

## CI601 AIGuard Log

**21/11/2024**

Initially thought that the application should exit after any of the values exceed 1 and issue a SEC, but upon further reflection decided that the application should continue anyway to confirm with certainty that the patient needs an SEC.

Managing state and remembering values might prove an issue as the problem becomes: do I redirect users to the same page and keep a JS script running constantly keeping track of the values or do I take the form approach?

Might need to rethink using frameworks and consider switching back to pure html css and js as it might be overkill for the problem at hand

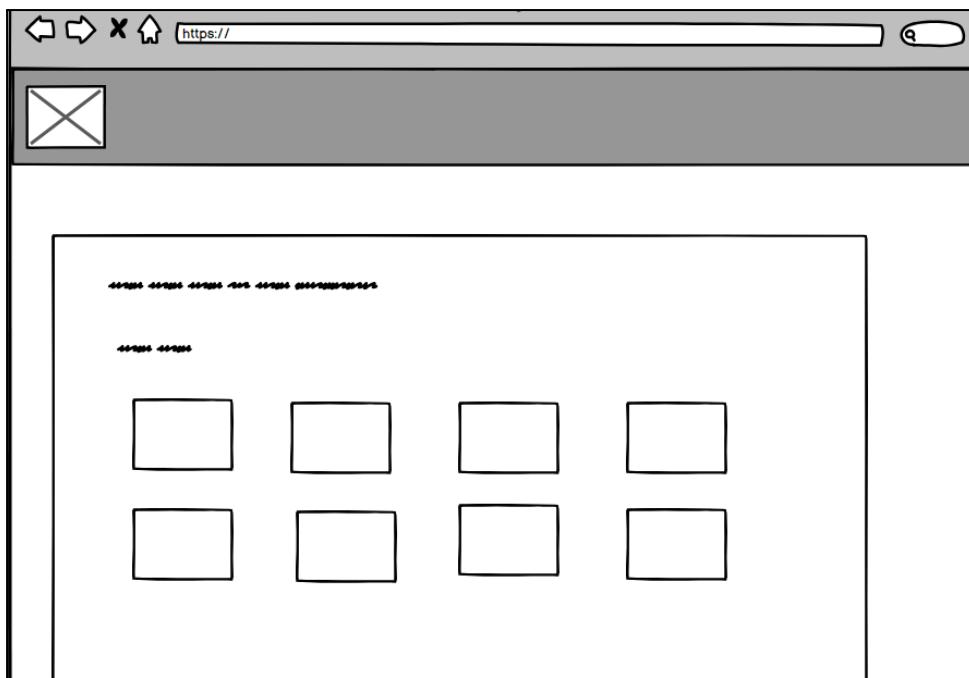
**25/11/2024**

Would the target audience prefer visual clarity over speed?

For oral intermittent that takes user' selected glucocorticoid, would it be better to show these glucocorticoids in a card like format or a list /table that they can select their chosen glucocorticoid and simply pick yes or no from a dropdown

Intermittent	Select glucocorticoid	Enter Yes / No		
Betametasone	≥ 3 courses within last 12 months of at least 7 days of ≥ 5mg ?		If no: Enter another steroid preparation	If Yes: Steroid Emergency Card and for 12 months after the last dose. Patient should be given cover with hydrocortisone if admitted to hospital unwell or invasive procedure <a href="#">Check to see if sick day rules advice needed</a>
Betametasone	≥ 3 courses within last 12 months of at least 7 days of ≥ 6mg		If no: Enter another steroid preparation	If Yes: Steroid Emergency Card and for 12 months after the last dose. Patient should be given cover with hydrocortisone if admitted to hospital unwell or invasive procedure <a href="#">Check to see if sick day rules advice needed</a>
Budesonide	≥ 3 courses within last 12 months of at least 7 days of ≥ 12mg		If no: Enter another steroid preparation	If Yes: Steroid Emergency Card and for 12 months after the last dose. Patient should be given cover with hydrocortisone if admitted to hospital unwell or invasive procedure <a href="#">Check to see if sick day rules advice needed</a>
Deflazacort	≥ 3 courses within last 12 months of at least 7 days of ≥ 48mg		If no: Enter another steroid preparation	If Yes: Steroid Emergency Card and for 12 months after the last dose. Patient should be given cover with hydrocortisone if admitted to hospital unwell or invasive procedure <a href="#">Check to see if sick day rules advice needed</a>
Dexamethasone	≥ 3 courses within last 12 months of at least 7 days of ≥ 4mg		If no: Enter another steroid preparation	If Yes: Steroid Emergency Card and for 12 months after the last dose. Patient should be given cover with hydrocortisone if admitted to hospital unwell or invasive procedure <a href="#">Check to see if sick day rules advice needed</a>
Dexamethasone	Repeated courses as antiemetic regimen		If no: Enter another steroid preparation	If Yes: Steroid Emergency Card and for 12 months after the last dose. Patient should be given cover with hydrocortisone if admitted to hospital unwell or invasive procedure <a href="#">Check to see if sick day rules advice needed</a>
Dexamethasone	Course for severe COVID of > 10 days		If no: Enter another steroid preparation	If Yes: Steroid Emergency Card and for 12 months after the last dose. Patient should be given cover with hydrocortisone if admitted to hospital unwell or invasive procedure <a href="#">Check to see if sick day rules advice needed</a>
			If no: Enter	If Yes: Steroid Emergency Card and for 12 months after the last dose.

(Card approach where each card is a glucocorticoid that takes user to separate page to answer question)



(List / tabular approach)

A wireframe diagram of a web form. At the top is a table with five rows and four columns. Each cell in the table contains a placeholder text "....." and a "ComboBox" input field with a dropdown arrow. Below the table is a large empty rectangular area. In the bottom right corner of this area is a small rectangular button labeled "Finished".

HAVE TOP LEVEL DIAGRAM

**05/12/2024**

Found out that react router dom is used instead of express js for navigation as express is primarily backend. Watched tutorial and implemented basic navigation to pages.

<https://www.youtube.com/watch?v=TWz4TjSssbg>

## **17/01/2025**

Returned to work after long break, had to familiarise myself with environment and code  
Currently at Q1 where list of glucocorticoids is presented to user, need to find way to format lists so it's presentable

looking at ways to store and use questions for formatting via card to be more robust and so can add more questions in future easier if needed, need to finish adding all questions before continuing development of routes

Expected finish date for this task 19/01/2025

## **18/01/2025**

had to stop and think if i'm over engineering storing questions in a JSON file as was confused as what can qualify as a "question" as tables are present and if putting tabular data in json is appropriate as user will use tabular data and fill certain fields  
Also need to check why some glucocorticoids are repeating in q1

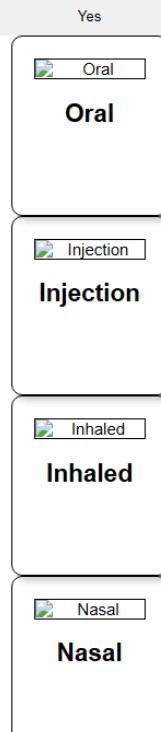
## **19/01/2025**

oral and injection routes fully added to JSON file and ready to integrate

23/01/2025

attempted to use already existing card component to generate route options but using it this way presents overhead and can be detrimental in future need to consider if a seperate component is needed for this as it needs to be rendered after user clicks yes to Q2

**Please enter the glucocorticoids taken in order of the routes in the order shown**



**Please enter the glucocorticoids taken in order of the routes in the order shown**

Oral  
Injection  
Inhaled  
Nasal  
Topical  
Rectal  
Eye

Yes

No

```
<button class="button">Yes</button>
▼ <div> == $0
  <div>Oral</div>
  <div>Injection</div>
  <div>Inhaled</div>
  <div>Nasal</div>
  <div>Topical</div>
  <div>Rectal</div>
  <div>Eye</div>
  ...
```

## 24/01/2025

encountered problem with un rendering the yes no buttons after user selects yes to q2, was thinking of using react states and using && operator but after research found out it's bad practice

<https://react.dev/learn/conditional-rendering>,

<https://www.crocoder.dev/blog/react-conditional-rendering/#the-crocdemo-component>

## 27/01/2025

stuck on whether to approach oral page for the continuous route if table or form is better, also stuck on how react handles global values as need to check across three different routes if value exceeds 1 for calculations (oral, injection,inhaled, rest are yes/no questions)

Upon further reflection I decided form is better route as it solves having to create additional submit functionality for table version and can make it more reusable

## 28/01/2025

stuck on how to implement json data into form such that a reusable form component that can be used regardless of if route is continuous or intermittent as they have different input types and not sure how to get json data into it without too much messy code

## 02/02/2025

still stuck on how to implement form component, requires additional thinking and as such I devised a POA ( plan of action) to help me understand the problem and break it down

What needs to be done:

Need to grab glucorticoid and its respective values and duration from JSON file and there are multiple objects/glucorticoids

need to generate forms and pass the values to it as the label/question

if route chosen is intermittent an additional duration piece of data is shown

intermittent route is yes/no options

continuous is user input (must be integers only so need to implement validation)

on form submission need to take user input and redirect to respective pages( if over 1 then automatically send to needs SEC page for continuous) if user answers yes to two questions that then needs sec. else redirect user to choose another route page.

## 04/02/2025

got basic form done, considering if using a framework would be better as am expecting code to get uglier as more logic is implemented e.g. if value exceeds 1 redirect user back to oral page,

Also weighing options on global state management as need to track value of sec required

Beclometasone 12123  
 Betamethasone Enter daily dose  
 Budesonide Enter daily dose  
 Deflazacort Enter daily dose  
 Dexamethasone Enter daily dose  
 Hydrocortisone Enter daily dose  
 Methylprednisolone Enter daily dose  
 Prednisolone Enter daily dose

Submit

```
{showContinious ? (
  <div>
    <form>
      <fieldset>
        {oralData.map((oral) =>
          <div key={oral.id}>
            <label>{oral.glucocorticoid}</label>
            <input type="number" placeholder="Enter daily dose" />
          </div>
        )}
        <Button type="submit" btnText="Submit" />
      </fieldset>
    </form>
  </div>
) :
```

## 08/02/2025

after watching a tutorial (<https://www.youtube.com/watch?v=CT-72ITXdPg>) I realised I might have taken the wrong approach to the forms. This is because I am iterating over an array to create my form elements. However this comes with drawbacks such as not being able to provide distinct names for them. To obtain user data I needed to make use of useState to keep track of user inputted data and redirect them to the respective page e.g. >1 = needs sec page <1 back to route page to choose another route

## 09/02/2025

continuing development on form, attempting to use state with a single useState hook results in the same values being used

```

<form>
  <fieldset>
    {oralData.map((oral) =>
      <div key={oral.id}>
        <label>{oral.glucocorticoid}</label>
        <input type="float"
          value={dosageValue}
          onChange={(e) =>
            setShowDosageValue(e.target.value)
          }
          placeholder="Enter daily dose" />
      </div>
    )}
    <Button type="submit" btnText="Submit" />
  </fieldset>
</form>

```

S the patient taking oral ste

Beclometasone beclometasone  
 Betamethasone beclometasone  
 Budesonide beclometasone  
 Deflazacort beclometasone  
 Dexamethasone beclometasone  
 Hydrocortisone beclometasone  
 Methylprednisolone beclometasone  
 Prednisolone beclometasone

Submit

<sup>^</sup> in above image I typed in beclometasone for the first field only however due to the useState hook having the same value for all fields it resulted in the rest of fields having the same input. This presents issues since mainly fields cannot contain unique values making it impossible to obtain useful information.

Need to find a way to generate unique values without having to create multiple useState lines like this" const [dosageValue, setShowDosageValue] = useState("");"  
 Potential solutions are creating a unique id and incrementing it for the .map() method

<https://stackoverflow.com/questions/68674668/mapping-usestate-array-into-input-fields>  
<https://react.dev/learn/updating-arrays-in-state>  
<https://react.dev/learn/updating-objects-in-state>

React docs has a solution where they create a counter and increment it

```

setArtists([
  { id: nextId++, name: name },
  ...artists // Put old items at the end
]);

```

However this only works for one input and doesn't work for my multiple inputs

Maybe need to watch this video <https://www.youtube.com/watch?v=gtBtB-qJW6I> but might be outdated

## 10/02/2025

Relooked at gantt chart realised sprint 1 had finished at 13 jan 2025, most tasks completed without realising, only missing Unit testing & research, currently on sprint 2 which according to gantt chart should finish March 10 , 2025

Need to go back and fill out completion dates of tasks

Found out way to use useState with multiple mapped input fields , this provides me a way to access user input and make calculations for continuous way and redirect them to user on submit

```
const [dosageValue, setShowDosageValue] = useState({});
```

Firstly I create an empty object to hold the state as i want to hold the values of multiple dosage vals, one for each id/ glucocorticoid

```
{oralData.map((oral) =>
  <div key={oral.id}>
    <label>{oral.glucocorticoid}</label>
    <input type="float"
      name = {oral.id}
      value={dosageValue[oral.id] ?? ''}
      onChange={(e) =>
        setShowDosageValue((prevState =>({
          ...prevState,
          [e.target.name]: e.target.value,
        })))
      }
      placeholder="Enter daily dose" />
  </div>
)}
```

Then I iterate over the objects via the map method and create labels and inputs for each glucocorticoid (input type is not supposed to be float as it does not exist and should really be text with custom handling or even just number with step = 0.01 for example)

Then I give the name of each input the respective id and the value is controlled by the dosageValue[oral.id] and falls back to an empty string if undefined or empty

In the event handler(onChange) setShowDosagevalue( should be setDosageValue instead) is the state update function prev state represents the object's state before the change and the ...prevstate copies all the key value pairs from the old/previous state then e.target.name (oral.id) is set to the new value of the input/number .

## 11/02/2025 (POI)

Beginning development on getting user input and dividing by its continuous value just to see how it works before going deeper into redirecting them to a page

**Encountered bug that might be critical** of js rounding up the values in some rare situations compared to excel spreadsheet  
example:

Beclometasone625	0.5
Betamethasone750	0.83

$0.5 / 625 + 0.83 / 750 = 0.0019066666666666666666666666666667$  (excel + windows calc)  
Js = 0.0019066666666666668

This is important as if a patient were to be shown to not need a card because of this it would be detrimental

## 12/02/2025

Currently figuring out how to store visited pages such that if a user does not exceed 1 in oral - continuous to be redirected to the routes page with the routes already shown ( oral can be hidden if needed) This can be done by using Context

(<https://react.dev/reference/react/createContext>)

Watching tutorials to understand how it works and learning what needs to be tracked as well  
Things to track

- Chosen routes so if one route is already filled out it can be removed/ hidden from route page and show complete button on route page ( no more glucocorticoids)

Additionally going to watch tutorials on Tailwind as UI is looking very poor as of 12/02/2025

[https://www.w3schools.com/react/react\\_usecontext.asp](https://www.w3schools.com/react/react_usecontext.asp)

[https://www.youtube.com/watch?v=\\_HdrLsyAdJg](https://www.youtube.com/watch?v=_HdrLsyAdJg)

<https://www.youtube.com/watch?v=HYKDUF8X3ql>

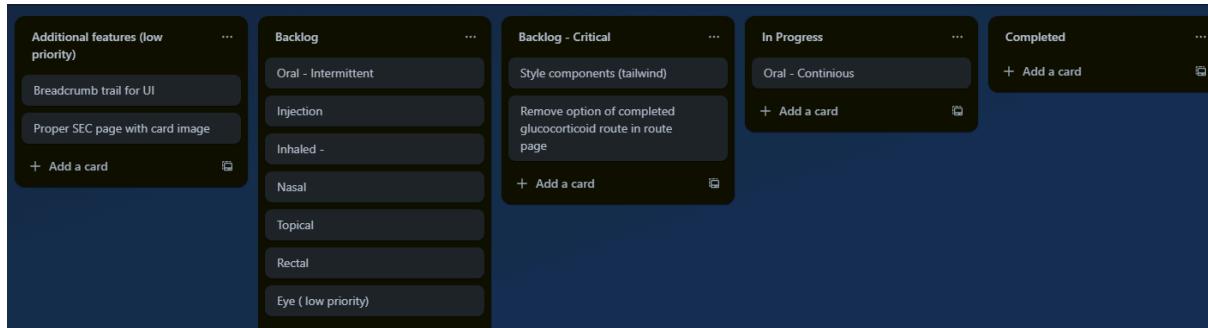
<https://www.youtube.com/watch?v=FpNfvbNYPsg>

After revisiting the spreadsheet, thinking of how to approach an intermittent way to the oral route, Should I use a form again with combo boxes? If at any point the answer is yes user is redirected to sec page, if not redirect then to route page and remove oral as option need to consider if **Dexamethasone** needs to have all courses shown at all times

Considering what needs to be done first, addressing the issue of removing the route after completion in main route page or completing all other routes first

Created basic trello just to keep track of what needs to be done easier instead of visiting log every time

<https://trello.com/b/hSEFVTyt/aiguard>



Devised questions to ask for meeting at 13/02/2025

In Oral:

Does the value obtained by calculations need to be stored / tracked if less than 1 such that it can be used with inhaled route to calculate if patient needs sec?

