for each time interval for each malignancy.

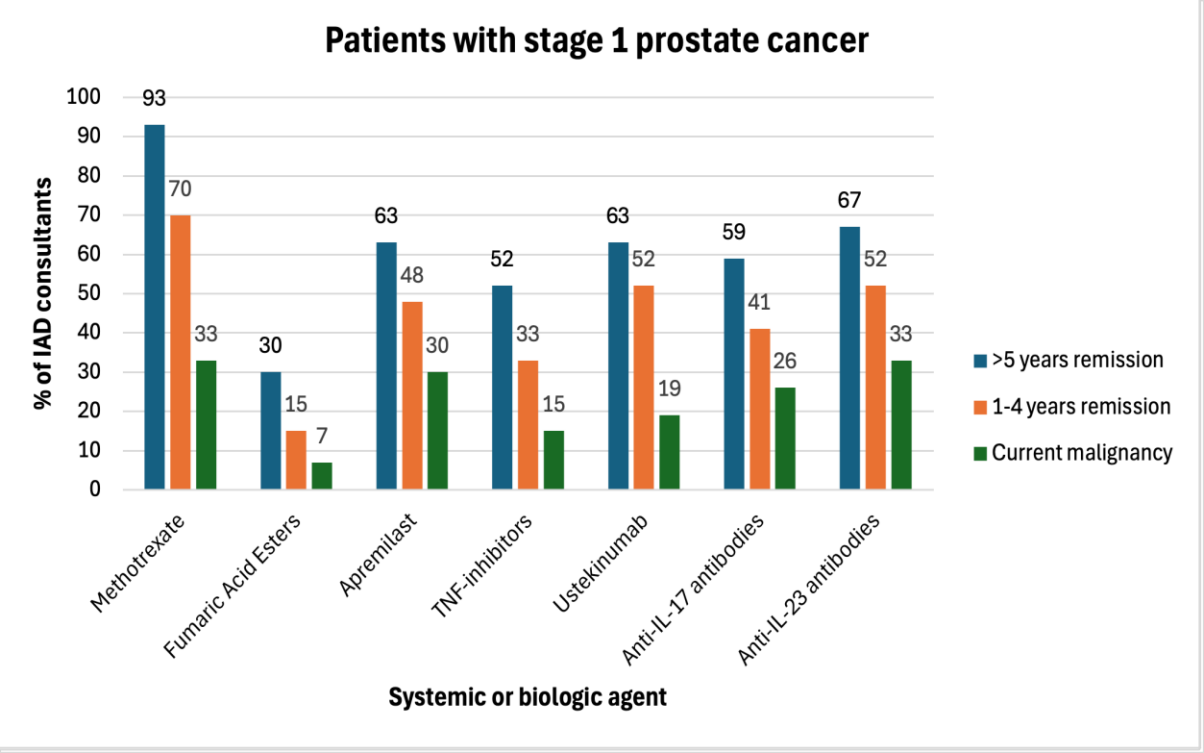

Figure 4 illustrates the percentage of IAD consultants who feel comfortable or somewhat comfortable with various systemic or biologic agents for clinical scenario 4

Figure 4.
Question 4. X axis shows the biologic or systemic option. Y axis shows the percentage of councilors who would be somewhat comfortable or comfortable treating the patient with that agent. More than 1 systemic or biologic agents could be selected for each time interval for each malignancy.

