

PROTOCOL

Title

A survey on the use of artificial intelligence by French dermatologists

Version

1.1

Date

May 2026

Rational

Understanding of how artificial intelligence (AI) is used in dermatology and its clinical implications remains limited. Against a backdrop of growing interest in AI, it is crucial to assess how dermatologists are using this technology, whether for clinical purposes or educational, research or administrative ones. Moreover, the degree of trust dermatologists place in AI is a key factor influencing its adoption and is not well understood.

This study aims to evaluate the current use of AI, identify the tools used, and analyse dermatologists' perceptions of these technologies.

The results will help guide the development of tailored tools and training programs, as well as targeted initiatives aligned with identified needs and practices.

Primary objective

- To evaluate the use of AI tools by dermatologists

Secondary objectives

- To describe the AI tools used by dermatologists
- To evaluate the relationship between confidence level and participants' characteristics
- To evaluate the relationship between AI use and participants' characteristics
- To describe dermatologists' perceptions of AI

Design

We will perform a prospective questionnaire-based observational study.

Inclusion criteria:

- dermatologists;
- residents in dermatology;
- ability to complete the online survey.

Primary outcome

Proportion of dermatologists that report the use of AI (yes/no) for their professional activity

Secondary outcomes

- Description of use of AI by dermatologists
- Association between confidence score and characteristics of participants (gender, age, number of years in dermatology, occupation [private practice/practitioners in public

hospital/both private and public activity/academics in public hospital/resident), training in AI) (participants with confidence score greater than or equal to 7 compared to participants with confidence score lower to 7)

- Association between use (already used vs never used) and characteristics of participants (gender, age, number of years in dermatology, occupation [private practice/practitioners in public hospital/both private and public activity/academics in public hospital/resident])
- Association between use (daily, weekly, monthly vs yearly or rarely) and characteristics of participants (gender, age, number of years in dermatology, occupation [private practice/practitioners in public hospital/both private and public activity/academics in public hospital/resident]), training in AI)
- Description of perception

Methods

The questionnaire will be tested on a sample of five dermatologists (dermatologists with public practice, private practice or both, residents) before diffusion.

We will send the questionnaire to dermatologists and dermatology residents via the mailings lists of the French Society of Dermatology (SFD), the *Fédération Française de Formation Continue et d'Évaluation en Dermatologie-Vénérologie* (FFCEDV), *Futurs Dermato-Vénérologues de France* (FDVF) and *Collège des Enseignants en Dermatologie de France* (CEDEF). We will send a follow-up email on day 30 to increase the response rate.

To limit fraudulent responses, we will include free-text questions. We will identify and remove duplicate responses prior to analysis. No collection of metadata such as IP address is planned.

The questionnaire will consist of 16 items.

The questionnaire will be completed online using Sphynx®.

No identifying data (name, surname, email address, IP address, or any other direct or indirect identifier) will be collected. The collection of response timestamps will be disabled.

In accordance with current data protection regulations, in particular the General Data Protection Regulation (GDPR – Regulation (EU) 2016/679), the questionnaire will be fully anonymous and will not allow participants to be identified, either directly or indirectly.

Statistical analysis

No sample size calculation has been carried out for this study. It is anticipated that up to 500 dermatologists will complete the surveys.

Missing data will not be handled. Counts and percentages of missing data will be reported.

Continuous variables will be described as means with standard deviation (SD) or median and interquartile range for quantitative variables with skewed distribution. Categorical variables will be summarized as counts and percentages.

We will use logistic regression to calculate odds ratios (ORs) and their corresponding 95% confidence intervals (CIs) of the association between confidence's score and characteristics of participants and the association between use of IA and characteristics of participants. The confidence score will be considered as a binary variable: high confidence for values 7, 8, 9 or 10 and low/moderate confidence for values < 7.

The use will be compared as follows: daily or weekly vs monthly, yearly or rarely.

Statistical significance threshold will be set at 5%.

All statistical analyses will be performed using R software version 4.2.3 (or latest version).

Informed consent and participant information

None

Expected duration of the study

This study will be conducted over a 2-month period from May to June 2026.

Participant duration: the online survey will take participants approximately between 5 and 10 minutes to complete. The survey will only be completed once by individual participants.

Study team

Pr Sophie Leducq, University Hospital of Tours, France

Pr Antoine Bertolotti, University Hospital of La Réunion, France

Dr Jilliana Monnier, Marseille Public Hospital, France

Dr Léna Ronjat, Private dermatologist, Andorre

Dr Frédéric Dezoteux, University Hospital of Lille, France

Dr Mathieu Bataille, Lille Catholic Institute Hospital Group, France

Dr Florence Poizeau, University Hospital of Rennes, France

Pr Tu-Anh Duong, Paris Public Hospital Paris-Saclay University, France

Dr Isabelle Ollivier, Private dermatologist, Rennes, France

Dr Jean-Charles Crépin, Private dermatologist, Chalon-sur-Saône, France

Dr Daniel Plantier, Private dermatologist, Roubaix, France

Dr Angèle Lallement, Resident in Dermatology, Montpellier, France

Mrs Jeanne de La Selle, Resident in Dermatology, Lille, France

Mrs Aurore Foureau, coordinator of the Centre of Evidence from the French Society of Dermatology

Centre of Evidence (<https://centredepreuves.sfdermato.org/>) and TELDES group (<https://www.sfdermato.org/groupe-42-groupe-de-teledermatologie-et-e-sante-teldes>) from the French Society of Dermatology

Conflict of interest statement

None

Funding source

No funding will be received for this study.