What does "may want to add up courses of sep. steroids" mean?  
Does Dexamethasone need to show all of the courses?

In Inhaled:

Double check if the only difference between yes and no for the question  
"Are the inhalers being used with any other form of of glucocortocid treatment?"  
are the values the dosage is divided by,

Also what is the Enter name of inhaler? Do I need to consider that aswell?  
If they input their own inhaler what do I calculate their intake with?

13/02/2025

Updating ui with tailwind, attended meeting with supervisor where we discussed what research can be done with this project,

Meeting notes:

Research:

Bit confused on what I need to research as there are not really any other "competitors"

A:

Research into publicly presenting health information  
research language between professionals and how language is tailored to general audience  
research standard for writing health advice <https://service-manual.nhs.uk/content/how-we-write#:~:text=We%20use%20language%20that%20our,9%20to%2011%20years%20old>.

technical research:

react js etc tutorials

academic research:

reading papers on problem area

Gantt chart:

How can I show delays?

A:

original plan show change, explain reasoning

Planning to revisit gantt chart to see where I'm at as need to consider if project plan needs to be redrawn to consider for large break in December to mid January

Main tasks that can be incorporated into tasks:

- Research
  - Primary(will be limited as not a lot of options for topic at hand)
  - Secondary
  - Technical
  - Research on how application is written towards users
- Diagrams
  - Architecture diagrams
  - Hi-fi diagrams
- Technical development
  - Development of route pages
  - Navigation and traversal of pages in required order
  - SEC / NOSEC pages
  - W3C Compliance check
  - Unit testing
  - Implement additional features

16/02/2025 (POI plan redraw)

Initial sprint plan :

Task Name	Progress	Start date	End date	Weeks									
				2	4	8	10	12	14	16	18	20	24
Sprint 1													
Identify Requirements	100%	25-Oct	08-Nov										
Design UI (wireframes)	100%	21-Nov	25-Nov										
Perform research	100%	17-Nov	19-Nov										
Setting up development environment & frameworks	100%	25-Nov	28-Nov										
Develop basic question flow	50%	14-Nov	05-Dec										
Unit Testing	0%												
Sprint 2													
Design architecture diagrams													
Implement Glucocorticoid Routes/pages													
Develop and implement sec requirement logic													
Intergartion testing													
Ethical and legal analysis													
W3C compliance review													
Sprint 3													
Hardening													
Requirements review against produced software artefact													
Final report write-up													
Hand-in													

Task Name	Progress	Estimated Start date	Actual Start date	End date	Weeks									
					1	2	3	4	5	6	7	8	9	10
Sprint 1														
Design architecture diagrams / hi - fi wireframes	50%	17-Feb	17-Feb											
Implement Glucocorticoid Routes/pages	45%	17-Feb	17-Feb											
Primary,Secondary,Technical Research	25%	17-Feb	17-Feb											
Intergartion testing	45%	17-Feb	17-Feb											
Ethical and legal analysis	10%	17-Feb	17-Feb											
Sprint 2														
Hardening	0%	07-Apr												
W3C compliance review	0%	07-Apr												
Review if additional features can be added	0%	14-Apr												
Requirements review against produced software artefact	0%	07-Apr												
Final report write-up	0%	07-Apr												
Hand-in	0%	30-Apr												

New Sprint plan:

Two 5 week sprints

Reasoning for change:

I had to take a large break due to submitting 2 other modules with similar deadlines and as a result was unable to keep within my sprint boundaries and tasks were delayed so much that I inadvertently went into sprint 2's time by the time I returned to continue working. Additionally this plan was considering the interim report to be part of the sprint 1 stage and as such tasks such as "perform research" and "design UI wireframes" were kept minimal and not made to the standard I would like. Furthermore, redrawing the plan would help keep my goals aligned and give me a clearer direction on what needs to be done.

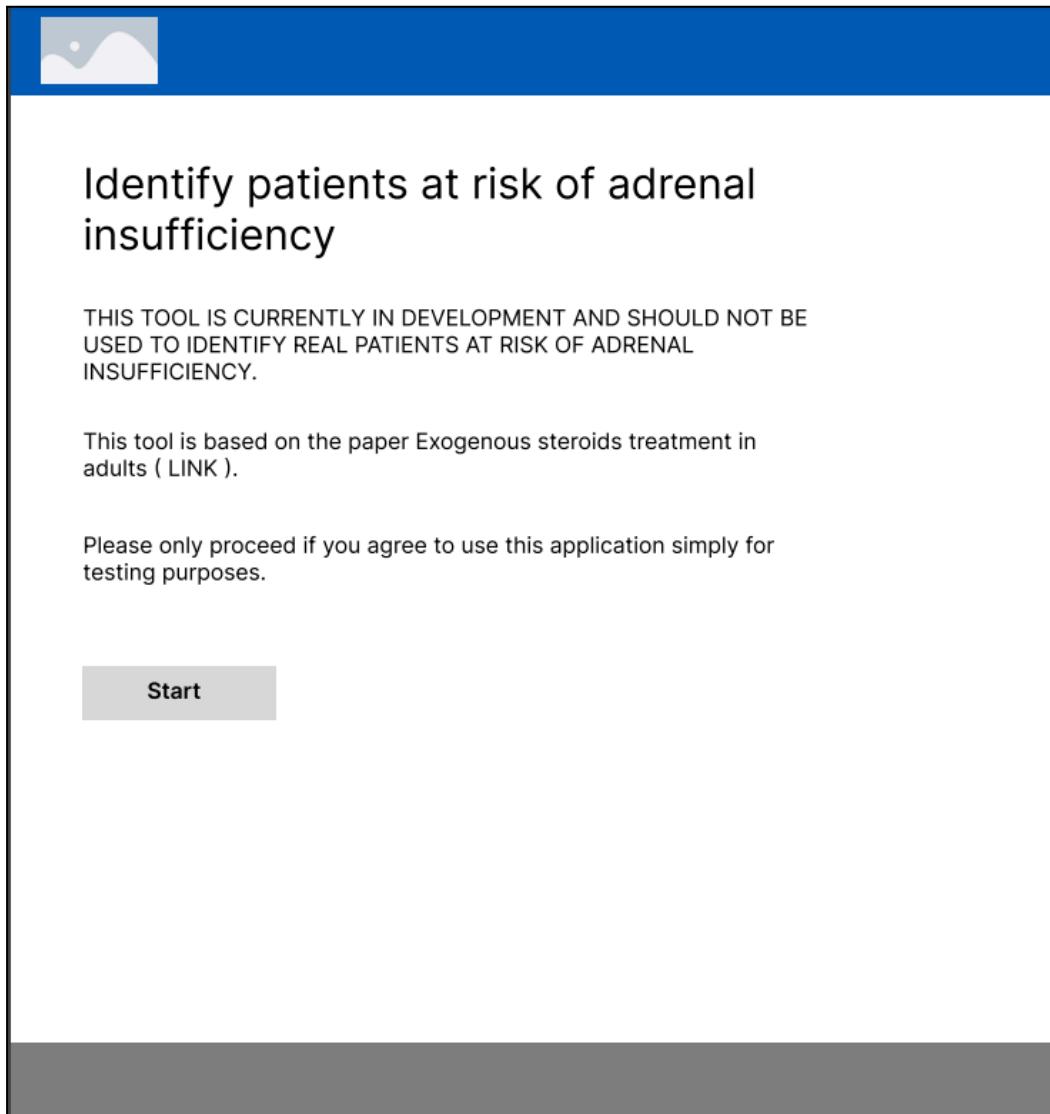
23/02/2025

Took a small break and forgot to fill in the log for the meeting on wednesday 1, as I was thinking about how to approach the intermittent section of the oral route. After the meeting on Wed 19/02/2025, I found out that the way I expected to structure the intermittent section would slightly differ. I originally thought I should just explicitly show the duration of courses e.g. "" $\geq$  3 courses within last 12 months of at least 7 days of  $\geq$  5mg"" However after the discussion in the meeting I had come to realise they preferred for the users to be able to input their own amount of courses for each steroid and then tally up additional steroid courses to then check if it exceeds 3 courses.

Today I additionally drafted up hi-fi wireframes for the entire application (in hi-fi folder)

Example of wireframes:

Start:



Q1:



Has the patient been prescribed any exogenous glucocorticoids at any dose and any of the following?

- Atazanavir
- Darunavir
- Fosamprenavir
- Ritonavir (+/- lopinavir)
- Saquinavir
- Tipranavir
- Itraconazole
- Ketoconazole
- Voroconazole
- Posaconazole
- Clarithromycin — long term courses only

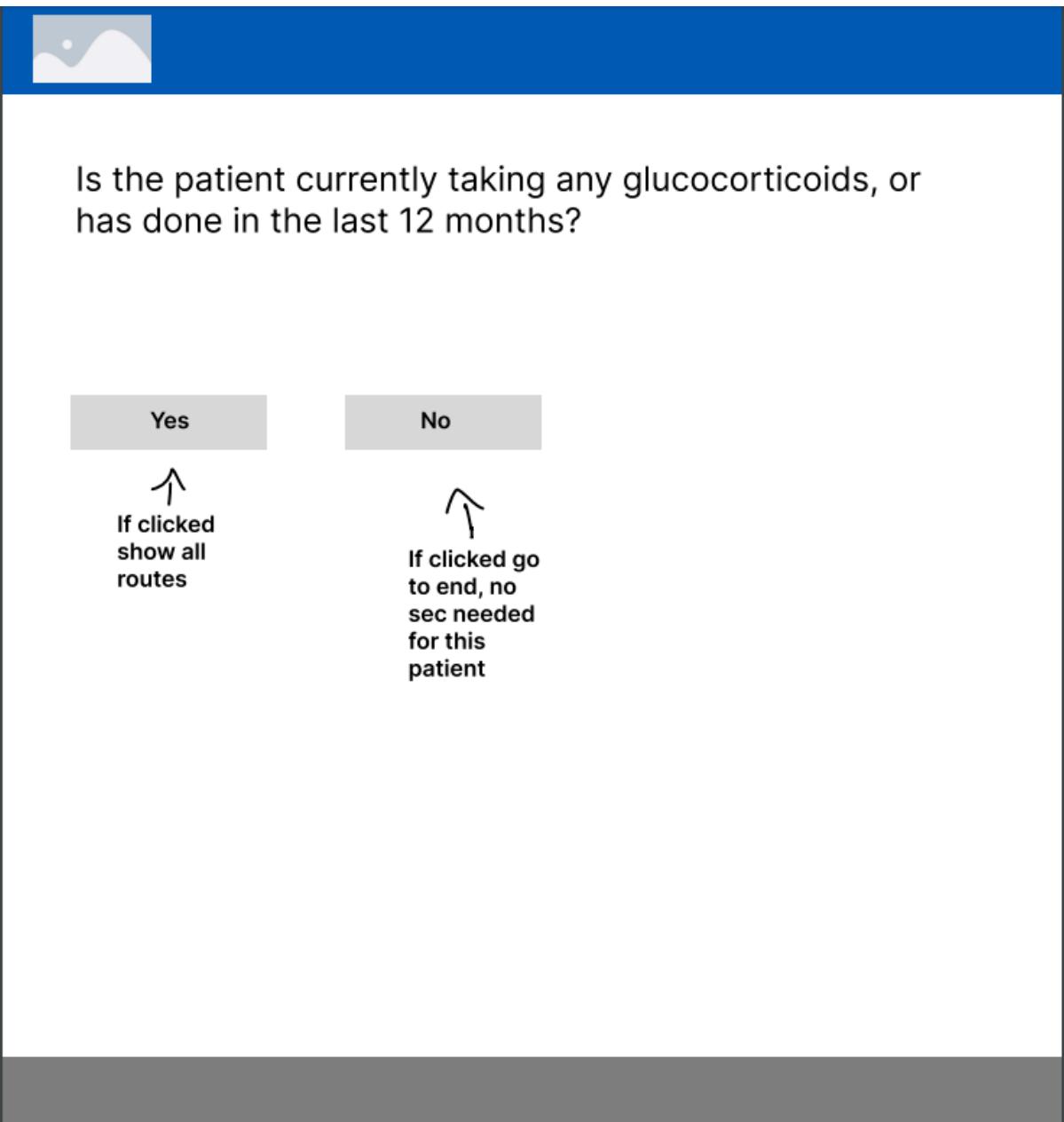
If clicked go to end page with SEC outcome

If clicked go to routes page

Yes

No

Routes page Initial question:



The image shows a smartphone screen displaying a medical application. At the top, there is a blue header bar with a small white icon of a sun and clouds on the left. Below the header, the main content area has a white background. In the center, there is a question: "Is the patient currently taking any glucocorticoids, or has done in the last 12 months?". Below the question are two grey rectangular buttons with black text: "Yes" on the left and "No" on the right. To the left of the "Yes" button, there is a small upward-pointing arrow and the text "If clicked show all routes". To the right of the "No" button, there is a small upward-pointing arrow and the text "If clicked go to end, no sec needed for this patient". A thick grey horizontal bar runs across the bottom of the screen.

Is the patient currently taking any glucocorticoids, or has done in the last 12 months?

Yes

No

↑  
If clicked  
show all  
routes

↑  
If clicked go  
to end, no  
sec needed  
for this  
patient

Route page yes click:

The screenshot shows a mobile application interface for selecting glucocorticoid routes. At the top is a blue header bar with a small white icon. Below it is a white content area with a light gray background. A curved arrow on the right side points from the text "On click take user to respective route" down to the list of routes.

Please enter the glucocorticoids taken in the order of the routes shown

- Oral
- Injection
- Inhaled
- Nasal
- Topical
- Rectal
- Eye

No further glucocorticoids

On click take user to respective route

Only shows after at least 1 route completed

Oral Initial question:

The image shows a smartphone screen displaying a medical application. At the top, there is a blue header bar with a white cloud icon on the left. Below the header, the main content area has a white background. In the center, the text "Is the patient taking oral steroids intermittently?" is displayed in a black font. Below this text are two grey rectangular buttons with black outlines: the left button contains the word "Yes" and the right button contains the word "No". Arrows point from each button to their respective function descriptions: an arrow points up from the "Yes" button to the text "If clicked show intermittent section", and another arrow points up from the "No" button to the text "If clicked show continuous section".

Is the patient taking oral steroids intermittently?

Yes

↑  
If clicked  
show  
intermittent  
section

No

↑  
If clicked  
show  
continuous  
section

Oral Intermittent:



Please answer yes or no to the following:

Beclometasone	≥ 3 courses within last 12 months of at least 7 days of ≥ 5mg ?	<input type="radio"/> Yes	<input type="radio"/> No
Betametasone	≥ 3 courses within last 12 months of at least 7 days of ≥ 6mg	<input type="radio"/> Yes	<input type="radio"/> No
Budesonide	≥ 3 courses within last 12 months of at least 7 days of ≥ 12mg	<input type="radio"/> Yes	<input type="radio"/> No
Deflazacort	≥ 3 courses within last 12 months of at least 7 days of ≥ 48mg	<input type="radio"/> Yes	<input type="radio"/> No
Dexamethasone	≥ 3 courses within last 12 months of at least 7 days of ≥ 4mg	<input type="radio"/> Yes	<input type="radio"/> No
Dexamethasone	Repeated courses as antiemetic regimen	<input type="radio"/> Yes	<input type="radio"/> No
Dexamethasone	Course for severe COVID of > 10 days	<input type="radio"/> Yes	<input type="radio"/> No
Hydrocortisone	≥ 3 courses within last 12 months of at least 7 days of ≥ 120mg	<input type="radio"/> Yes	<input type="radio"/> No
Methylprednisolone	≥ 3 courses within last 12 months of at least 7 days of ≥ 32mg	<input type="radio"/> Yes	<input type="radio"/> No
Prednsolone	≥ 3 courses within last 12 months of at least 7 days of ≥ 40mg	<input type="radio"/> Yes	<input type="radio"/> No

Finished



If any answers are yes, take user to end page with sec otherwise mark route as done and send back to routes

Oral Continuous:

The screenshot shows a mobile application interface for entering daily medication doses. At the top, there is a blue header bar with a small white icon. Below the header, a message reads "Please enter the daily dosage below". A list of eight medications is presented, each followed by a "Total daily dose:" input field. A curly brace on the right side groups these input fields under the label "user input". At the bottom left is a "Submit" button. To the right of the "Submit" button is a text block with instructions: "If inputted values / cont >= 1 take user to end page with sec Otherwise take back to routes and mark route as done".