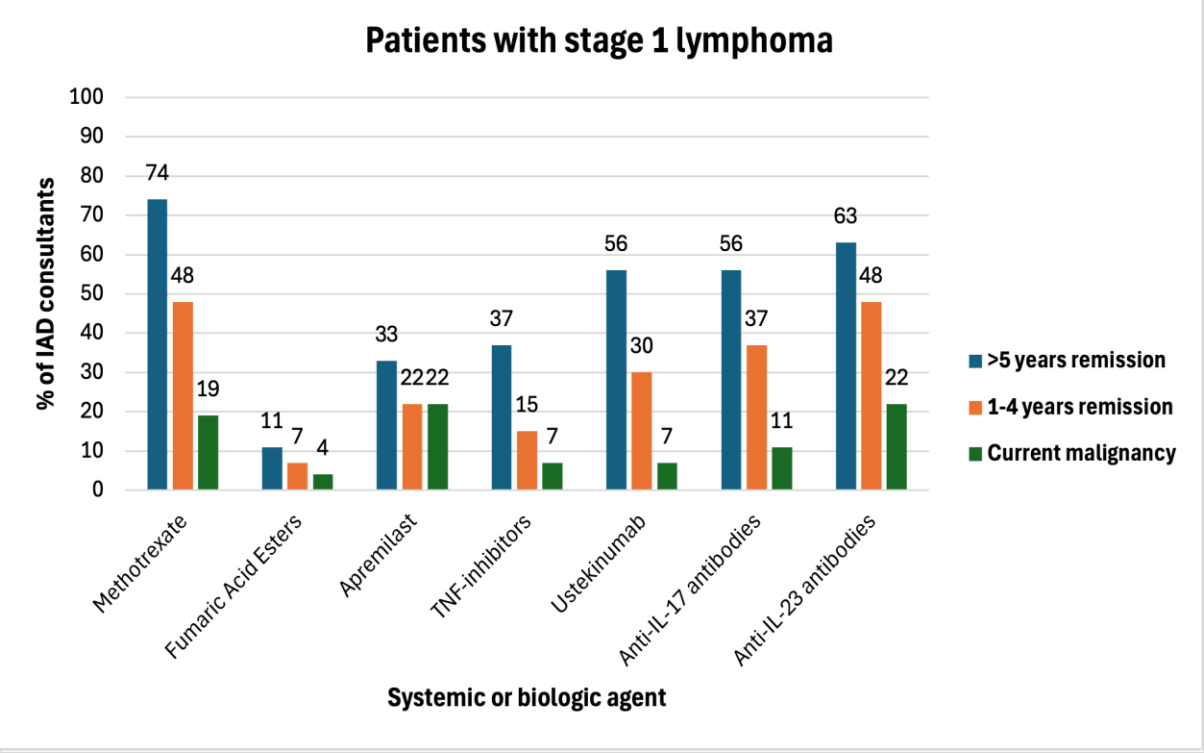

Figure 5 illustrates the percentage of IAD consultants who feel comfortable or somewhat comfortable with various systemic or biologic agents for clinical scenario 5

Figure 5.
Question 5. X axis shows the biologic or systemic option. Y axis shows the percentage of councilors who would be somewhat comfortable or comfortable treating the patient with that agent. More than 1 systemic or biologic agents could be selected for each time interval for each malignancy.