Participant stipends and payments

Participants will not be paid to participate in the study.

Supplemental file

Survey: Study on the use of AI by dermatologists

The Centre of Evidence (CDP) and the TELDES Group of the French Society of Dermatology in collaboration with the FFFCEDV and the FDVF invite you to take part in a short survey on the use of Artificial Intelligence (AI).

Artificial Intelligence (AI) refers to the range of computer techniques that enable machines to mimic certain human capabilities, such as learning from data, recognising situations, reasoning or assisting with decision-making.

In this survey, we aim to assess dermatologists' use of AI in clinical practice (diagnostic support, patient information sheets, etc.), as well as for educational purposes (creating teaching slideshows, exam questions, etc.), research (literature reviews, scientific writing) or administrative tasks (accounting, email management, quotations etc.).

The aim of this study is to assess current usage to propose targeted actions or training to support the use of AI in our practice.

This questionnaire is anonymous. The questions cover your demographic details, your use of AI and your perceptions of it. It only takes 5 to 10 minutes to complete this questionnaire!

Thank you very much for your help!

If you have any questions, please contact: centredepreuvesdermato@sfdermato.org

Question 1: Are you?

- A woman
- A man
- I do not wish to answer

Question 2: How old are you?

--	--	--

Question 3: In which county do you practise (please specify the county number)?

--	--

Question 4: What is your activity (multiple answers allowed)?

- Private practice
- Hospital
- University hospital
- Other

If « Other » please specify: _____

Question 5: What is your status (Only one answer allowed)?

- Permanent Hospital practitioner
- Non-permanent Hospital practitioner
- Private practitioner
- Mixed practice
- Academic
- Resident

If you are resident, please specify your training stage (only one answer allowed)?

- 1st year ("Phase socle")
- 2nd-3rd year ("Phase d'approfondissement")
- 4th or 5th year ("Docteur Junior")

Question 6: How long have you been practising dermatology (if you are a resident, the question will not be displayed, only one answer allowed)?

- Less than 5 years
- Between 5 and 10 years
- Between 10 and 20
- More than 20 years
- Not applicable (resident)

Question 7: Have you ever used artificial intelligence outside of a professional context?

- Yes
- No

Question 8: Have you ever used artificial intelligence in your professional practice (clinical, teaching, research, administrative)?

- Yes
- No

If answer=No, answers required only for questions 8c and 16.

Question 8a: If so, how often do you use artificial intelligence in your professional practice (clinical, teaching, research, administrative, only one answer allowed)?

- Daily
- Weekly
- Monthly
- Rarely (fewer than 12 times a year)
- Never

Question 8b: If you use AI, what are your reasons (multiple answers allowed)?

- To assist with diagnosis or search for differential diagnoses
- To improve patient care or treatment decisions
- To access medical information more quickly
- To improve communication with the patient (explaining medical concepts in accessible language, providing medical information, etc.)
- To save time on administrative tasks (writing reports, correspondence, etc.)
- To assist you with your research activities (writing articles, data analysis, statistics etc.)
- For your teaching activities (writing exams, creating slideshows, preparing summary sheets)
- For your training (bibliographic research, searching for medical information)
- Other

if 'Other', please specify:

Question 8c: If you don't use AI, or only rarely, why?

(This question appears if the answer to Question 8 is 'No' OR if the answer to Question 8a is 'Never' or 'Rarely') (multiple answers allowed)

- I don't feel the need
- I'm not interested (it doesn't appeal to me or I don't see its value)
- I'm afraid AI will replace me (replace my job)
- I haven't been trained in how to use it (I don't know how to use it effectively)
- I don't have time to learn how to use it (other priorities, heavy workload)
- I'm worried about errors, hallucinations or bias in the AI's responses (unreliability).
- I am unable to interpret the AI's results or critically analyze the data provided by the AI
- I prefer to rely on traditional methods (teachers, books, courses, etc.).
- AI is too complex or difficult for me to use (lacks intuitiveness, technical jargon).
- I am concerned about data protection and privacy (I do not want to share information)
- I have ethical concerns about its use in medicine (impact on clinical reasoning, risk of intellectual laziness).
- I do not have access to the necessary AI tools (access restricted by my university or institution, or personal cost required).