Beclometasone	Total daily dose:
Betametasone	Total daily dose:
Budesonide	Total daily dose:
Deflazacort	Total daily dose:
Dexamethasone	Total daily dose:
Hydrocortisone	Total daily dose:
Methylprednisolone	Total daily dose:
Prednsolone	Total daily dose:

Submit

If inputted values /  
cont >= 1 take user to  
end page with sec  
Otherwise take back  
to routes and mark  
route as done

Injection:



Please answer yes or no to the following:

Dexamethasone	Taken as an antiemetic in oncology regimens, and for 12 months after stopping when future cycles are anticipated?	<input type="radio"/> Yes	<input type="radio"/> No
Dexamethasone	Taken as prolonged courses (>10 days) for the treatment of severe Covid-19?	<input type="radio"/> Yes	<input type="radio"/> No
Hydrocortisone	With any other glucocorticoid by any other route?	<input type="radio"/> Yes	<input type="radio"/> No
Hydrocortisone	Hydrocortisone: 3 or more injections within the last 12 months?	<input type="radio"/> Yes	<input type="radio"/> No
Methylprednisolone	With any other glucocorticoid by any other route?	<input type="radio"/> Yes	<input type="radio"/> No
Methylprednisolone	Methylprednisolone Injection: 3 or more injections within last 12 months	<input type="radio"/> Yes	<input type="radio"/> No
Triamcinolone	With any other glucocorticoid by any other route?	<input type="radio"/> Yes	<input type="radio"/> No
Triamcinolone	Trimacrinolone Injection: 3 or more injections within last 12 months	<input type="radio"/> Yes	<input type="radio"/> No

Finished



If any answers are yes, take user to end page with sec otherwise mark route as done and send back to routes

Inhaled:

The image shows a mobile application interface with a blue header bar containing a small sun icon. Below the header is a white content area. In the center, there is a question: "Are the inhalers being used with any other form of glucocorticoid treatment?". Below the question are two grey rectangular buttons with rounded corners: "Yes" on the left and "No" on the right. To the left of the "Yes" button, there is an upward-pointing arrow and the text: "If clicked show form content but use yesValues". To the right of the "No" button, there is an upward-pointing arrow and the text: "If clicked show form content but use noValues".

Are the inhalers being used with any other form of glucocorticoid treatment?

Yes

No

↑  
If clicked  
show form  
content but  
use  
yesValues

↑  
If clicked  
show form  
content but  
use noValues

Inhaled form content:

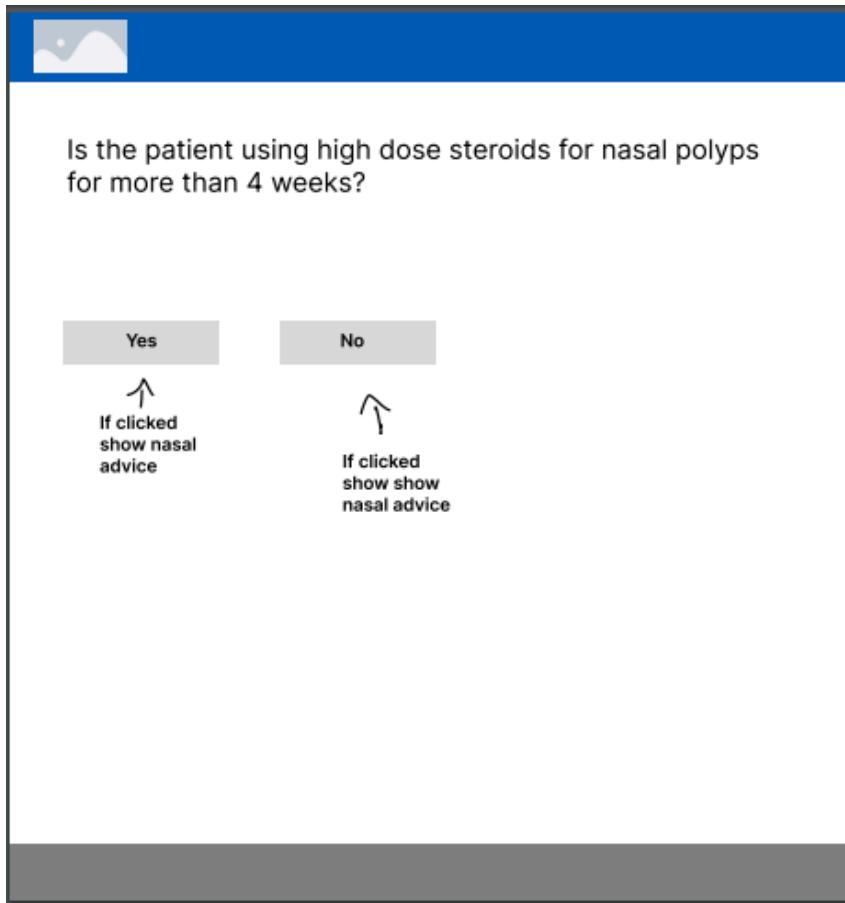
The screenshot shows a mobile application interface for managing inhaled glucocorticoid dosages. At the top, there is a blue header bar with a small icon on the left. Below the header, a white content area contains the following text: "Please enter the daily dosage below".

Glucocorticoid	Brand names	Total daily dose:
Beclometasone	Clenil®, Easihaler®, or Soprobec®	<input type="text"/>
Beclometasone extra fine	Qvar®, Kelhale® or Fostair®	<input type="text"/>
Budesonide		<input type="text"/>
Ciclesonide		<input type="text"/>
Fluticasone propionate		<input type="text"/>
Fluticasone furoate	Trelegy®, Revilar®	<input type="text"/>
Mometasone furoate		<input type="text"/>

A curly brace on the right side of the table groups the "Total daily dose:" fields, indicating they are user inputs dependent on previous answers. Below the table is a "Submit" button.

**Submit** ← If inputted values /  
cont >= 1 take user to  
end page with sec  
Otherwise take back  
to routes and mark  
route as done

Nasal:



Nasal Yes advice:



Please read the following:

A steroid emergency card may be appropriate, particularly if in combination with other glucocorticoids.

Consider whether patient needs cover with hydrocortisone if admitted to hospital unwell or invasive procedure.

Check to see if sick day rules advice needed

[Back to routes](#)

Nasal No advice:



Please read the following:

It is unlikely that a steroid emergency card is needed, but consider risk if in combination with other glucocorticoids

[Back to routes](#)

Topical:



Is the patient applying at least 200g a week of potent or very potent topical glucocorticoids?

Yes

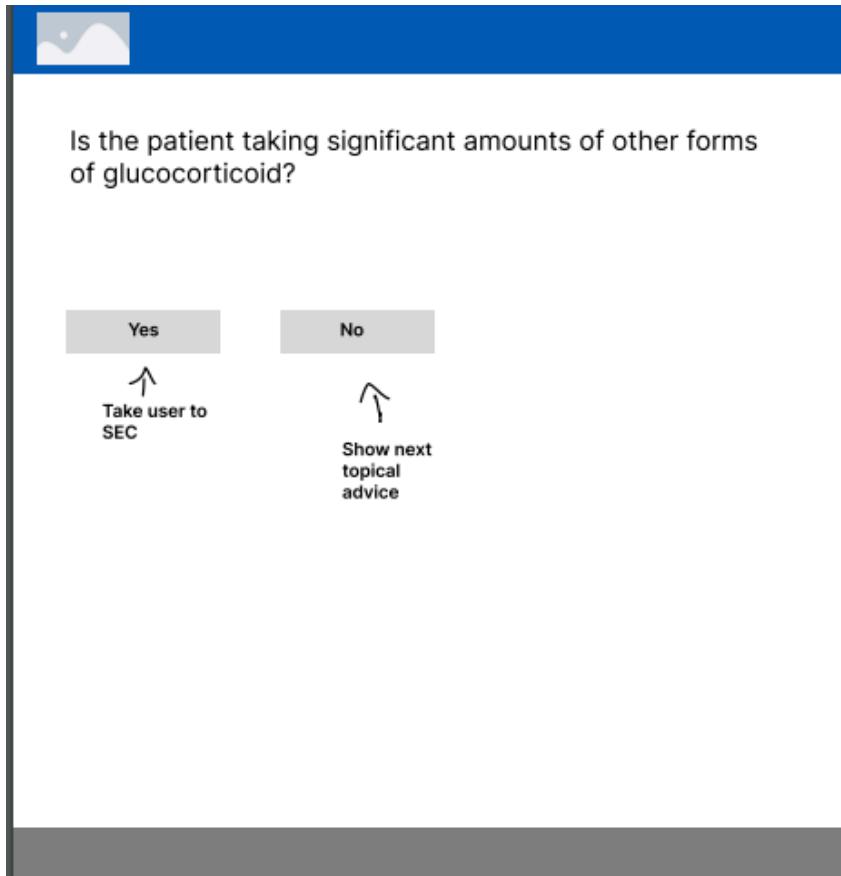
No

↑  
Take user to  
SEC

↑  
Show next  
question

Potent glucocorticoids table

Topical Q2:



A mobile-style application screen titled "Topical Q2". At the top is a blue header bar with a small logo icon. Below the header is a white content area. In the center of the content area is the question: "Is the patient taking significant amounts of other forms of glucocorticoid?". Below the question are two grey rectangular buttons: "Yes" on the left and "No" on the right. Arrows point from each button to their respective outcomes: an upward arrow from "Yes" points to the text "Take user to SEC", and an upward arrow from "No" points to the text "Show next topical advice". A dark grey footer bar is at the bottom of the screen.

Is the patient taking significant amounts of other forms of glucocorticoid?

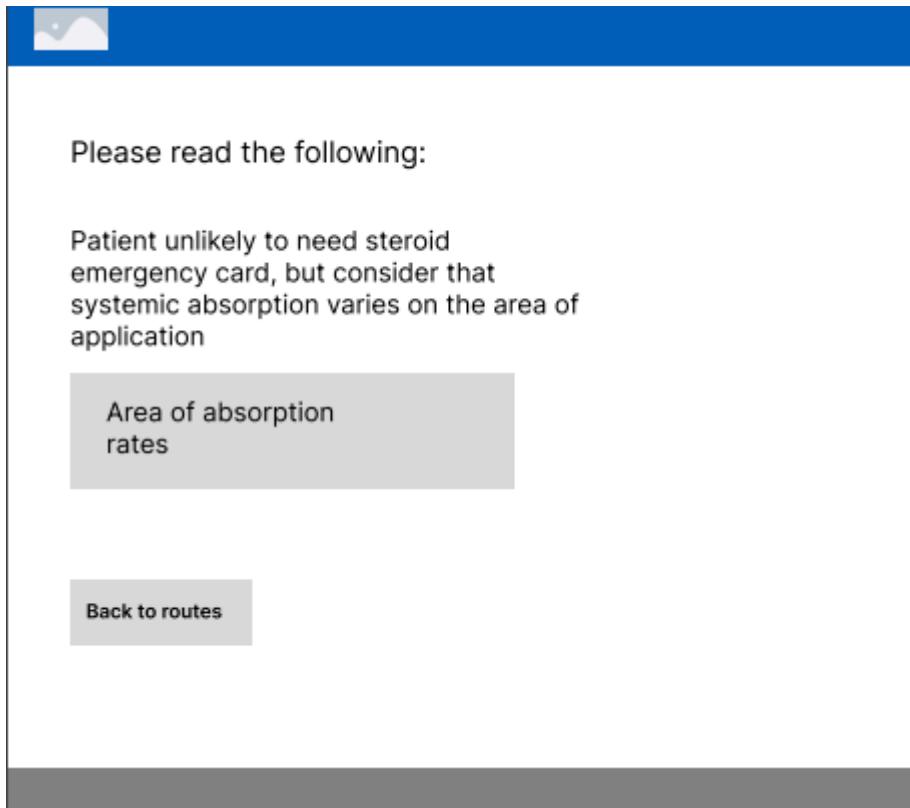
Yes

↑  
Take user to SEC

No

↑  
Show next topical advice

Topical advice:



A mobile-style application screen titled "Topical advice". It features a blue header bar with a logo icon. The main content area is white and contains the text "Please read the following:". Below this, there is a block of text: "Patient unlikely to need steroid emergency card, but consider that systemic absorption varies on the area of application". A grey rectangular button labeled "Area of absorption rates" is positioned below this text. At the bottom of the screen is a dark grey footer bar. A "Back to routes" button is located in the bottom-left corner of the white content area.

Please read the following:

Patient unlikely to need steroid emergency card, but consider that systemic absorption varies on the area of application

Area of absorption rates

Back to routes

Rectal:

The screenshot shows a mobile application interface. At the top is a blue header bar with a small logo on the left. Below the header is a white content area. In the top-left corner of the content area, there is a small icon of a sun and clouds. The main text in the center asks: "Is the patient using any of the following at more than 30g per month:" followed by a bulleted list: "- Budesonide enema or rectal foam" and "- Prednisolone rectal solution or suppositories". Below this text are two grey rectangular buttons with white text: "Yes" on the left and "No" on the right. Each button has an upward-pointing arrow icon above it. To the left of the "Yes" button, there is explanatory text: "If clicked patient at risk, redirect to end page with SEC requirement". To the right of the "No" button, there is explanatory text: "If clicked show show nasal advice". A thick grey horizontal bar runs across the bottom of the white content area.

Eye:

The screenshot shows a mobile application interface. At the top is a blue header bar with a small logo on the left. Below the header is a white content area. In the top-left corner of the content area, there is a small icon of a sun and clouds. The main text in the center reads: "Please read the following:". Below this, there is explanatory text: "Steroid emergency card is unlikely to be needed, but consider co-administration of glucocorticoids by other routes for final decision". At the bottom left of the white content area is a grey rectangular button with white text that says "Back to routes". A thick grey horizontal bar runs across the bottom of the white content area.

**Note from meeting I wrote down regarding this section / issue:**

*"If a patient has taken one glucocorticoid course they can take another but not necessarily at the same duration so a patient can take beclometasone for 1 or 2 courses but that does not warrant an sec however they can take another course of betamethasone that takes the total up to three which warrants an sec"*

This required me to rethink how I am going to approach this section and as of 23/02/2025 I am still unable to think of an effective way.

Approaches In mind so far as of 23/02/25:

- Create a form so users can input their own number of course for each steroid and then just add it up similar to how it was done in continuous
- Keep the way it is( explicitly showing max course duration e.g ask if they have had 3 courses or more for each glucocorticoid) but just have an additional field where they specify their courses taken

**Meeting notes (A: stands for answers)**

In Oral:  
Does the value obtained by calculations need to be stored / tracked if less than 1 such that it can be used with inhaled route to calculate if patient needs sec?

A: yes they do

reference the spreadsheet cell in code comments

What does "may want to add up courses of sep. steroids" mean?  
Does Dexamethasone need to show all of the courses?

A:  
If a patient has taken one glucocorticoid course they can take another but not necessarily at the same duration so a patient can take beclometasone for 1 or 2 courses but that doesn't warrant an sec however they can take another course of betamethasone that takes the total up to three which warrants an sec

In Inhaled:  
Double check if the only difference between yes and no for the question  
"Are the inhalers being used with any other form of glucocorticoid treatment?"  
are the values the dosage is divided by  
A: yes

Also what is the Enter name of inhaler? Do I need to consider that aswell?  
If they input their own inhaler what do I calculate their intake with?  
A: potentially design an input field that "autocomplete" users input with available inhalers, if their inputted inhaler does not exist tell user

Jennie Note:  
In route section ask user if they have taken the respective route because as of 19/02/25 users can click any route they want and just go to say intermittent without doing oral first and additionally need to consider after completing a route and coming back to main route page if should remove completed route as option or simply disable on click and grey it out / show checkmark

(23/02/2025 POI)

Additionally It came to my attention that in the continuous section inputting anything into the fields would trigger a re-render of the entire component

Please enter the dosage below	
<b>Beclometasone</b>	Enter daily dose
<b>Betamethasone</b>	123
<b>Budesonide</b>	Enter daily dose
<b>Deflazacort</b>	Enter daily dose
<b>Dexamethasone</b>	123123
<b>Hydrocortisone</b>	Enter daily dose
<b>Methylprednisolone</b>	Enter daily dose
<b>Prednisolone</b>	Enter daily dose
<input type="button" value="Submit"/>	

component rendered here  
component rendered here

However this is not just re - rendering the form but the entire page along with the header and footer component

As they are included as a child component from the parent component (oral)

To see this I made use of react dev tools and checked the profiler and it was in fact re rendering everything on any event change in the form

To solve this memo can be used <https://react.dev/reference/react/memo> , [https://www.w3schools.com/react/react\\_memo.asp](https://www.w3schools.com/react/react_memo.asp) however it doesn't seem to be affecting performance much as the footer and header are not really logic dependent and are pretty static. I plan to keep this in mind as if later on in the application I might need to make use of memos to address performance issues.