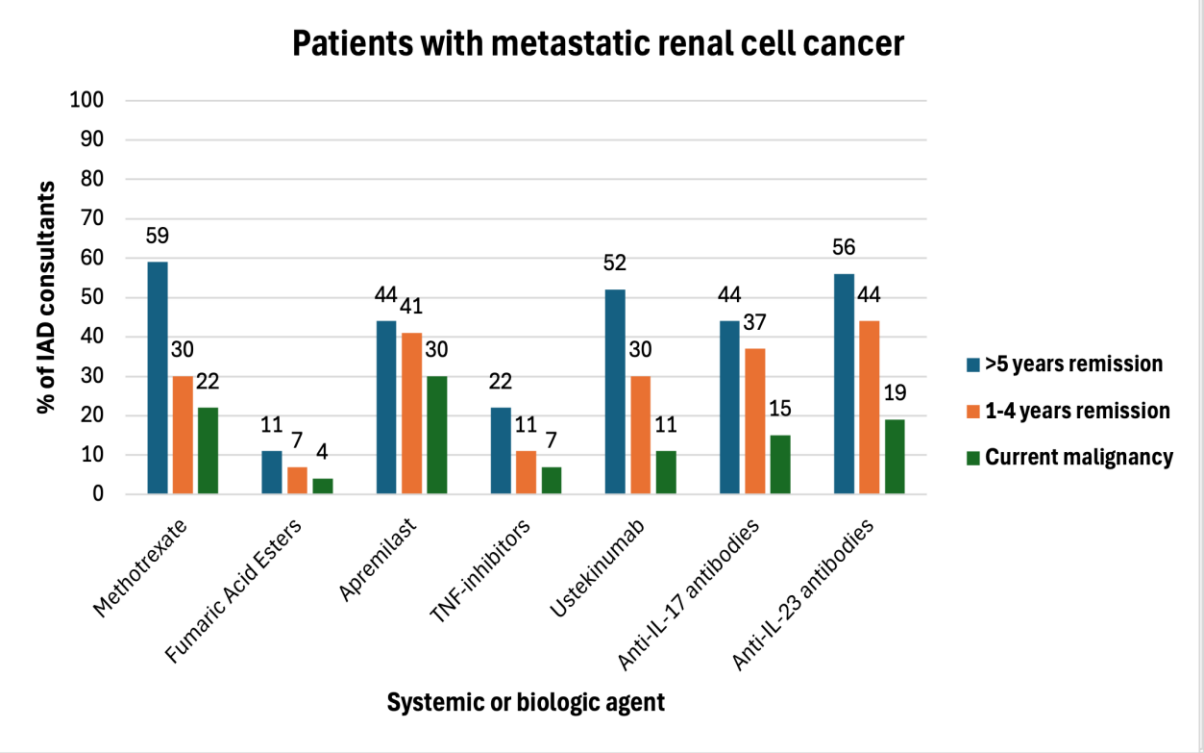

Table 1

| Question | Number of IPC councilors |
|---|---|
| 1. Practice setting? | a. Dermatologist in academic institution = 9 (33%)<br>b. Dermatologists in private practice = 9 (33%)<br>c. Dermatologist in combination of academic and private practice = 9 (33%) |
| 2. Region of practice? | d. Europe = 27 (100%) |
| 3. Number of psoriasis patients per week? | a. < 10 patients with psoriasis per week = 9 (33%)<br>b. 10-20 patients per week = 12 (44%)<br>c. 20-50 patients per week = 4 (15%)<br>d. >50 patients per week = 2 (7%) |
| 4. Current literature/ guidelines provide clear and instructive advice? | a. Yes = 2 (7%)<br>b. No = 18 (67%)<br>c. Unsure = 6 (22%) |
| 5. Aware of international guidelines? | a. Joint AAD/ NPF Guidelines 2020 = 13 (48%)<br>b. EuroGuiDerm Guidelines 2020 = 7 (26%)<br>c. British Association of Dermatology Guidelines 2017 = 24 (89%) |
| 6. Discuss risks of malignancy patients prior to systemic/biologic agent? | a. Always = 15 (56%)<br>b. Very Often = 4 (15%)<br>c. Sometimes = 4 (15%)<br>d. Rarely = 2 (7%)<br>e. Never = 2 (7%) |
| 7. Check if patients are up to date with national screening programs annually? | a. Always = 18 (67%)<br>b. Very Often = 7 (26%)<br>c. Sometimes = 1 (4%)<br>d. Rarely = 1 (4%)<br>e. Never = 0 |
| 8. Increased risk of immunosensitive cancers with any of the systemic and biologic agents? | a. Methotrexate = 13 (48%)<br>b. Fumaric acid esters = 13 (48%)<br>c. Apremilast = 2 (7%)<br>d. TNF alpha inhibitors = 18 (67%)<br>e. Ustekinumab (anti-IL-12/23 antibody) = 6 (22%)<br>f. Anti -IL-17 antibodies = 5 (19%)<br>g. Anti -IL-23 antibodies = 4 (15%) |
| 9. Prescribe Narrow-band UVB therapy more frequently in setting of malignancy? | a. Always = 2 (7%)<br>b. Very Often = 10 (37%)<br>c. Sometimes = 10 (37%)<br>d. Rarely = 5 (19%)<br>e. Never = 0 |
| 10. Do you contact the patient's oncology team? | a. Always = 20 (74%)<br>b. Very Often = 4 (15%)<br>c. Sometimes = 3 (11%)<br>d. Rarely = 0<br>e. Never = 0 |

Table 1. Results for section 1, questions 1 to 10. Multiple answers could be selected for questions 5 and 8 and therefore percentages are calculated based on the total number of councilors. The questions have been shortened for the purposes of this table. The full questionnaire can be viewed at Supplementary Table 1.