I believe that the social and environmental costs of its use are too high (social and environmental responsibility)

I do not know

Other, please specify _____

Question 9: Have you ever taken an AI-related training course (only one answer allowed)?

Yes

No

In the following section, we will focus on the use of AI in your professional practice.

Question 10: For each category, please specify for which activity(ies) you use AI (multiple choices are allowed):

For clinical practice	<input type="checkbox"/> Screening	<input type="checkbox"/> Dermoscopy	<input type="checkbox"/> Imaging	<input type="checkbox"/> Therapeutic (prescription support, writing prescriptions, etc.)	<input type="checkbox"/> Patient information	<input type="checkbox"/> I do not use AI for clinical practice
For research	<input type="checkbox"/> Publication (assistance with article writing, bibliographic research, etc.)	<input type="checkbox"/> Call for proposals (drafting, summarising, translation, etc.)	<input type="checkbox"/> Statistical analysis			<input type="checkbox"/> I do not use AI for research
For training (learning)	<input type="checkbox"/> Requests for simplified, accessible or in-depth explanations	<input type="checkbox"/> Simulation or educational games, quizzes	<input type="checkbox"/> creation of worksheets and educational content	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> I do not use AI for training
For teaching (to train others)	<input type="checkbox"/> Writing exam questions	<input type="checkbox"/> Writing course content	<input type="checkbox"/> Creating visuals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> I don't use AI for teaching

For administrative tasks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
	Writing emails, letters	Writing consultation reports or recording consultations	Assistance with coding	Accounting support		I do not use AI for administrative tasks
Other: specify	:					

Question 11: How would you rate your level of confidence in the answers provided by AI (give a score between 1 and 10: 1 not at all confident and 10 extremely confident)?

--	--

Question 11a: How would you rate your level of confidence in the answers provided by AI, depending on the type of task (give a score between 1 and 10: 1 not at all confident and 10 extremely confident, or not concerned)?

For clinical practice		
For research		
For training and/or teaching		
For administrative tasks		

Question 11b: How would you rate your ability to understand and use the responses provided by the AI (give a score between 1 and 10: 1 no understanding or use possible and 10 full understanding and extremely reliable)?

--	--

Question 11c: Do you find the responses generated by AI understandable and useful in your practice (give a score between 1 and 10: 1 - incomprehensible and unusable and 10 perfectly understandable and usable)?

--	--

Question 12: Do you use tools for interpreting AI (explainable AI) (only one answer allowed)?

- Yes
- No
- I don't know these tools

Question 13: What AI tools do you use in your professional practice? (for clinical practice, research, training, teaching...) to be as exhaustive as possible, multiple answers allowed)

AI tools	For clinical practice	For research	For training	For teaching	For administrative tasks	I do not use this tool	I don't know this tool
<input type="checkbox"/> ChatGPT (Open AI)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Gemini	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Le Chat (Mistral AI)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Claude	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Copilot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Open evidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> LMARENA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> DeepL (DeepL write...)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Rayyan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Covidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Gamma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Perplexity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Deepseek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Midjourney	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Consensus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Pulse Life	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Nabla copilot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> DeepScribe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ELICIT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Mypubli	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Mamouth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> TONIC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Question 14: You can use the field below to list any AI tools you use that are not included in the list above (please specify whether you use them for clinical practice, research, training, teaching or administrative tasks?)

Question 15: Which of the following AI-related topics are of concern to you?

	Strongly agree	Agree	neither agree nor disagree	Disagree	Strongly disagree
You are concerned about the reliability of the data produced					
You are concerned about the security of the data you send					
You are concerned about the environmental impact of using AI					
You are concerned about the ethical issues raised by the use of AI					
You are concerned about equal access to tools (paid platforms, etc.)					
You are concerned about training in AI tools					
You are concerned about the role of AI in education/training					
You are concerned about the role of AI in clinical decision-making					
You are concerned about the replacement of practitioners by AI					
You are concerned about the risk of being forced to work with AI, of becoming dependent on it or subject to it					
You are concerned about administrative staff (secretaries, etc.) being replaced by AI					

You are concerned about the loss of skills or knowledge that may be linked to the prolonged use of AI					
You are concerned about the personal cost required for access					

Question 16: What measures would you like to see put in place to promote better use of AI in your practice?

(Multiple answers allowed)

- None, as I do not wish to use AI in my practice
- Specific training on AI tools useful in clinical practice
- Specific training on AI tools useful for my research activities
- Specific training on AI tools useful for my own training or for teaching
- Specific training on AI tools useful for administrative tasks
- Information sessions on the risks associated with the use of AI in practice and on ways to prevent them
- Regulation of AI by public authorities, based on risks and/or educational or health benefits (following a scientific assessment)
- Regular updates on new AI tools that may be useful to me
- A clear framework on the authorised and unauthorised uses of AI in practice
- Recommendations on data protection and confidentiality
- Training on tools for interpreting AI (explainable AI)
- Other (please specify) : _____