25/02/2025 (POI)

Currently implementing intermittent section, code is getting very messy and unmanageable alongside with issues regarding with UI

```
<div
  key={oral.id}
  className="flex flex-col sm:flex-row sm:items-center sm:space-x-4">
  <label
    className="mb-1 sm:mb-0 font-semibold text-black-700 w-full sm:w-1/3"
    >{oral.glucocorticoid}</label>
  <label>{oral.intermittentDuration}</label>
  <select className="w-full p-2 border border-gray-300 rounded focus:outline-none focus:ring-2 focus:ring-blue-500"
    value={durationValue[oral.id] ?? ''}
    onChange={(e) =>
      setDurationValue((prevState => ({
        ...prevState,
        [e.target.name]: e.target.value,
      })))
    }
    required
  >
    <option value = "" disabled>Select a course duration</option>
    <option value="1">1</option>
    <option value="2">2</option>
    <option value="3">3</option>
  </select>
```

Also with this I am finding myself repeating code as seen above with the map portion and it's just getting really cluttered. [Refer to commit "a22d18c" in github to see full code](#)

This is a direct result of mapping the JSON objects as fields and while it makes it more "maintainable" in theory e.g. if a certain glucocorticoid is not needed for whatever reason it can simply be removed from the JSON file and forms will be unaffected as it only renders what's available in the JSON file it seems to be presenting more issues than benefits. As of 25/02/25 I am going to attempt to fix it but if it gets more cluttered or requires ambitious / unnecessary changes I will rethink my approach and consider "hardcoding" where necessary.

Found a framework that really suits the problem and can be implemented relatively easily alongside added benefits such as inbuilt validation(to an extent),.

<https://www.react-hook-form.com/>

Used tutorial to help understand better

[https://www.youtube.com/watch?v=cc\\_xmawJ8Kg](https://www.youtube.com/watch?v=cc_xmawJ8Kg)

Created separate branch "**form-remaster**" to help distinguish process of thinking when reviewing at end instead of having to go back through 50 commits in one branch

Additionally Started legal and ethical analysis today as it's extremely important I have a good understanding of what can and cant be done with this project.

27/02/2025

Still continuing development of the oral page, getting really confused and stumbling a lot.  
I attempted to completely hard code everything e.g.

```
<form>
  <label Beclometasone />
  <input type = "number" step = "0.01" placeholder = "daily dose"/>

  <label Betamethasone/>
  <input type = "number" step = "0.01" placeholder = "daily dose"/>
  ...
</form>
```

But this got super messy and unmanageable before I even started, even with react hook form with the amount of glucocorticoids it became cluttered and especially with tailwinds where each input needed to be styled.

**I did not expect forms to be this finicky or potentially I am overthinking it, this might cause potential delays however with the deadline for the implementation of glucocorticoid pages being 31 march 2025 I think I can still make it**

The issue I'm encountering is i'm overthinking the form and need to break it down further although the form itself is not complex its the problem of managing states, getting the inputs of the form performing conditional checks to see which route was chosen ( cont or int) and also checking the values they submitted and checking if its over or under a threshold.

Going to be unable to work on the project till 02/03/25 but hopefully I can come back with a fresh mindset as to how to approach this problem, however on the brightside if I can find an effective way to approach this I can easily replicate it across the other pages which should make development much easier and faster.

03/03/2025

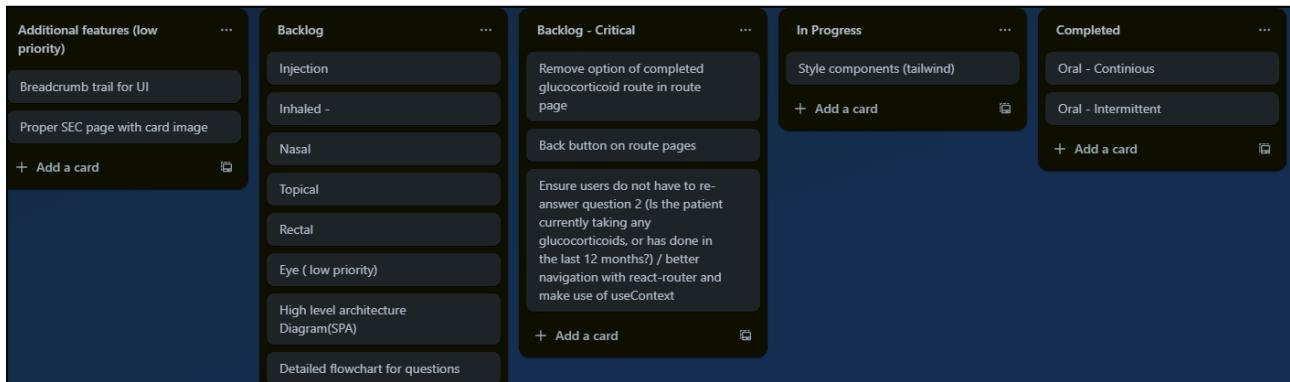
Was unable to do work until today, hoping to get the continuous page done by Friday 07/03/25 as it would allow me to lay the foundation for the other pages and get them done with relative ease.

19:35

Completed basic functionality regarding oral page, users can choose whether their course was intermittent or continuous and are able to enter their daily dosage if they are on continuous or select the amount of courses per glucocorticoid if intermittent. If in either of these routes they exceed a threshold they are redirected to the SEC page else they are returned to the routes page. (**commit 81c12d8**)

Need to additionally fix browser back button taking users back too far as currently if users do not meet the SEC requirement they are redirected to the routes page but are asked the question of "Is the patient currently taking any glucocorticoids, or has done in the last 12 months?" again and again they have to click yes if they want to proceed to enter another route. I'm thinking that React Context may be an applicable solution here. Also need to implement a clickable back button that users can press if they enter the wrong route by accident but this is also tied with the navigation issue so it can be addressed alongside it.

Will provide a more in depth discussion as to what were the changes and how react-hook-form addressed my issues by the end of this week hopefully.



Updated trello 03/03/25

04/03/2025

Oral page completion documentation

What I learned and how using react-hook-form helped me:

The issue I had when developing the oral page prior to implementing react hook form was that I found it tedious and hard to track user inputs. The reason for this was because I had stored the glucocorticoids in my JSON file. I wanted to “dynamically” create input fields for each glucocorticoid.

Pre-form-remaster : *screenshots from git commit a22d18c*

```
18      18          const oralData = criteria.oralRoute;
16      15          const [dosageValue, setDosageValue] = useState({});

{showContinious ? (
  <div>
    <form className="max-w-md mx-auto p-4 bg-white rounded-md shadow"
      onSubmit={submitHandler}>
      <fieldset>
        {oralData.map((oral) =>
          <div
            key={oral.id}
            className="flex flex-col sm:flex-row sm:items-center sm:space-x-4">
            <label
              className="mb-1 sm:mb-0 font-semibold text-black-700 w-full sm:w-1/3"
              >{oral.glucocorticoid}</label>
            {/* <label>{oral.continuousValue}</label> */}
            <input type="number"
              name={oral.id}
              value={dosageValue[oral.id] ?? ''}
              onChange={(e) =>
                setDosageValue((prevState => ({
                  ...prevState,
                  [e.target.name]: e.target.value,
                })))
              }
            />
          </div>
        )
      )
    </form>
  </div>
)
```

In the above excerpt I looped through an object (oralData) and created input fields, then the value was retrieved via the dosageValue object which is a destructured array that uses state. Then on any change to the field I would call the updater function (setDosageValue) which receives the previous state then I would copy the previous object's keys and values and update it then set the key to the new value via e.target.value. Although this is an acceptable approach in regards to what needs to be done, actually getting the data out was inconvenient not to mention that on any change to the field the **whole** component would be re rendered which is not good for performance as those with slow internet speeds would find themselves with laggy ui.

React-hook-form:

By utilising react hook form I was able to omit having to manually update state for EVERY input and instead only need to register the input to the hook.

<https://react-hook-form.com/get-started#Registerfields>

This allowed me to retrieve the value on submission much more easily as I do not have to check a seperate value and battle useState to make use of any values.

```
const {
  register,
  handleSubmit,
  formState: { errors },
  reset,
} = useForm({
  defaultValues: {
    continuous: {},
    intermittent: {},
  },
});
```

In the above excerpt of code I set up a form with methods provided by react hook form and provide default values for continuous and intermittent which are empty objects.

By utilising this framework it allows me to streamline state management, submission handling and also error handling.

```
{oralData.map((oral) => {
  if (showContinuous) {
    return (
      <div key={oral.id} className="table-row py-1">
        <label className="p-1 table-cell pr-4 align-middle whitespace nowrap">
          {oral.gluocorticoid}
        </label>

        <input
          type="number"
          step="0.01"
          placeholder={"Total daily dose: " + oral.measurementUnit}
          className="table-cell px-2 py-3 border border-gray-300 rounded align-middle"
          {...register(`continuous.${oral.id}`), {
            valueAsNumber: true,
            required: true,
          })}
        />
        {errors.continuous && errors.continuous[oral.id] && (
          <span className="text-red-500 text-sm">Required</span>
        )}
      </div>
    );
  }
})
```

Although I'm still mapping the fields I omit having to check the previous dosage value and then update it based on the new value the user inputs and simply just register the input.

<https://react-hook-form.com/docs/useform/register>

It also allows me to use basic validation such as requiring the field to be filled and converting the input to a number. Additionally during this new approach I learned that instead of creating two seperate forms for intermittent and continuous I can simply create 1 form and switch what input types are generated based on if the user has chosen intermittent or continuous.

Overall I learned a lot from this framework and has helped accelerate my development considerably.

## Next steps:

The next page that is going to be developed is the injection page which only contains one input type however each glucocorticoid has two questions and they can only enter another steroid preparation if they answer no to both questions. I need to first add all the questions and glucocorticoids for the injection route to the JSON file, then draft some wireframes as I feel the wireframes I designed before are not that great. Actual development should not be too hard as I have react hook form to help me with input management however managing two questions's answers for one glucocorticoid might be a bit confusing / difficult.

Basic decision tree for injection page;  
Glucocorticoid : Question

Yes -> navigate to sec  
No -> second question

Second question:

Yes -> navigate to sec  
No -> navigate to route page

I estimate basic functionality to be done by **19th March**.

**Note for self :** Can patients have multiple glucocorticoids at one time? If so, how does that affect the UI and management of data?

05/03/2025

Received an email from Jane that cleared up the oral section of the application and added some modifications to the spreadsheet to help streamline it. This does mean I will have to go back to the oral section and redo sections.

Will be merging from-remaster and master branch going forward and then creating a separate branch with requested changes and potentially set up a meeting to discuss which is the better option.

Prior to the change:

Intermittent	Select glucocorticoid	Enter Yes / No
Beclometasone	≥ 3 courses within last 12 months of at least 7 days of ≥ 5mg ?	
Betametasone	≥ 3 courses within last 12 months of at least 7 days of ≥ 6mg	
Budesonide	≥ 3 courses within last 12 months of at least 7 days of ≥ 12mg	

...

For the intermittent section we had discussed in a meeting that users should just enter their own amount of courses for each glucocorticoid and if the total for all courses was greater than or equal to 3 then they would require an sec.

Please enter the duration of courses below

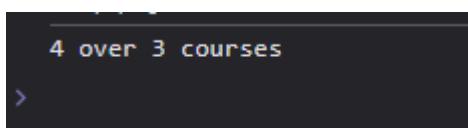
Beclometasone	Select a course duration
Betamethasone	Select a course duration
Budesonide	Select a course duration
Deflazacort	Select a course duration
Dexamethasone	Select a course duration
Hydrocortisone	Select a course duration
Methylprednisolone	Select a course duration
Prednisolone	Select a course duration

Submit

Please enter the duration of courses below

Beclometasone	2	v
Betamethasone	1	v
Budesonide	0	v
Deflazacort	0	v
Dexamethasone	1	v
Hydrocortisone	0	v
Methylprednisolone	0	v
Prednisolone	0	v

(on submit user redirected to SEC page)



The changes introduced a sub question for dexamethasone specifically in the intermittent section, additionally in my previous version I had not specified the duration or dosage for any of the glucocorticoids making it vague to the user.

08/03/2025

Implemented requested changes for intermittent section, styling is still not where I would like it to be in the final product but right now I am prioritising functionality over styling as there are very few weeks left till the end of the sprint to complete all the pages.

Updated version:

**Has the patient had 3 or more courses in total of any of the following for at least seven days within the past 12 months?**

- Beclometasone  $\geq 5$  mg
- Betamethasone  $\geq 6$  mg
- Budesonide  $\geq 12$  mg
- Deflazacort  $\geq 48$  mg
- Dexamethasone  $\geq 4$  mg
- Hydrocortisone  $\geq 120$  mg
- Methylprednisolone  $\geq 32$  mg
- Prednisolone  $\geq 40$  mg

**Yes**    **No**

In this updated version users are not required to input a course duration for each steroid and simply click yes or no, additionally if they do press no they are given an extra sub question for dexamethasone specifically

**Has the patient had (or is due to have) intermittent courses of dexamethasone for either of the following?**

- Repeated courses of dexamethasone as antiemetic regimen?
- One or more courses for severe COVID for 10 days

**Yes**    **No**

If they answer yes to this question then they are taken to the sec page but if they answer no to this question then they are asked another question to determine if they need to enter a continuous route

**Has the patient had at least one continuous course (at least 4 weeks) of oral steroids in the past year?**

**Yes**    **No**

If they answer yes then they are taken to the continuous section where they enter their dosages but if they answer no then they are taken back to the oral page.

I still have not implemented react context so users are reasked the question in the steroid routes page : Has the patient had at least one continuous course (at least 4 weeks) of oral steroids in the past year?. This will be my next step before I move on to the intermittent page.

09/03/2025

Hoping to implement react context today so that users that don't meet the sec requirement for a route are taken back to the main route page but do not have to reanswer a question to access all the routes.

<https://react.dev/reference/react/createContext>  
<https://www.youtube.com/watch?v=hn-c0u2mDIQ>  
<https://www.youtube.com/watch?v=n7x0VRpYHYY>  
<https://www.youtube.com/watch?v=FpNfvbNYPsg>  
[https://www.youtube.com/watch?v=\\_HdrLsyAdJg](https://www.youtube.com/watch?v=_HdrLsyAdJg)

10/03/2025 POI

Implemented react context such that a) users no longer have to reanswer the question on the route pages and b) completed routes are removed from the route page.

What's changed / implemented:

New component: RouteCompletionContext

```
import { createContext, useState, useContext } from "react";
const RouteCompletionContext = createContext();

export const RouteCompletionProvider = ({ children }) => {
  const [completedRoutes, setCompletedRoutes] = useState([]);
  const [hasVisitedRoutePage, setHasVisitedRoutePage] = useState(false);

  const markRouteDone = (routeName) => {
    if (!completedRoutes.includes(routeName)) {
      setCompletedRoutes((prev) => [...prev, routeName]);
    }
  };

  return (
    <RouteCompletionContext.Provider
      value={{
        completedRoutes,
        markRouteDone,
        hasVisitedRoutePage,
        setHasVisitedRoutePage
      }}>
      {children}
    </RouteCompletionContext.Provider>
  );
};

export const useRouteCompletion = () => {
  return useContext(RouteCompletionContext);
};
```

This component creates a react context object called RouteCompletionContext that allows sharing of context to any other components. Completed routes are held in an array in state (completedRoutes, setCompletedRoutes = useState([])) additionally a boolean hasVisitedRoute page is also stored in state which is used as a "global" flag to mark a route done. The markRouteDone method adds a route to the array if it doesn't already exist and updates the state of the routes. The component returns a context provider component which

is how other components can consume or use the context. Finally a custom hook `useRouteCompletion` is used to simply return the context.