Table 2

| Question: Clinical scenario/type of malignancy | Methotrexate | Fumaric Acid Esters | Apremilast | TNF-inhibitors | Ustekinumab | Anti-IL-17 antibodies | Anti-IL-23 antibodies |
|---|---|---|---|---|---|---|---|
| **Section 2, Q1: Stage 1 breast cancer** | | | | | | | |
| >5 years remission | 26 (96%) | 8 (30%) | 18 (67%) | 14 (52%) | 17 (63%) | 18 (67%) | 19 (70%) |
| 1-4 years remission | 13 (48%) | 2 (7%) | 10 (37%) | 4 (15%) | 11 (41%) | 13 (48%) | 16 (59%) |
| Current malignancy | 6 (22%) | 1 (4%) | 7 (26%) | 2 (7%) | 3 (7%) | 3 (11%) | 5 (19%) |
| **Section 2, Q2: Stage 1 melanoma** | | | | | | | |
| >5 years remission | 23 (85%) | 10 (37%) | 17 (63%) | 15 (56%) | 19 (70%) | 17 (63%) | 20 (74%) |
| 1-4 years remission | 16 (59%) | 3 (11%) | 12 (44%) | 8 (30%) | 14 (52%) | 12 (44%) | 16 (59%) |
| Current malignancy | 8 (30%) | 1 (4%) | 8 (30%) | 3 (11%) | 6 (22%) | 9 (33%) | 11 (41%) |
| **Section 2, Q3: Stage 1 prostate cancer** | | | | | | | |
| >5 years remission | 25 (93%) | 8 (30%) | 17 (63%) | 14 (52%) | 17 (63%) | 16 (59%) | 18 (67%) |
| 1-4 years remission | 19 (70%) | 4 (15%) | 13 (48%) | 9 (33%) | 14 (52%) | 11 (41%) | 14 (52%) |
| Current malignancy | 9 (33%) | 2 (7%) | 8 (30%) | 4 (15%) | 5 (19%) | 7 (26%) | 9 (33%) |
| **Section 2, Q4: Stage 1 lymphoma cancer** | | | | | | | |
| >5 years remission | 20 (74%) | 3 (11%) | 9 (33%) | 10 (37%) | 15 (56%) | 15 (56%) | 17 (63%) |
| 1-4 years remission | 13 (48%) | 2 (7%) | 6 (22%) | 4 (15%) | 8 (30%) | 10 (37%) | 13 (48%) |
| Current malignancy | 5 (19%) | 1 (4%) | 6 (22%) | 2 (7%) | 2 (7%) | 3 (11%) | 6 (22%) |
| **Section 2, Q5: Metastatic renal cell cancer** | | | | | | | |
| >5 years remission | 16 (59%) | 3 (11%) | 12 (44%) | 6 (22%) | 14 (52%) | 12 (44%) | 15 (56%) |
| 1-4 years remission | 8 (30%) | 2 (7%) | 11 (41%) | 3 (11%) | 8 (30%) | 10 (37%) | 12 (44%) |
| Current malignancy | 6 (22%) | 1 (4%) | 8 (30%) | 2 (7%) | 3 (11%) | 4 (15%) | 5 (19%) |

Table 2. Results of section 2, showing the number of responses (%) for each medication for each of the 5 clinical scenarios for 3 different time intervals. Consultants could select more than one medication that they would be comfortable prescribing for each clinical scenario. The highest value or most selected treatment for each clinical scenario has been highlighted in green and the least frequently selected has been highlighted in yellow.

**Title:** An evaluation of current prescribing practices among experts in psoriasis management for patients with severe psoriasis and a malignancy diagnosis.
https://form.jotform.com/233411444898361

What are we trying to achieve?

Managing patients with severe psoriasis refractory to or unsuitable for topical treatment or phototherapy can be difficult, particular in the setting of concomitant or previous malignancy. There is a paucity of data available to guide dermatologists and oncologists in the management of these patients. Guidelines from the American Association of Dermatology (AAD), British Association of Dermatology (BAD) and the European EuroGuiDerm are vague and sometimes conflicting. They offer limited guidance for specific cancers at different stages. We hope to explore prescribing practices among experts in psoriasis management for their patients with psoriasis who have been diagnosed with a new malignancy while on a systemic or biologic agent or who have previously been diagnosed with a malignancy but who require a systemic or biologic agent for their psoriasis.