Main App component: Wrapped everything in the context provider to use in child components

```
function App() {
  return (
    <>
    <RouteCompletionProvider>
      <BrowserRouter>
        <Routes>
          <Route index element={<Start />} />
          <Route path="/start" element={<Start />} />
          <Route path="/q1" element={<Question1 />} />
          <Route path="/q2/" element={<Question2 />} />
          <Route path="/sec" element={<SEC />} />
          <Route path="/nosec" element={<NoSEC />} />
          <Route path="/routes" element={<SteroidRoutes />} />
          <Route path="/routes/oral" element={<Oral />} />

          <Route path="*" element={<NoPage />} />
        </Routes>
      </BrowserRouter>
    </RouteCompletionProvider>
  );
}
```

SteroidRoutes:

```
const{
  hasVisitedRoutePage,
  setHasVisitedRoutePage
} = useRouteCompletion();

useEffect(() => {
  if(hasVisitedRoutePage){
    setCurrentQuestion("Please enter the glucocorticoids taken in order of the routes in the order shown");
    setShowRoutes(true);
  }
},[hasVisitedRoutePage]);
```

Destructuring object to use in component, within the `useEffect` check if the page has been visited before via state boolean, if it has been visited before set the question and show the routes and runs whenever the state of `hasVisitedRoutePage` changes

```
<div className= "mt-6 flex space-x-4 justify-center">
  <Button
    btnText="Yes"
    onClick={() => {
      setCurrentQuestion("Please enter the glucoco");
      setShowRoutes(true);
      setHasVisitedRoutePage(true);
    }}
  >
```

On answer to the question setVisitedRoutepage to true so users aren't reasked the question over and over again if they complete a route or press the back button.

Oral component:

```
16 |     const { markRouteDone } = useRouteCompletion();  
  
const onSubmit = (formdata) => {  
  if (showContinuous) {  
    const contTotal = calculateContinuous(formdata);  
    if (contTotal >= 1) {  
      console.log(contTotal + " over 1");  
      nav("/sec");  
    } else {  
      console.log(contTotal + " under 1");  
      nav("/routes");  
      markRouteDone("Oral");  
    }  
  }  
};
```

On submission if they are not eligible for an sec they are redirected to the routes page and mark the route as done

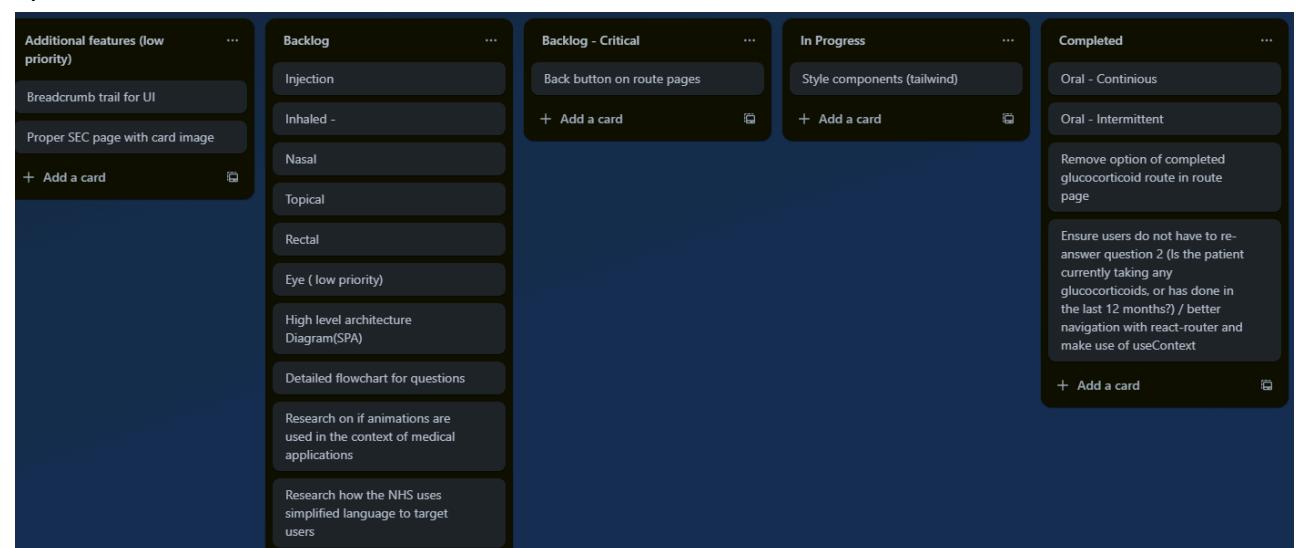
RouteContainer:

```
{routes.map((route, index) => {  
  if (completedRoutes.includes(route)) {  
    return <React.Fragment key={index}>/;  
  }  
  return (  
    <Link  
      key={index}>
```

Simple check to see if the completedRoutes array includes a completed route render nothing(fragment needs unique key as routes is an array otherwise throws warning in console)

I was thinking about using cookies or some form of localstorage present in the browser but I was unable to find effective answers to what I was looking for as I was using react. I might as well use react context to address the issue.

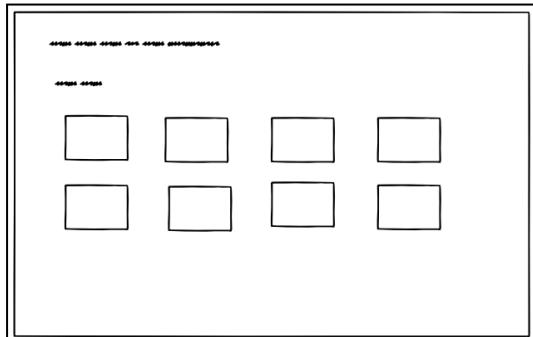
Updated trello:



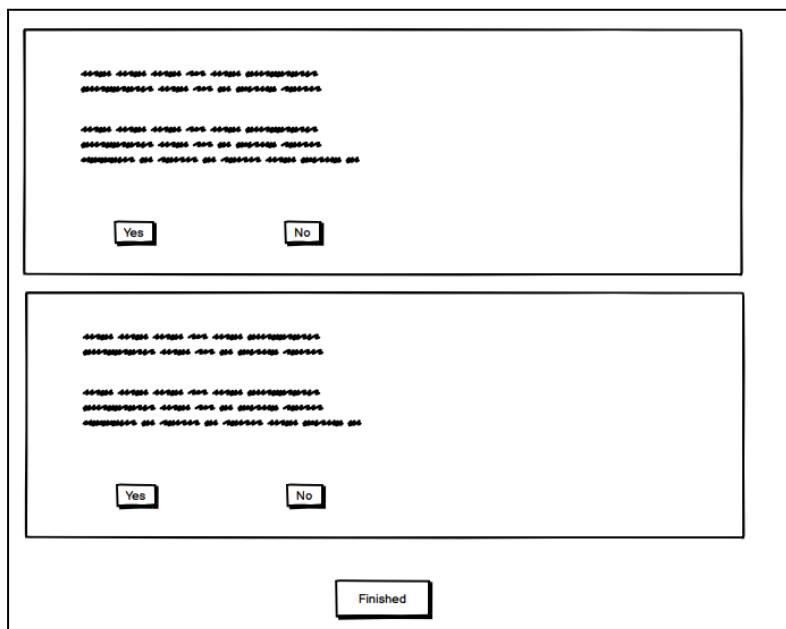
Next steps: Design and Implement injection route

Want to change design for wireframe as I am not using cards:

Old injection: part 1

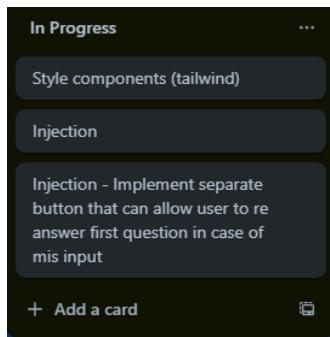


Injection part 2:



11/03/2025

Begun development on injection route, additionally added a check to see if the user is even taking glucocorticoids via injection, temporary question and expect it to be rephrased by Jane. updated in progress trello card



**Please select the glucocorticoid and answer the questions accordingly**

- |                    |   |   |
|--------------------|---|---|
| Dexamethasone      | Taken as an antiemetic in oncology regimens, and for 12 months after stopping when future cycles are anticipated? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| Hydrocortisone     | With any other glucocorticoid by any other route?   | <input type="radio"/> Yes <input checked="" type="radio"/> No |
| Methylprednisolone | With any other glucocorticoid by any other route?   | <input type="radio"/> Yes <input checked="" type="radio"/> No |
| Triamcinolone      | With any other glucocorticoid by any other route?   | <input checked="" type="radio"/> Yes <input type="radio"/> No |

Submit

**Is the patient using any injection steroids of any kind?**

Yes

No

Very basic form implemented, need to implement functionality to update "question" label based on selected answer to first question but also potentially need to add a separate button that re-renders the first / initial question incase of misinput.

12/03/2025

I realised that I had been thinking about the questions wrong. I was thinking that the answer to the first question would result in the second question being asked but that's not entirely accurate and as such put both questions visible at one time.

**Please select the glucocorticoid and answer the questions accordingly**

Dexamethasone

Taken as an antiemetic in oncology regimens, and for 12 months after stopping when future cycles are anticipated?

Yes  No

Taken as prolonged courses (>10 days) for the treatment of severe Covid-19?

Yes  No

Hydrocortisone

With any other glucocorticoid by any other route?

Yes  No

Hydrocortisone: 3 or more injections within the last 12 months?

Yes  No

Methylprednisolone

With any other glucocorticoid by any other route?

Yes  No

Methylprednisolone Injection: 3 or more injections within last 12 months?

Yes  No

Triamcinolone

With any other glucocorticoid by any other route?

Yes  No

Trimacrinolone Injection: 3 or more injections within last 12 months?

Yes  No

Submit

Additionally updated css for every other page as well.

Injection page completed, if user answers yes to either question 1 or 2 then they are taken to sec page otherwise if they answer no to both question 1 and question 2 then they are taken back to the route page and the route is marked as completed.

Furthermore finished up legal and ethical analysis

14/03/2025

Need to confirm with Jane if patients are prescribed multiple inhalers  
performed research to check this ^

<https://pmc.ncbi.nlm.nih.gov/articles/PMC7136662/>

<https://www.nhs.uk/conditions/steroid-inhalers/>

Started development of inhaled page and added inhaled data to criteria.JSON

15/03/2025

Continuing development of inhaled page, encountering problems with adding a separate check to see if the patient is using inhalation steroids at all as I did with injection page so users aren't forced to complete a route they can't.

Thinking of transitioning to switch case statements instead of chained and nested ternary operators as with pages like this it becomes incredibly hard to read like below additionally this is only just to check if the user needs this route and is using inhalers with other GC routes.

```
<Header />
<div className="flex flex-col min-h-auto bg-white">
  <h1 className="text-xl font-semibold mb-4 text-center">
    {currentQuestion}
  </h1>
  {!isUsingInhalers ? (
    <div className="mt-4 flex flex-col sm:flex-row justify-center gap-8 w-2xl p-6 mx-auto">
      <Button
        btnText="Yes"
        onClick={() => {
          setCurrentQuestion(
            "Are the inhalers being used with any other form of glucocorticoid treatment"
          );
          setIsUsingInhalers(true);
        }}
      />
      <Button
        btnText="No"
        onClick={() => {
          setIsUsingInhalers(false);
          nav("/routes");
        }}
      />
    </div>
  ) : isUsingInhalers ? (
    <div className="mt-4 flex flex-col sm:flex-row justify-center gap-8 w-2xl p-6 mx-auto">
      <Button
        btnText="Yes"
        onClick={() => {
          setCurrentQuestion(
            "Please enter the name of your inhaler if atleast using it for 4 weeks"
          );
          setIsUsingInhalersWithOtherGC(true);
        }}
      />
      <Button
        btnText="No"
        onClick={() => {
          setCurrentQuestion(
            "Please enter the name of your inhaler if atleast using it for 4 weeks"
          );
          setIsUsingInhalersWithOtherGC(false);
        }}
      />
    </div>
  ) : isUsingInhalersWithOtherGC ? (
    <h1>using inhalers with other gc</h1>
  ) : !isUsingInhalersWithOtherGC ? (
    <h1>not using inhalers with other gc</h1>
  ):(
    <></>
  )
</div>
<Footer />
```

Also considering the necessity of the search feature as it increases time to get to what needs to be done (3 click rule)

Branded names:

Beclometasone:

Clenil, Qvar, Soprobec

[https://www.derbyshiremedicinesmanagement.nhs.uk/medicines-management/full\\_traffic\\_light\\_classification/show\\_drug/beclometasone-inhalers-clenil-qvar-soprobec/](https://www.derbyshiremedicinesmanagement.nhs.uk/medicines-management/full_traffic_light_classification/show_drug/beclometasone-inhalers-clenil-qvar-soprobec/)

Beclometasone extra fine:

Kelhale, Qvar, Fostair

Budesonide:

[https://www.derbyshiremedicinesmanagement.nhs.uk/medicines-management/full\\_traffic\\_light\\_classification/show\\_drug/budesonide-2/](https://www.derbyshiremedicinesmanagement.nhs.uk/medicines-management/full_traffic_light_classification/show_drug/budesonide-2/)

<https://www.nhs.uk/medicines/budesonide-inhalers/about-budesonide-inhalers/#:~:text=About%20budesonide%20inhalers%20Brand%20names%3A%20Pulmicort%2C%20Budelin>

Easyhaler, Pulmicort, Budelin

Ciclesonide:

[https://www.alvesco.us/#:~:text=Alvesco%C2%AE%20\(ciclesonide\)%20Inhalation%20Aerosol.help%20to%20reduce%20asthma%20inflammation.](https://www.alvesco.us/#:~:text=Alvesco%C2%AE%20(ciclesonide)%20Inhalation%20Aerosol.help%20to%20reduce%20asthma%20inflammation.)

<https://www.webmd.com/drugs/2/drug-151041/alvesco-inhalation/details>

**US Brand**(Alvesco)

Fluticasone propionate:

<https://www.nhs.uk/medicines/fluticasone-inhalers/>

Flixotide

[https://www.rxlist.com/fluticasone\\_inhaled/generic-drug.htm](https://www.rxlist.com/fluticasone_inhaled/generic-drug.htm)

**US Brand**(Flovent Diskus, Flovent HFA, Flovent, ArmonAir RespiClick, ArmonAir Digihaler)

ArmonAir RespiClick discontinued(

<https://aafa.org/asthma-medicine/fluticasone-propionate-armonair-respiclick/>

Fluticasone furoate:

Trelegy, Revlar

Mometasone furoate:

<https://www.nhs.uk/medicines/mometasone-inhaler/#:~:text=Mometasone%20inhalers%20Brand%20name:%20Asmanex, and%20how%20to%20use%20them.>

Asmanex

**Generic v branded:**

<https://www.sps.nhs.uk/articles/prescribing-by-generic-or-brand-name-in-primary-care/>

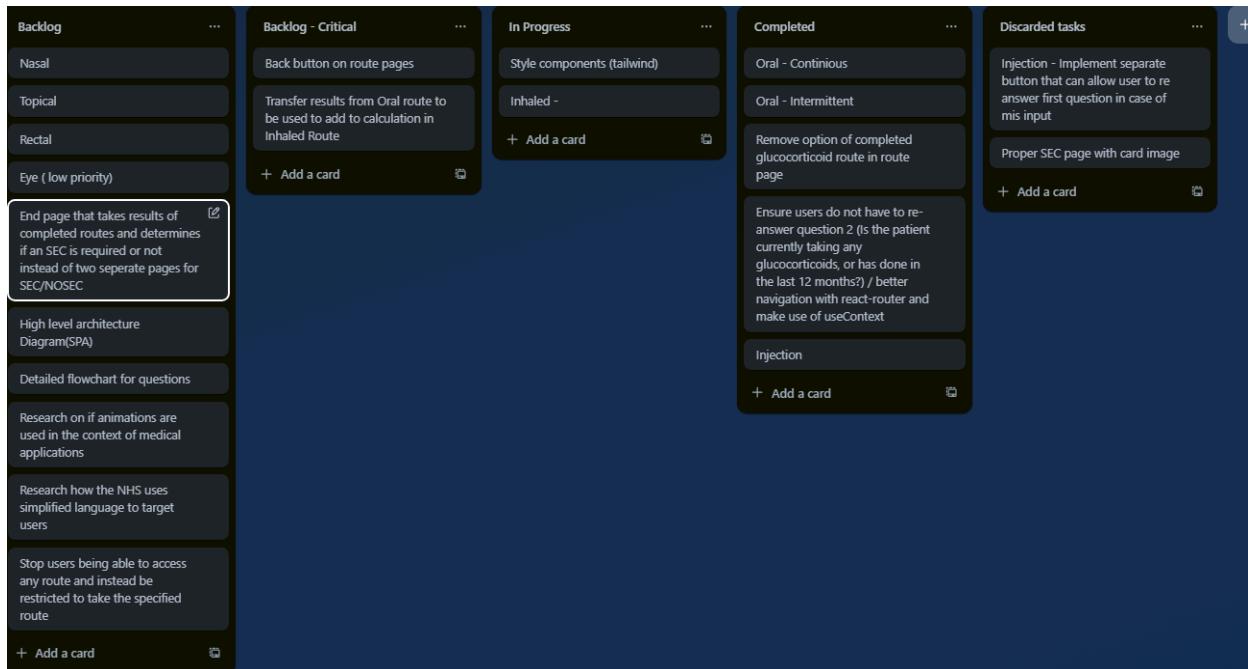
<https://www.sps.nhs.uk/articles/example-medicines-to-prescribe-by-brand-name-in-primary-care>

**(Corticosteroid Inhalers subject to MHRA Advice to be prescribed as branded names circa 2008 due to varying potency of steroids with same / similar name)**

<https://www.gov.uk/drug-safety-update/inhaled-medicines-containing-corticosteroid#different-potencies-of-cfc-free-beclometasone-inhalers>

17/03/2025

Form implementation completed and data handling complete, alongside route redirection  
additionally updated trello



Will do a write up about inhaled page later in week, meeting with Jane tomorrow 18/03/25  
hoping to discuss certain parts and see if any changes need to be made

Inhaled:

Q: What does "without concomitant intranasal steroids" in A5 mean and should I include it? (need to double click cell)

A:

I have not gone the path of the user searching their inhaler before being able to enter their daily dose as I am concerned about the user experience, however I am more than happy to restructure the page as main functionality is done.

A:

If the user entering inhaler via search way is chosen or not ->

Q: I have researched brand names for remaining glucocorticoids however some of them are US Branded should I include them I have found out that in the UK doctors prefer non-branded / generic names?(show link in google docs)

A:

notes/changes for inhaled page

Oral:

Injection:

Other pages:

Changes / considerations to be added

18/03/2025

Had a meeting with Jane and Jennie, provided a progress report and addressed any questions that I wanted to ask, got feedback on how to improve certain parts of the application e.g.

I wanted to ask if inhaled route should be restructured to where the users would search their own inhaler and I received feedback that I should keep it basic and limited functionality at this time

Inhaled:

Q: What does "without concomitant intranasal steroids" in A5 mean and should I include it? (need to double click cell)

A: Yes

I have not gone the path of the user searching their inhaler before being able to enter their daily dose as I am concerned about the user experience, however I am more than happy to restructure the page as main functionality is done.

A: dont need to

If the user entering inhaler via search way is chosen or not ->

Q: I have researched brand names for remaining glucocorticoids however some of them are US Branded should I include them I have found out that in the UK doctors prefer non-branded / generic names?(show link in google docs)

A:

notes/changes for inhaled page

don't need to implement brand names for others  
include trimbow

Oral:

make fields unrequired for oral.continuous  
checkmark jennie way

Injection:

avoid yes no and make it select all that apply  
UI needs to be separated more for yes no buttons  
lump hydrocortisone,methylprednisolone,triamicinolone together  
Other pages:

Changes / considerations to be added

mobile first approach

mobile first approach

breadcrumb trail

find a way to output data to screen

BACK button

report:

write about experience with this project and nature of working with someone else

An interesting request was to find a way to output data to the screen and if I have time I would like to implement that

22/03/2025(POI)

Was unable to work on the project since the 18th but should still be on schedule to finish the glucocorticoid pages before the 31st.

Implemented additional brand names that Jane provided for the glucocorticoids present in the inhaled route however came across a styling issue due to the amount of brand names that Fluticasone-propionate has.

Currently it looks like this (page zoomed out by 75% to take this picture)

Please enter the daily dose below

Beclometasone  
Common brand names: Non-Proprietary, Clenil®, Easihaler®, Soprobect®

Beclometasone-ExtraFine  
Common brand names: Qvar®, Kelhale®, Fostair®, Luforbec®, Trimbow®

Budesonide  
Common brand names: Pulmicort®, Budelin®, Symbicort®, Fobumix®, Spiromax®, WockAir®, Trixeo®

Ciclesonide  
Common brand names: Alvesco®

Fluticasone-propionate  
Common brand names: Flixotide®, Flutiform®, Avenor®, Combisal®, Seretide®, AirFluSal®, Afloflute®, Avenor®, Sereflor®, Sirdupla®, Campona®, Fixkoh®, Fusacomb®, Stalpex®

Fluticasone-furoate  
Common brand names: Trelegy®, Revilar®

Mometasone-furoate  
Common brand names: Aetectura®, Asmanex®, Enerzair®, Ryaltris®

To fix this I tried all sorts of styling changes e.g. setting the input to the side to give more space for the brand names and it works however at the cost of reduced user experience

Beclometasone	Common brand names: Non-Proprietary, Clenil®, Easihaler®, Soprobec®	Total daily dose
Beclometasone-ExtraFine	Common brand names: Qvar®, Kelhale®, Fostair®, Luforbeo®, Trimbow®	Total daily dose
Budesonide	Common brand names: Pulmicort®, Budelin®, Symbicort®, Fobumix®, Spiromax®, WockAir®, Trixeo®	Total daily dose
Ciclesonide	Common brand names: Alvesco®	Total daily dose
Fluticasone-propionate	Common brand names: Flixotide®, Flutiform®, Avenor®, Combisal®, Seretide®, AirFluSal®, Afloflute®, Avenor®, Sereflo®, Sirdupla®, Campona®, Fixkoh®, Fusacomb®, Stalpex®	Total daily dose
Fluticasone-furoate	Common brand names: Trelegy®, Revilar®	Total daily dose
Mometasone-furoate	Common brand names: Aetectura®, Asmanex®, Enerzair®, Ryaltris®	Total daily dose
<b>Submit</b>		

This is not very clean and as such I wanted to create a way to hide the flow of additional brand names and put 3 for each and hide the rest in a dropdown.

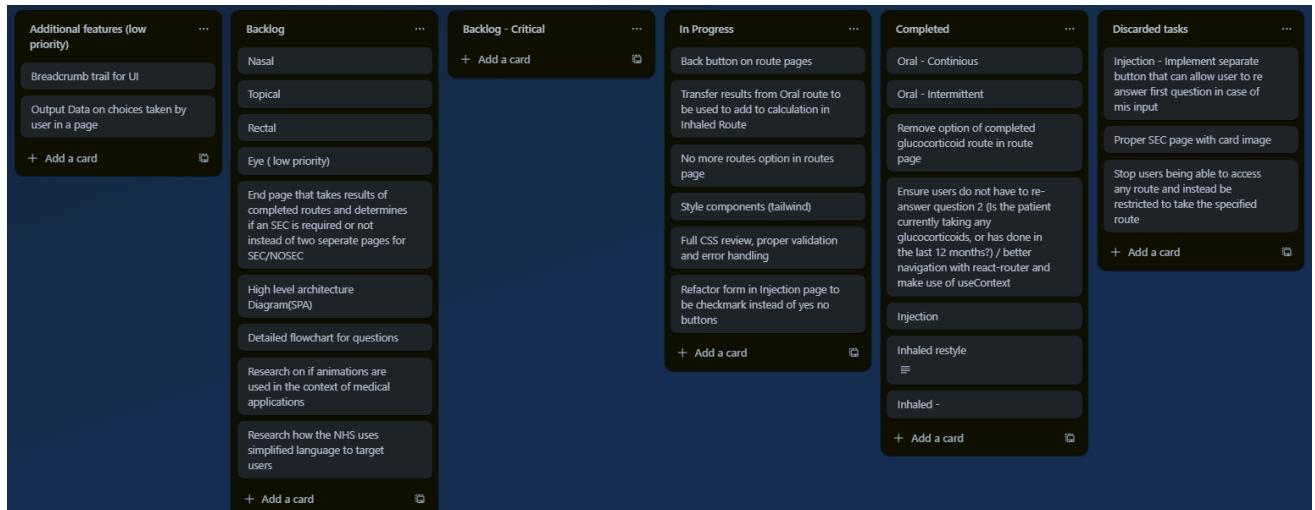
I initially wanted to design my own dropdown component but it seems there's already libraries focused on styling similar to tailwind and one such library is shadcn, a component library that has pre-created ui components

<https://ui.shadcn.com/docs/installation/vite>

Additionally implemented a icon library <https://heroicons.com/solid>

<https://github.com/tailwindlabs/heroicons?tab=readme-ov-file>

## Updated trello



Going to start working on the back button as it's been sitting in the crucial backlog and I need to implement it asap to improve user experience

After playing around with the back button it seems I need to restructure the other pages to use the similar switch cases to have a single state to switch between as if I were to implement the back button on the oral page right now it would require much more additional logic then simply setting it to the previous switch statement.

Tomorrow I will clean up the oral and injection page to use a switch statement and implement the back button, additionally in addition as per Jane's request I need to use checkboxes instead of yes no radio buttons in the injection page

23/03/2025

Today I am focusing on restructuring the oral and injection pages to use a single state variable and use a switch statement to handle question and content logic more dynamically. This is because at the current moment if I was to implement the back button it would require much more logic and that logic would be bloated and to circumvent this it requires a refactor to the code.

```
const [showIntermittent, setShowIntermittent] = useState(false);
const [showContinuous, setShowContinuous] = useState(false);
const [showDexamethasone, setShowDexamethasone] = useState(false);
const [showContCheck, setShowContCheck] = useState(false);
const [currentQuestion, setCurrentQuestion] = useState(questionData.question);
```

```
{!showContinuous &&
!showIntermittent &&
!showDexamethasone &&
!showContCheck ? (
  //if no route is chosen show buttons
  <div className="mt-4 flex flex-col sm:flex-row justify-center gap-8 w-2xl p-6 mx-auto">
    <Button
      btnText="Yes"
      onClick={() => {
        setShowIntermittent(true);
        setCurrentQuestion(
          "Has the patient had 3 or more courses in total of any of the following for at least seven days within the past 12 months?"
        );
        reset();
      }}
    />
    <Button
      btnText="No"
      onClick={() => {
        setShowContinuous(true);
        setCurrentQuestion(
          "Has the patient had 3 or more courses in total of any of the following for at least seven days within the past 12 months?"
        );
        reset();
      }}
    />
  </div>
)
```

As an example in the oral page this is what it currently looks like.

If I were to implement the back button I would need to manually set every state variable for each step.

<https://ux.stackexchange.com/questions/74311/should-a-web-based-ui-rely-on-the-browser-back-button>

<https://www.smashingmagazine.com/2022/08/back-button-ux-design/>

Performed research on if users prefer to use a back button that's present in the site as due to nature of how my application is developed, it being a single page application that relies heavily on conditional logic, using the browser back button results in unintended behavior as suppose the user is deep into the oral page they would expect the browser back button to take them back to the previous question. However in applications like the NHS they have a website back button but it is important to note that the NHS site is a multi page application.

The screenshot shows a mobile application interface. At the top left is a 'Go back' button. The main title is 'How was your reading done?'. Below the title is a section header '▼ Why are we asking this?'. A explanatory text block states: 'How you had your reading done will affect your result. Blood pressure targets for readings done at home are different to those done in a clinic or pharmacy by a healthcare professional.' Two radio buttons are shown: one selected (filled black) labeled 'With a monitor at home' and one unselected (outline) labeled 'At a clinic or pharmacy by a healthcare professional'. At the bottom is a green button labeled 'Get your result'.

24/03/2025(POI)

Refactoring done and additionally was able to implement using the value from the oral route if applicable to the calculation of the inhaled route. Will also implement the back button today and additionally make a start on the remaining pages if possible.

Ideally I want to get 90% of implementation done by the end of this Friday with room for Saturday and Sunday to make changes to any styling and refactoring code.

```
function Button(props) {
  return (
    <button
      className="button"
      ppx-6
      py-3
      text-black-500
      rounded
      bg-gray-300
      w-full
      text-lg
    " type={props.type}
      onClick={props.onClick}
    >
      {props.btnText}
    </button>
  );
}

export default Button;
```

As I was developing the back button functionality I came to realise that the button component I developed at the very beginning of the project is quite dated and unnecessary. By using this button component I made as is I am forced to use the style I set and overriding this is not feasible without using the !important tailwind configurator. This is however discouraged as it's seen as overkill

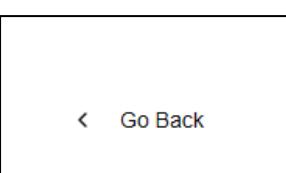
<https://sebastiandedeyne.com/why-we-use-important-with-tailwind>

To fix this and have better prop handling as well as prebuilt styles such as spinners or more visually disabled states, I am going to implement shadcn's button component.

<https://ui.shadcn.com/docs/components/button>

This allows me to use preset variants like ghost and secondary without extra style needed

```
    </div>
    <div className="flex flex-auto items-center">
      <Button
        variant={Ghost}
        onClick={() => {
          setStep("otherGCCheck");
        }}
      >
        <ChevronLeft className="w-5 h-5 mr-2" />
        Go Back
      </Button>
    </div>
```



Whilst implementing the buttons from shadcn I also thought about what colour they should be as it is important to have a clear call to action and at the current moment my buttons are very indistinguishable from each other and no clear call to action.

Is the patient taking oral steroids intermittently or has done so in the last year?

Yes

No

Compared to the NHS site where the call to action is present with a green colour and the secondary action is less emphasised and is presented with a grey colour.

changes.

**Choose a habit to change**

### Tell a friend or family member to get tested

If they're aged 40 or over, they should know their blood pressure.

They might be at a higher risk of high blood pressure if they're overweight, smoke or are over 65. High blood pressure does not usually cause symptoms.

[Copy this tool's link](#)

**Start again**

Example from NHS health assessment tool available at

(<https://www.nhs.uk/health-assessment-tools/check-your-blood-pressure-reading>)

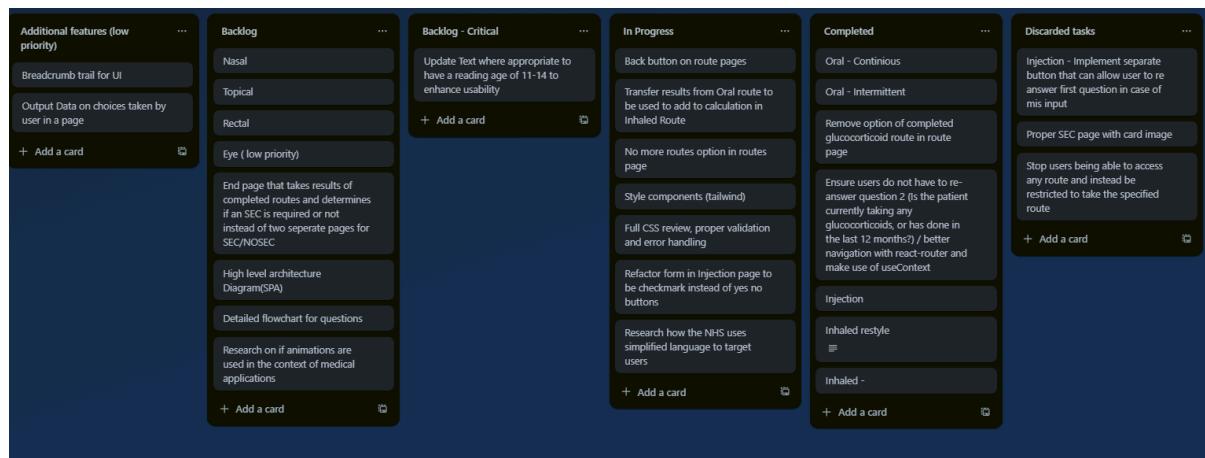
**However**, due to the nature of the application AIGuard is there is no wrong answer and so additional consideration to be taken such that the answers are not styled in a way to imply that an option to an answer is the valid or "correct" answer. An example of this could be setting the Yes button to be green and the No button to be red for the question of "Are the inhalers being used with any other form of glucocorticoid treatment?".

Although the colours could be considered an important piece of UI, what is more important is having clearer distinguished labels for buttons instead of yes and no. This links back to the article written by the NHS on how they write their websites where they aim for a reading of age between 11 - 14 years old.

<https://service-manual.nhs.uk/content/how-we-write#:~:text=We%20use%20language%20that%20our,9%20to%2011%20years%20old.>

With this in mind I have come to the conclusion to add the task of going through the application to update the text where appropriate to have an easier to read to the trello.

## Updated trelio



## Inhaled Page:

Updated styling with fully functional back button

< Go Back

**Is the patient using any inhalers of any kind?**

Yes      No

< Go Back

**Are the inhalers being used with any other form of glucocorticoid treatment?**

Yes      No

Still need to add proper spacing to second question and additionally replicate this style with the back button functionality to the other pages.