**Section 1.**

Questions:

1. Which best describes your practice setting
    a. Dermatologist in academic institution
    b. Dermatologists in private practice
    c. Dermatologist in combination of academic and private practice

2. What region do you practice in
    a. North America
    b. Central America
    c. South America
    d. Europe
    e. Asia
    f. Australia

3. How many patients with a diagnosis of psoriasis do you see per week?
    a. < 10 patients with psoriasis per week
    b. 10-20 patients per week
    c. 20-50 patients per week
    d. >50 patients per week

4. Do you feel the current literature and available guidelines provide clear and instructive advice regarding the management of patients with uncontrolled psoriasis with a diagnosis of malignancy who require systemic or biologic treatment?
    a. Yes
    b. No
    c. Unsure

5. Were you aware of the below guidelines on the management of psoriasis in the setting of malignancy ? Select all those familiar to you:

a. Joint American Academy of Dermatology/National Psoriasis Foundation Guidelines 2020
b. EuroGuiDerm Guidelines 2020
c. British Association of Dermatology Guidelines 2017

6. Do you discuss the potential risks of malignancy with all patients before commencing a systemic or biologic agent?
    a. Always
    b. Very Often
    c. Sometimes
    d. Rarely
    e. Never

7. Do you check that relevant patients on systemic/biologic agents are up to date with national breast and cervical screening programs at least annually?
    a. Always
    b. Very Often
    c. Sometimes
    d. Rarely
    e. Never

8. Do you think there is an increased risk of immunosensitive cancers (lymphoma, squamous cell carcinoma) with any of the systemic and biologic agents used for the treatment of psoriasis? Please select all those that apply.

| | **Methotrexate** | **Fumaric Acid Esters** | **Apremilast** | **TNF alpha inhibitors** | **Ustekinumab (anti-IL-12/23 antibody)** | **Anti -IL-17 antibodies** | **Anti -IL-23 antibodies** |
|---|---|---|---|---|---|---|---|
| **Cause increased risk of immunosensitive cancers** | | | | | | | |

9. Do you prescribe UVB(TLO1) therapy more frequently in those patients with a diagnosis of malignancy in an attempt to avoid or delay prescribing a systemic agent?
    a. Always
    b. Very Often
    c. Sometimes
    d. Rarely
    e. Never

10. Do you contact the patient's oncology team if they have a diagnosis of malignancy within the last 5 years but require systemic or biologic agent for psoriasis?
    a. Always
    b. Very Often
    c. Sometimes

d. Rarely
e. Never

**Section 2**

The following questions explore a number of systemic and biologic agents that may be prescribed in various settings of malignancy for those patients with uncontrolled severe psoriasis where topical agents/phototherapy have failed or are not suitable. The malignancies of breast cancer, melanoma, prostate cancer and lymphoma will be examined. The column to the left describes three clinical scenarios for each malignancy.
Please select every agent that you would feel comfortable or somewhat comfortable prescribing in each of the clinical scenarios for each malignancy.

1. A patient with Stage 1 **breast cancer** also has uncontrolled severe psoriasis, where topical agents/phototherapy have failed or are not suitable, and requires a systemic agent. Please select every agent that you would feel comfortable or somewhat comfortable prescribing:

| | **Methotrexate** | **Fumaric Acid Esters** | **Apremilast** | **TNF alpha inhibitors** | **Ustekinumab (anti-IL-12/23 antibody)** | **Anti -IL-17 antibodies** | **Anti -IL-23 antibodies** |
|---|---|---|---|---|---|---|---|
| **>5 years remission** | | | | | | | |
| **1-4 years remission** | | | | | | | |
| **Current malignancy** | | | | | | | |

2. A patient with Stage 1 **melanoma** also has uncontrolled severe psoriasis, where topical agents/phototherapy have failed or are not suitable, and requires a systemic agent. Please select every agent that you would feel comfortable or somewhat comfortable prescribing:

| | **Methotrexate** | **Fumaric Acid Esters** | **Apremilast** | **TNF alpha inhibitors** | **Ustekinumab (anti-IL-12/23 antibody)** | **Anti -IL-17 antibodies** | **Anti -IL-23 antibodies** |
|---|---|---|---|---|---|---|---|
| >5 years remission | | | | | | | |
| 1-4 years remission | | | | | | | |
| Current malignancy | | | | | | | |