[Go Back](#)

**Please enter the daily dose below**

Beclometasone

Common brand names: Clenil®, Easihaler®, Soprobec®

Total daily dose: micrograms

Beclometasone-ExtraFine

Common brand names: Qvar®, Kelhale®, Fostair®

[More ▾](#)

Total daily dose: micrograms

Budesonide

Common brand names: Pulmicort®, Budelin®, Symbicort®

[More ▾](#)

Total daily dose: micrograms

Ciclesonide

Common brand names: Alvesco®

Total daily dose: micrograms

Fluticasone-propionate

Common brand names: Flixotide®, Flutiform®, Avenir®

[More ▾](#)

Total daily dose: micrograms

Fluticasone-furoate

Common brand names: Trelegy®, Revlair®

Total daily dose: micrograms

Mometasone-furoate

Common brand names: Aetectura®, Asmanex®, Enerzair®

[More ▾](#)

Total daily dose: micrograms

**Submit**

25/03/2025

Updated injection page with checkboxes instead of multiple yes no's.

Initial page:

<b>Dexamethasone</b>	
Taken as an antiemetic in oncology regimens, and for 12 months after stopping when future cycles are anticipated?	
<input type="radio"/> Yes <input type="radio"/> No	
Taken as prolonged courses (>10 days) for the treatment of severe Covid-19?	
<input type="radio"/> Yes <input type="radio"/> No	
<hr/>	
<b>Hydrocortisone</b>	
With any other glucocorticoid by any other route?	
<input type="radio"/> Yes <input type="radio"/> No	
Hydrocortisone: 3 or more injections within the last 12 months?	
<input type="radio"/> Yes <input type="radio"/> No	

At the start I thought that I should have it like this:

<b>Dexamethasone</b>	
Taken as an antiemetic in oncology regimens, and for 12 months after stopping when future cycles are anticipated?	
<input type="checkbox"/> Yes	
Taken as prolonged courses (>10 days) for the treatment of severe Covid-19?	
<input type="checkbox"/> Yes	
<hr/>	
<b>Hydrocortisone</b>	
With any other glucocorticoid by any other route?	
<input type="checkbox"/> Yes	
Hydrocortisone: 3 or more injections within the last 12 months?	
<input type="checkbox"/> Yes	

But the label provides extra clutter and a checkbox already signifies a boolean yes or no so putting a label stating yes is redundant.

<https://uxdesign.cc/selection-controls-ui-component-series-3badc0bdb546>

To double check I visited this site that provides excellent insights into how to structure checkboxes for best UX and design.

Updated Styling:

Dexamethasone

- Taken as an antiemetic in oncology regimens, and for 12 months after stopping when future cycles are anticipated?
  - Taken as prolonged courses (>10 days) for the treatment of severe Covid-19?
- 

Hydrocortisone

- With any other glucocorticoid by any other route?
  - Hydrocortisone: 3 or more injections within the last 12 months?
- 

Methylprednisolone

- With any other glucocorticoid by any other route?
  - Methylprednisolone Injection: 3 or more injections within last 12 months?
- 

Additionally cleaned up buttons and styling on other starting pages however need to consider if a different approach should be taken to visualising the routes.

< Go Back

**Please enter the glucocorticoids taken in the order of the routes shown**

Oral

Injection

Inhaled

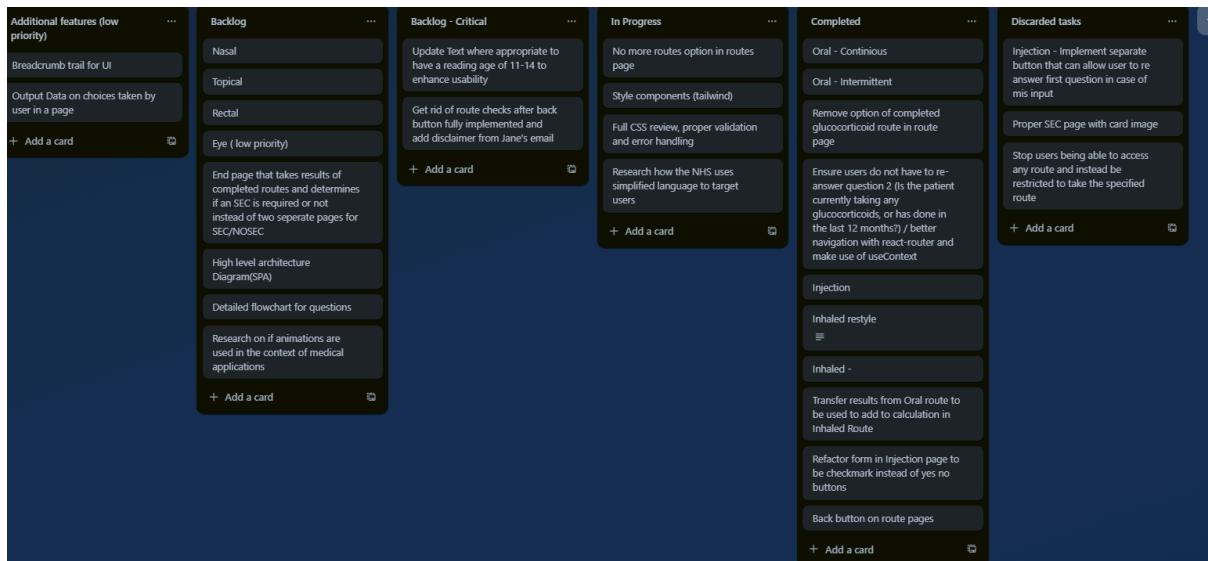
Nasal

Topical

Rectal

Eye

## Updated trello:



26/03/2025

Nasal ,topical and rectal page completed. Style for every page updated with bigger font sizes  
Nasal page:

< Go Back

## **Is the patient using high dose steroids for nasal polyps for more than 4 weeks?**

Yes

No

Yes:

< Go Back

### **Please review the following :**

**A steroid emergency card may be appropriate**, particularly if in combination with other glucocorticoids.

**Consider** whether patient needs cover with hydrocortisone if admitted to hospital unwell or invasive procedure.

Back to routes

SEC card

No:

< Go Back

### **Please review the following :**

It is **unlikely** that a steroid emergency card is needed.

**However** do consider the risk if in combination with other glucocorticoids.

Back to routes

Topical page:

< Go Back

## Is the patient applying at least 200g a week of potent or very potent topical glucocorticoids?

Yes

No

Need to discuss with Jane If showing examples of potency is required as there is not a real way to show examples of potency without it breaking the design flow of the application but for now I have hidden it till discussion with Jane

< Go Back

## Is the patient applying at least 200g a week of potent or very potent topical glucocorticoids?

Example of potent glucocorticoids:

Name	Concentration	Potency	Names
Betamethasone dipropionate	0.025%	Potent	N/A
Betamethasone dipropionate	0.05% and higher	Potent	Dalonev, Diprosone, Dovobet, Enstilar
Betamethasone valerate	0.1% and higher	Potent	Audovate, Betacap, Betesil, Betnovate, Bettex
Clobetasol propionate	0.05% and higher	Very potent	Clarelux, ClobaDerm, Dermovate, Etrivex
Diflucortolone valerate	0.1%	Potent	Nerisone
Diflucortolone valerate	0.3%	Very Potent	Nerisone Forte
Fluocinonide	0.05%	Potent	Metosyn
Fluocinolone acetonide	0.025%	Potent	Synalar
Fluticasone propionate	0.05%	Potent	Cutivate
Hydrocortisone butyrate	0.1%	Potent	Locoid
Mometasone	0.1%	Potent	Elocon
Triamcinolone acetonide	0.1%	Potent	Aureocurt

Yes

No

**Example of potent glucocorticoids:**

Names	Including
N/A	N/A
Dalonev, Diprosone, Dovobet, Enstilar	clotrimazole (Lotriiderm), salicylic acid (Diprosalic)
Audovate, Betacap, Beteasil, Betnovate, Bettamousse	clioquinol, fusidic acid (Fucibet, Xemacort), neomycin
Clarelux, ClobaDerm, Dermovate, Etrivex	neomycin, nystatin
Nerisone	N/A
Nerisone Forte	N/A
Metosyn	N/A
Synalar	clioquinol (Synalar C)
Cutivate	N/A
Locoid	N/A
Elocon	N/A
Aureocurt	N/A

Yes: redirect to sec for now

No:

< Go Back

### Please review the following:

It is **unlikely** that the patient needs an steroid emergency card.

**However** do consider that systemic absorption varies depending on the area of application.

**Soles of the feet:** 0.5% absorption rate    **Palm of the hand:** 0.1% absorption rate

**Forearms:** 1% absorption rate

**Armpits:** 4% absorption rate

**Face:** 7% absorption rate

**Eyelids & Genitals:** 30% absorption rate

**Additionally:** HPA axis suppression and adrenal crisis has also been reported from use of skin-lightening creams containing steroid over large body surface areas

Back to routes

As I was developing these pages, due to minimal content I found myself thinking something was missing and that's when I started adjusting the font sizes. By increasing the font sizes and providing additional clarity and better user experience by highlighting key info.

MVP achieved 26/03/2025

29/03/2025

Drafted wireframe for end page that shows output of data and merging sec / no sec requirement together. As I was drafting I realised I had not implemented Sick day rules at all and as such added that to trello.

No SEC required outcome:

The wireframe displays a mobile application interface. At the top is a blue header bar featuring a small white icon of a sun and clouds. Below the header is a white main content area. In the center of the content area, the text "The patient's results" is displayed in a large, bold, black font. Underneath this heading, the text "This patient is **unlikely** at risk of adrenal insufficiency." is shown in a smaller black font. Further down, the text "A Steroid Emergency Card may not be necessary for this patient" is present. A bold, italicized note follows: "**Please note again that this application is not to be used in real world applications by any means and should not be used to identify real patients at risk of adrenal insufficiency.**". At the bottom left of the content area, there is a grey rectangular button with the text "Start Again" in white. The entire interface is contained within a dark grey footer bar at the very bottom.

## SEC Required Outcome:



## The patient's results

This patient has been identified as being at **risk** of adrenal insufficiency.

A Steroid Emergency Card is **highly** recommended for this patient

Why this patient is at risk:

Oral: (continuous) list of glucocorticoids that resulted in sec e.g. Beclomethasone: VALUE (intermittent) Question that if answered requires sec	Injection: Questions + answer that resulted in sec
Inhaled: list of glucocorticoids that resulted in sec e.g. Beclomethasone: VALUE additionally if oral route completed show in conjunction	Nasal, Topical, Rectal & Eye : Reasoning why e.g. exceeded threshold

Next steps:

Please provide the patient with a Steroid Emergency Card.  
**Additionally** check if sick day rules apply.

<b>Steroid Emergency Card</b>	<b>NHS</b>
IMPORTANT MEDICAL INFORMATION FOR HEALTHCARE STAFF	
THIS PATIENT IS PHYSICALLY DEPENDENT ON DAILY STEROID THERAPY	
as a critical resource it must be given/taken as prescribed and never omitted or discontinued. A delay in giving/taking steroid or surgery can cause adrenal crisis requiring emergency treatment.	
Patients not on daily steroid therapy or with a history of steroid usage may also require emergency treatment.	
Name.....	Date of Birth ..... NHS Number .....
Why steroid prescribed .....	Emergency Contact .....

When calling 999 or 111, emphasise this is a likely adrenal insufficiency/Addison's/Addisonian crisis or emergency AND describe symptoms (vomiting, diarrhoea, dehydration, injury/shock).
<b>Emergency treatment of adrenal crisis</b>
1) Immediate 100mg Hydrocortisone i.v. or i.m. injection. Followed by 24 hr continuous i.v. infusion of 200mg Hydrocortisone in Glucose 5% OR 50mg Hydrocortisone i.v. or i.m. qds (100mg if severely obese). 2) Rapid rehydration with Sodium Chloride 0.9%. 3) Liaise with endocrinology team.
Scan here for further information or search <a href="https://www.endocrinology.org/adrenal-crisis">https://www.endocrinology.org/adrenal-crisis</a>

**Please note again that this tool is not to be used in real world applications by any means and should not be used to identify real patients at risk of adrenal insufficiency.**

**Start Again**

To begin implementing this page I need to set up context providers such that I can access the users answers to show in this page.

Basic implementation of end page implemented  
Only sec requirement portion implemented so far  
Added new context provider to capture user answers to display on the end page.

```
import { createContext, useState, useContext } from "react";
const UserAnswerContext = createContext();

export function UserAnswersProvider({ children }) {
  const [answers, setAnswers] = useState({});

  return (
    <UserAnswerContext.Provider value={{ answers, setAnswers }}>
      {children}
    </UserAnswerContext.Provider>
  );
}

export function useUserAnswers() {
  return useContext(UserAnswerContext);
}
```

Nothing new similar to previous implementation of capturing oral dosage value to use in inhaled calculations , however I also noticed in the spreadsheet both calculations use oral value in conjunction to calculate final sum for inhalers.

Q. Are the inhalers being used with any other form of of glucocortocid treatment i ?

No

=E12+Oral!E14

Yes:

=E24+Oral!E14

This is rather confusing as I thought if the user answers no then that implies they are not ANY other treatment with their current inhaler treatment, need to double check with Jane.

Continuing on from Outputting answers

Oral page:

```
11 | import { useUserAnswers } from "@/components/UserAnswerContext";
12 |
13 | const { setAnswers } = useUserAnswers();
```

I store the total as dailyDosageVal

```
        ...
    setAnswers(prev => ({
      ...prev,
      continuousCheck: {
        dailyDosageVal: contTotal,
      },
    }));
  }
}
```

Then in the end page:

```
import { useUserAnswers } from "@/components/UserAnswerContext";
const answers = useUserAnswers();



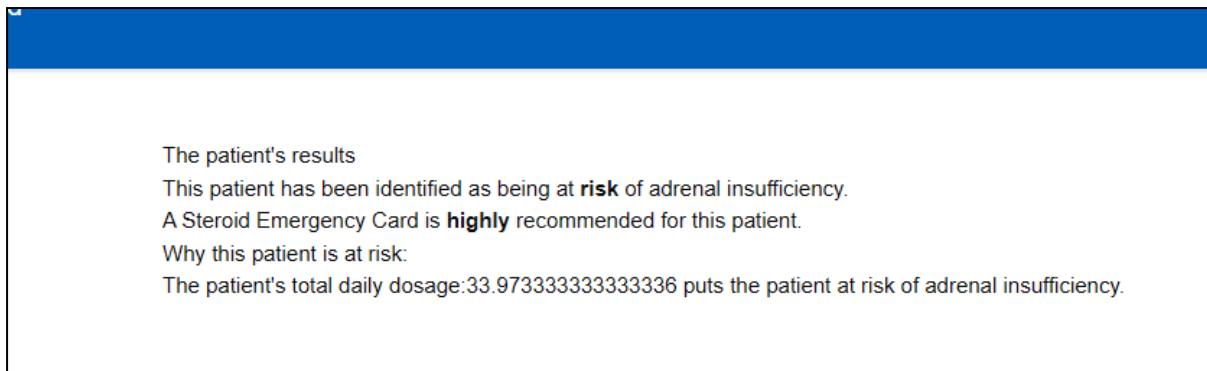
<h1>The patient's results</h1>
  <h2>
    This patient has been identified as being at
    <span className="font-bold"> risk</span> of adrenal insufficiency.
  </h2>
  <h2>
    A Steroid Emergency Card is
    <span className="font-bold"> highly</span> recommended for this
    patient.
  </h2>
  <h3>Why this patient is at risk:</h3>
  <div>
    {answers.continuousCheck && (
      <div>
        <p>
          The patient's total daily dosage:
          {answers.continuousCheck.dailyDosageVal} puts the patient at
          risk of adrenal insufficiency.
        </p>
      </div>
    )}
  </div>


```

Example: enter form data for continuous and submit:

Beclometasone	400
Betamethasone	Total daily dose: micrograms
Budesonide	Total daily dose: mg
Deflazacort	20
Dexamethasone	15
Hydrocortisone	Total daily dose: mg
Methylprednisolone	Total daily dose: mg
Prednisolone	Total daily dose: mg

End Page:  
(not styled yet)



This is also replicated for the Injection and Inhaled page.

Inhaled page is the same code format except different keys to avoid overwriting the oral key.

```
setAnswers(prev => ({
  ...prev,
  inhaledCheck: {
    formdata: formdata,
    totalDosageVal: total,
    hasOtherGC: hasOtherGC,
  },
}));
```

Injection page is slightly different and requires an array to hold the answers as I loop through each answer and count the amount of "yes".

```
let yesAnswers = [];
let yesCount = 0;

if (q1Answer) {
  yesCount++;
  yesAnswers.push({
    injection: inj.glucocorticoid,
    question: inj.question1,
  });
}

if (q2Answer) {
  yesCount++;
  yesAnswers.push([
    injection: inj.glucocorticoid,
    question: inj.question2,
  ]);
}
```

End page after sec required from inhaled:  
(not styled)

The patient's results

This patient has been identified as being at **risk** of adrenal insufficiency.

A Steroid Emergency Card is **highly** recommended for this patient.