3. A patient with Stage 1 **prostate cancer** also has uncontrolled severe psoriasis, where topical agents/phototherapy have failed or are not suitable, and requires a systemic agent. Please select every agent that you would feel comfortable or somewhat comfortable prescribing:

| | **Methotrexate** | **Fumaric Acid Esters** | **Apremilast** | **TNF alpha inhibitors** | **Ustekinumab (anti-IL-12/23 antibody)** | **Anti -IL-17 antibodies** | **Anti -IL-23 antibodies** |
|---|---|---|---|---|---|---|---|
| >5 years remission | | | | | | | |
| 1-4 years remission | | | | | | | |
| Current malignancy | | | | | | | |

4. A patient with Stage 1 **lymphoma** also has uncontrolled severe psoriasis, where topical agents/phototherapy have failed or are not suitable, and requires a systemic agent. Please select every agent that you would feel comfortable or somewhat comfortable prescribing:

| | **Methotrexate** | **Fumaric Acid Esters** | **Apremilast** | **TNF alpha inhibitors** | **Ustekinumab (anti-IL-12/23 antibody)** | **Anti -IL-17 antibodies** | **Anti -IL-23 antibodies** |
|---|---|---|---|---|---|---|---|
| >5 years remission | | | | | | | |
| 1-4 years remission | | | | | | | |
| Current malignancy | | | | | | | |

5. A patient with **metastatic renal cell cancer** also has uncontrolled severe psoriasis, where topical agents/phototherapy have failed or are not suitable, and requires a systemic agent. Please select every agent that you would feel comfortable or somewhat comfortable prescribing:

| | **Methotrexate** | **Fumaric Acid Esters** | **Apremilast** | **TNF alpha inhibitors** | **Ustekinumab (anti-IL-12/23 antibody)** | **Anti -IL-17 antibodies** | **Anti -IL-23 antibodies** |
|---|---|---|---|---|---|---|---|
| >5 years remission | | | | | | | |
| 1-4 years remission | | | | | | | |
| Current malignancy | | | | | | | |

6. If you would like to give a description of your current practice or if you have any thoughts regarding this clinical situation please comment below:

_____

_____

**Institute of Dermatologists Ireland Ltd**
10 Pembroke Place
Ballsbridge
Dublin 4
D04 V1W6
Tel: 01 9123033
Email: cryanoffice@instituteofdermatologists.ie

Dr. Dermot Power,
Editor-in-Chief,
*Irish Journal of Medical Science*,
PhD, Mater Misericordiae University Hospital, Dublin, Ireland.

3rd of March 2025

**Re: An assessment of the prescribing preferences of Irish dermatology consultants for the treatment of severe psoriasis in the setting of a cancer diagnosis**

Dear Dr. Dermot Power,

I hope this letter finds you well. As a consultant member of the Irish Association of Dermatologists, I am honoured to submit our manuscript, "*An assessment of the prescribing preferences of Irish dermatology consultants for the treatment of severe psoriasis in the setting of a cancer diagnosis*" for consideration in *Irish Journal of Medical Science*.

This study addresses a critical and often overlooked issue in dermatology: the management of psoriasis in patients with concomitant or historical malignancy. Through a survey of IAD consultants, we highlight the complexities of treatment decisions in this vulnerable patient group, where clinicians often grapple with incomplete data, conflicting guidelines, and the ethical dilemmas of withholding effective treatments.

Our manuscript delves into a particularly poignant challenge—the devastating impact on patients whose psoriasis treatment is withheld due to concerns about malignancy risk. For patients already burdened by a cancer diagnosis, being left covered in untreated psoriasis exacerbates physical suffering and significantly impairs psychosocial functioning. The visible and often stigmatizing nature of psoriasis can lead to profound isolation, anxiety, and depression, compounding the emotional toll of their underlying malignancy.

Furthermore, our findings underscore the need to challenge prevailing hesitancies, especially in cases where molecular evidence suggests that certain biologic agents are unlikely to increase cancer risk. For example, the survey reveals growing confidence in the safety of IL-17 and IL-23 inhibitors, yet it also highlights how a lack of robust data continues to influence prescribing practices. This gap underscores the need for interdisciplinary collaboration and the development of clearer, evidence-based guidelines that balance oncologic safety with the imperative to alleviate psoriasis-related suffering.

We believe this manuscript aligns with *Irish Journal of Medical Science*'s commitment to advancing evidence-based care and addressing the nuanced needs of dermatology patients. By publishing this work, the journal would provide critical insights into a unique clinical dilemma

**Institute of Dermatologists Ireland Ltd**
10 Pembroke Place
Ballsbridge
Dublin 4
D04 V1W6
Tel: 01 9123033
Email: cryanoffice@instituteofdermatologists.ie

and contribute to better-informed, compassionate care for patients navigating the dual challenges of psoriasis and malignancy.

We deeply appreciate your time and consideration and would be honoured to have the opportunity to share our work with your esteemed readership. Please do not hesitate to contact me if further information or clarification is required.

Warm regards,

Professor Caitriona Ryan, MD FRCPI FAAD
Consultant Dermatologist and Director, Institute of Dermatologists
Clinical Professor, University College Dublin
Councilor of International Psoriasis Council

**Article type:** Original article

**Title:** An assessment of the prescribing preferences of Irish dermatology consultants for the treatment of severe psoriasis in the setting of a cancer diagnosis

**Running head:** Prescribing Practices Among Irish Dermatology Consultants for Patients with Concomitant Malignancy

Stephanie Bowe MD[1]*, Michelle Murphy MD, FRCPI [1], John Bourke MD, FRCPI [1], Caitriona Ryan MD FAAD FRCPI[2]

[1]South Infirmary Victoria University Hospital, Cork, Ireland.

[2] Institute of Dermatologists, Dublin, Ireland.

**Corresponding author:**

Dr. Stephanie Bowe
South Infirmary Victoria University Hospital,
Cork City,
Ireland
Email: drstephaniebowe@gmail.com

**Funding sources**: None.

**Conflicts of Interest**: Dr. Stephanie Bowe, Prof. Michelle Murphy and Dr. John Bourke have no conflicts of interest. Prof. Ryan has received honoraria for serving on advisory boards, as a speaker, or as a consultant from AbbVie, Allergan, Bristol Myers Squibb, Janssen, Leo, Lilly, Novartis, Pfizer, Regeneron-Sanofi and UCB.

**Ethical approval status:** Reviewed and approved by Clinical Research Ethics Committee (CREC)
CREC Review Reference Number: ECM 4 (q) 05/12/2023

**Reprint requests:** drstephaniebowe@gmail.com

**Manuscript word count**: 2851 words
**Abstract word count**: 133
**References**: 30
**Figures: 5**
Supplementary figures: 0
**Tables:** 2
Supplementary tables: 1

**What is already known about this topic?**

The advent of biologic therapies has revolutionized the treatment of moderate-to-severe psoriasis worldwide. Despite these advancements, the management of psoriasis in patients with concurrent or previous malignancy presents a unique and profound challenge for dermatologists. As a result,

dermatologists and oncologists are often left navigating patient management with limited evidence, relying on expert opinion and real-world data from registries.

**What does this study add?**

The work we are presenting leverages insights from Irish dermatology consultants. Given the exclusion of cancer patients from most clinical trials, clinicians have limited data to guide treatment in this complex population. Our survey summarizes the perspectives of Irish dermatology consultants in psoriasis management on the management of psoriasis patients with malignancy and demonstrates the need for updated guidelines on the use of systemic and biologic therapies in this patient group.

**Keywords:** psoriasis; medical dermatology; malignancy; biologic therapy

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**Manuscript ID Number:** IJMS-D-25-01938

**Article Title: (first few words)** An assessment of the prescribing preferences of Irish dermatology consultants for the treatment of severe psoriasis in the setting of a cancer diagnosis

**First Author:** Dr. Stephanie Bowe

**E-mail:** drstephaniebowe@gmail.com

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**I, the undersigned author(s), certify that:**

- **I have seen and approved the final version of the manuscript, and all subsequent versions;**
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| | | | |
| | | | |
| 11 | Stock or stock options | __X__None | |
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| 1 | All support for the present manuscript (e.g., funding, provision of study materials, medical writing, article processing charges, etc.) **No time limit for this item.** | __X__None | |
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| **Time frame: past 36 months** | | | |
| 2 | Grants or contracts from any entity (if not indicated in item #1 above). | __X__None | |
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| 3 | Royalties or licenses | __X__None | |
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| 4 | Consulting fees | __X__None | |
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| 5 | Payment or honoraria for lectures, presentations, speakers bureaus, manuscript writing or educational events | _X___None | |
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| 6 | Payment for expert testimony | __X__None | |
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| 7 | Support for attending meetings and/or travel | _X___None | |
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| 8 | Patents planned, issued or pending | _X___None | |
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| 9 | Participation on a Data Safety Monitoring Board or Advisory Board | __X__None | |
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| 10 | Leadership or fiduciary role in other board, society, committee or advocacy group, paid or unpaid | _X___None | |
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| 11 | Stock or stock options | __X__None | |
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| | | | |
| 12 | Receipt of equipment, materials, drugs, medical writing, gifts or other services | _X___None | |
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| 13 | Other financial or non-financial interests | __X__None | |
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# ICMJE DISCLOSURE FORM

**Date:___10.8.25**
**Your Name:___ Dr. Stephanie Bowe**
**Manuscript Title:_____** Prescribing Practices Among Psoriasis Experts for Patients with Concomitant Malignancy: A Survey of International Psoriasis Council Members

**In the interest of transparency, we ask you to disclose all relationships/activities/interests listed below that are related to the content of your manuscript. "Related" means any relation with for-profit or not-for-profit third parties whose interests may be affected by the content of the manuscript. Disclosure represents a commitment to transparency and does not necessarily indicate a bias. If you are in doubt about whether to list a relationship/activity/interest, it is preferable that you do so.**

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| **Time frame: Since the initial planning of the work** | | | |
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| 7 | Support for attending meetings and/or travel | _X___None | |
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| 8 | Patents planned, issued or pending | _X___None | |
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| 9 | Participation on a Data Safety Monitoring Board or Advisory Board | __X__None | |
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| 13 | Other financial or non-financial interests | __X__None | |
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# ICMJE DISCLOSURE FORM

**Date:___10.08.245**
**Your Name:____Prof. Caitriona Ryan**
**Manuscript Title:** Prescribing Practices Among Psoriasis Experts for Patients with Concomitant Malignancy: A Survey of International Psoriasis Council Members

**In the interest of transparency, we ask you to disclose all relationships/activities/interests listed below that are related to the content of your manuscript. "Related" means any relation with for-profit or not-for-profit third parties whose interests may be affected by the content of the manuscript. Disclosure represents a commitment to transparency and does not necessarily indicate a bias. If you are in doubt about whether to list a relationship/activity/interest, it is preferable that you do so.**

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| **Time frame: past 36 months** | | | |
| 2 | Grants or contracts from any entity (if not indicated in item #1 above). | __x__None | |
| | | | |
| | | | |
| 3 | Royalties or licenses | __x__None | |
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| 4 | Consulting fees | ____None | Received honoraria for serving on advisory boards, as a speaker, or as a consultant from AbbVie, Allergan, |

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| | | | Bristol Myers Squibb, Janssen, Leo, Lilly, Novartis, Pfizer, Regeneron-Sanofi and UCB. |
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| 5 | Payment or honoraria for lectures, presentations, speakers bureaus, manuscript writing or educational events | ____None | Received honoraria for serving on advisory boards, as a speaker, or as a consultant from AbbVie, Allergan, Bristol Myers Squibb, Janssen, Leo, Lilly, Novartis, Pfizer, Regeneron-Sanofi and UCB. |
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| 6 | Payment for expert testimony | _x___None | |
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| 7 | Support for attending meetings and/or travel | ____None | Received honoraria for serving on advisory boards, as a speaker, or as a consultant from AbbVie, Allergan, Bristol Myers Squibb, Janssen, Leo, Lilly, Novartis, Pfizer, Regeneron-Sanofi and UCB. |
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| 8 | Patents planned, issued or pending | __x__None | |
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| 9 | Participation on a Data Safety Monitoring Board or Advisory Board | __x__None | |
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