Why this patient is at risk:

You checked true to the following:

**Glucocorticoid:** Dexamethasone

**Question:** Taken as an antiemetic in oncology regimens, and for 12 months after stopping when future cycles are anticipated?

**Glucocorticoid:** Hydrocortisone

**Question:** With any other glucocorticoid by any other route?

Need to add it for the remaining pages.

30/03/2025 MVP achieved

Eye page complete,

Only basic information provided and option to return to routes as there is no real need for content, might change after discussing with Jane.

Eye page:

< Go Back

### **Please review the following**

If the patient is only on steroid eye drops, HPA axis suppression is unlikely.

If a patient is taking other steroids by other routes then total exposure needs to be considered.

[Back to routes](#)

Added end page implementation for remaining pages nasal,topical,rectal and eye where appropriate.

Additionally implemented no further glucocorticoid routes button in routes page that only shows after the user has completed at least 1 route.

**(In the example below the eye route is completed)**

[Go Back](#)

**Please enter the glucocorticoids taken in the order of the routes shown**

Oral

Injection

Inhaled

Nasal

Topical

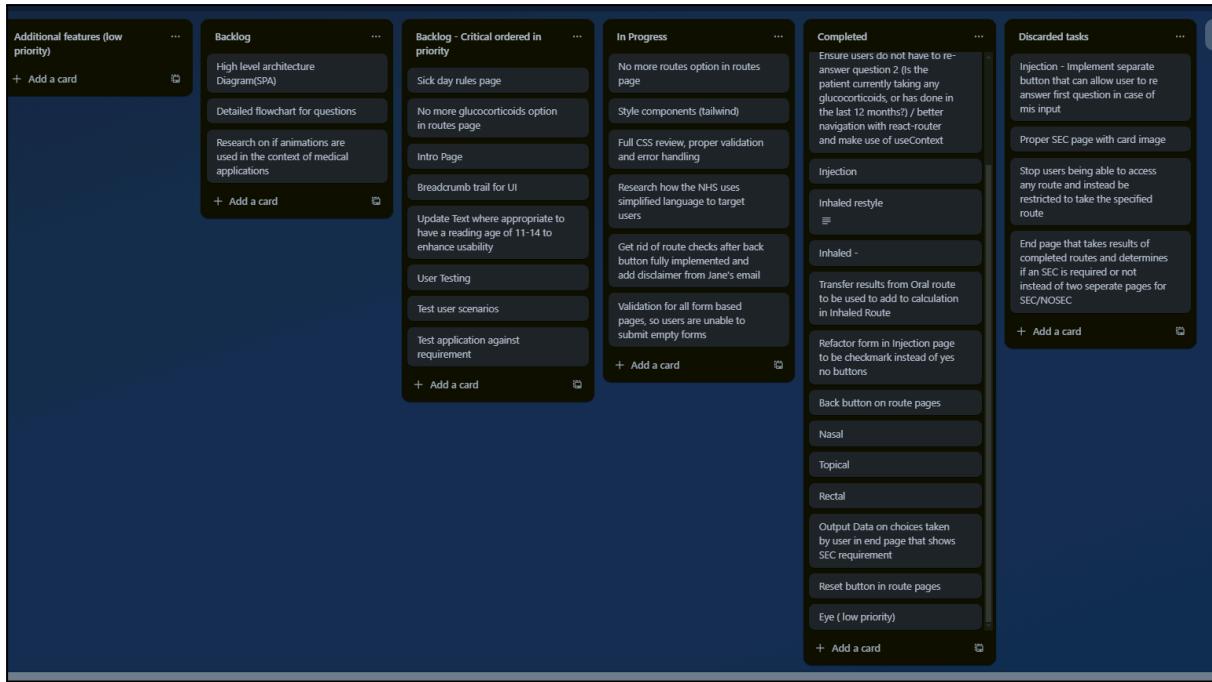
Rectal

No further glucocorticoids

After implementing this I started thinking about if I should restyle how this page looks as it looks very out of place compared to the rest of the application. Need to have a think on what it should look like.

However after today's implementations I can confidently say that minimum viable product has been achieved. However it can be argued that sick day rules might need to still be implemented to fully certify that mvp has been achieved.

Updated trello:



02/04/2025 (POI)

Finishing off remaining pages ready for meeting tomorrow to discuss last minute changes before fully finishing the development cycle and shifting focus to be solely on the report.

Meeting notes:

Inhaled:

Final sum to calculate daily dosage total sums oral value regardless if user answers no to "Are the inhalers being used with any other form of glucocorticoid treatment".

Is this right?

currently implemented is if answered yes to question it takes user inputted values from oral route if even filled at all (else defaults to 0)

Nasal:

Should I have a button that takes them to the end page? Or just redirect them to end page like rectal & topical?

Routes page:

I'm a bit lost on how it should look like, I personally do not like it I was wondering if you had any ideas on how I can change it?

Button Colours:

I've purposely left them neutral to avoid users thinking one button is the correct answer (e.g. green button for yes) Any thoughts on this? Any specific colours you would like?

**Today I will additionally perform testing via user scenarios to ensure requirements are appropriately met.**

03/04/2025(POI)

Meeting concluded with Jane.

Notes:

Inhaled:

Final sum to calculate daily dosage total sums oral value regardless if user answers no to "Are the inhalers being used with any other form of glucocorticoid treatment".

Is this right?

currently implemented is if answered yes to question it takes user inputted values from oral route if even filled at all (else defaults to 0)

A: yes

Nasal:

Should I have a button that takes them to the end page? Or just redirect them to end page like rectal & topical?

A: No reason to do so

Topical:

Should I show the potency info?

A: Yes

Additional notes:

just show both names combined instead of separate including column

get rid of salycilic acid etc

potency put at end column

change names to examples of trade names

Button Colours:

I've purposely left them neutral to avoid users thinking one button is the correct answer (e.g. green button for yes) Any thoughts on this? Any specific colours you would like?

A: It's fine ( sidenote need to justify this in report)

Sick Day Rules:

Is there a general link I should use since some links are tied to specific NHS locations? (not sure if right word)

e.g. <https://www.nottsapc.nhs.uk/media/yvzbql2m/sick-day-rules.pdf> (Nottinghamshire Area prescribing committee)

[https://www.therapeutics.scot.nhs.uk/polypharmacy/sick-day-rules/\(NHS Scotland\)](https://www.therapeutics.scot.nhs.uk/polypharmacy/sick-day-rules/(NHS%20Scotland))

<https://www.mardenmedicalcentre.nhs.uk/sick-day-rules> (Marden Medical Centre)

A: Jane will provide link

End page:

Oral: What should the total daily dosage measurement be? mg micrograms etc.

A: no need for this

Routes page:

I'm a bit lost on how it should look like, I personally do not like it I was wondering if you had any ideas on how I can change it?

A:

adding icons for each route

emphasise in order ( underlined , order the routes via number to stress order)

If oral injection inhaled skipped disable it or black it out

restart button

instead of removing the routes show a tick instead

HIDE LINK AS MUCH AS POSSIBLE WHEN DEPLOYING PROJECT

Haven't got round to doing patient scenarios maybe we could do one right now?

Take out reasoning why patient is in need of an SEC  
reasoning efficiency

keep wording consistent instead of adrenal insufficiency use hpa axis suppression.

SEC end page:

get rid of outputting data

Rewrite paragraphs to :

The doses you have entered for : (route names) is enough to indicate that this patient may be at risk of HPA axis suppression

If the patient is taking any other glucocorticoids this may further increase the risk.

Oral continuous & inhaled:

Change to please enter the highest daily dosage below

Bugs:

Oral page continuous finish not getting rid of route

No more glucocorticoids button in routes page has no redirect

Patient 1

Prednisolone 40mg once a day, reducing slowly down to 5mg once a day over a three month period, plus

Trimbow Inhaler 2 puffs twice a day long-term (total daily dose beclomethasone 268 micrograms per day)

A:works as intended stops after entering 40mg as exceeds threshold

Patient 2

Prednisolone 30mg once a day for 14 days (single course),

Plus Clobetasol 0.05% topical ointment once a day

A: No SEC required , Works as intended

Did 2 patient scenarios with Jane, both worked as intended.

Jane requested that I remove the outputting of data

Additionally realised I need to implement a Home/ routes button in navbar / make the logo clickable.

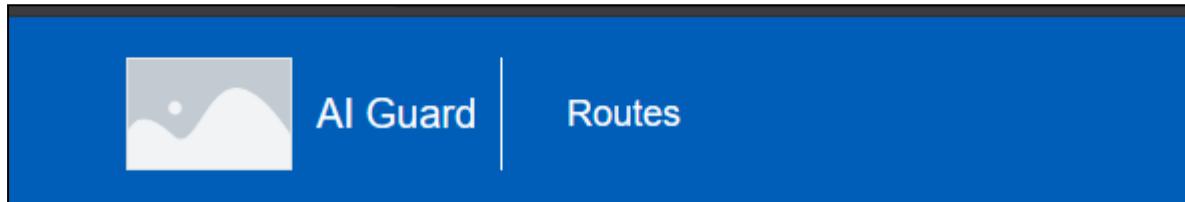
NHS England logo will be provided much later as Jane needs to work out some stuff.

04/04/2025

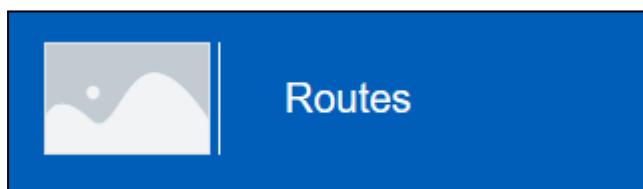
Continued testing with remaining patient scenarios:

Update header to have a routes button that shows when the user is “main” part of the application.

Medium devices and above:



Small / phone devices:

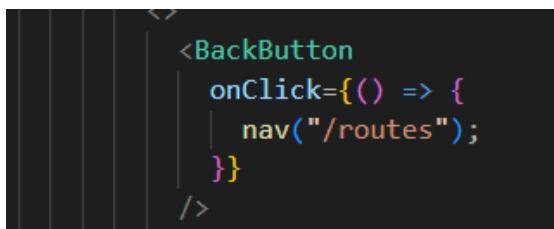


Additionally refactored the back button into a standalone component as it was being copied and pasted with very little changes across parts of the application cluttering code.

```
import { Button } from "@components/ui/button";
import { ChevronLeft } from "lucide-react";

const BackButton = ({  
  onClick,  
  containerStyle = "flex",  
  buttonStyle = "text-sapphire hover:text-pink-900",  
  chevronStyle = "w-5 h-4",  
  text = "Go Back",  
}) => {  
  return (  
    <div className={containerStyle}>  
      <Button variant="link" className={buttonStyle} onClick={onClick}>  
        <ChevronLeft className={chevronStyle} />  
        {text}  
      </Button>  
    </div>  
  );  
};  
  
export default BackButton;
```

Example of usage:



Furthermore, removed redundant route check in injection and inhaled routes & emphasised key pieces of information with a border:

< Go Back

Please note the following question relates to the patient currently having glucocorticoids or has done so in the past 12 months

Are the inhalers being used with any other form of glucocorticoid treatment?

Yes      No

Critical information, End Page, SEC required:

 Scan here for further information or search  
<https://www.endocrinology.org/adrenal-crisis>

Please note again that this tool is not to be used in real world applications by any means and should not be used to identify real patients at risk of adrenal insufficiency.

Start again

SEC not required:

**However** this tool is only a guide, please make sure to consult an appropriate healthcare professional before making any decisions.

Please note again that this tool is not to be used in real world applications by any means and should not be used to identify real patients at risk of adrenal insufficiency.

Start again

05/04/2025 (POI)

Going to implement links and icons provided by Jane and get ready to start fully sweeping through my code and making sure it's maintainable, removing unnecessary imports / console.logs and commenting where appropriate.

Deployed on vercel:

<https://ai-guard.vercel.app/>

Testing from my friend who is in CI601 cohort to test my application:

No further glucocorticoids in routes page: text is confusing need to reword it,

Routes page: routes should be responsive e.g. change colour on hover to distinguish selected route from others, could explicitly number it to emphasise route

Oral route: intermittent -> continuous check click no does not remove route

In firefox up and down arrows show for input fields:

Refreshing in any page causes a 404, but this is due to the deployment environment not being setup properly,

Attempted to deploy onto another hosting site netlify,

Issue seems to be persistent with both sites.

Cause seems to be due to it being an SPA

Went back to vercel and added a fix, it seems it needs extra steps due to the application being a single page application

This highlights how I need to be aware of the architecture I am using whilst developing this project.

Implemented requested changes from user testing:

**Please enter the glucocorticoids taken in the order of the routes shown**

**Refresh routes**

1. Oral	X
2. Injection	X
3. Inhaled	X
4. Nasal	X
5. Topical	X
6. Rectal	✓
7. Eye	

**No more routes**

Refresh button after user completes at least one route that refreshes available routes,  
If route is skipped and is not completed in order , previous routes disabled and show an x to signify route skipped.

Additionally reworded no further glucocorticoids.

Maybe need to align the checkmarks

Still need to add the icons and add links provided

06/04/2025( W3C POI)

Received an email containing the information for the intro / starting page.

Initially I thought that I should put this in a JSON file to make it easier to access however the wording contains links and it will take more effort / logic to splice the string and then access the specific word I want to put a link in.

So as a result I went with writing the intro in HTML to avoid extra unnecessary steps.

#### **Opening wording**

**THIS TOOL IS CURRENTLY IN DEVELOPMENT AND SHOULD NOT BE USED TO DECIDE OTHER THAN FOR TESTING PURPOSES**

This tool is designed to support with the decision as to whether patients are at risk of **tertiary** adrenal insufficiency (ie sufficient HPA<sup>1</sup> axis suppression from taking exogenous steroids), and if so gives guidance on what actions should be taken, including carrying a [Steroid Emergency Card](#) and whether there is a need to follow [Sick Day Rules](#). The tool is based on the paper [Exogenous steroids treatment in adults. Adrenal insufficiency and adrenal crisis-who is at risk and how should they be managed safely.](#)

It is not necessary to use this tool for **primary** or **secondary** insufficiency, as all of these patients will need a Steroid Emergency Card and to follow Sick Day Rules.

Please note that this a support tool, and any patients taking glucocorticoids presenting with acute illness, trauma or for surgery should be *considered clinically* as to whether they may be at risk of having, or developing, adrenal crisis and appropriate actions taken.

For quickness of use the tool will not ask any further questions once a threshold is reached where a steroid emergency card is recommended. It should be kept in mind that if a patient is taking glucocorticoids that have not yet been entered, their risks will be increased.

Further guidance on prevention and emergency management can be found in the [Society for Endocrinology](#) website and its [Clinical Guidance](#).

#### **If no SEC is indicated**

It is unlikely that this patient needs a Steroid Emergency Card. Please remember however, that this is a support tool, and health care professionals should ensure that they consider the patient clinically before making a final decision.

For more information see [https://www.endocrinology.org/media/4091/spssfe\\_supporting\\_sec\\_final\\_10032021-1.pdf](https://www.endocrinology.org/media/4091/spssfe_supporting_sec_final_10032021-1.pdf)

Additionally received the update topical doses and brand names and will implement them today.

Implemented requested changes, and today I am conducting a w3c check.

However due to it not being a raw HTML page w3c validators do not work, this means I have to manually check.

To understand what elements need to have accessibility attributes I researched this article by MDN.

<https://developer.mozilla.org/en-US/docs/Web/Accessibility/ARIA>

## 07/04/2025 (W3C continued)

Had to update glucocorticoids in the topical page as they had to be verified with an external person to check if some glucocorticoids are discontinued.

Today I will continue checking my code and pages against W3C standards

Whilst using my screen reader extension to check my application

<https://chromewebstore.google.com/detail/Screen%20Reader/kgejglhpjiefppelpmljglcjbhoinIfn>

I realised that in my injection page I had not created a label for the inputs and as such would simply say the checkbox value instead of the label. This highlights how important it is to ensure proper html semantics are followed.

### Dexamethasone

- Taken as an antiemetic in oncology regimens, and for 12 months after stopping when future cycles are anticipated?
- Taken as prolonged courses (>10 days) for the treatment of severe Covid-19?

Additionally the checkboxes are far below what is recommended by the W3C standard

<https://www.w3.org/WAI/WCAG22/Understanding/target-size-minimum>

[https://handreichungen.bfit-bund.de/accessible-uie/checkbox.html#:~:text=The%20click%20area%20of%20the,Use%20of%20the%20pointing%20device\).](https://handreichungen.bfit-bund.de/accessible-uie/checkbox.html#:~:text=The%20click%20area%20of%20the,Use%20of%20the%20pointing%20device).)

The above article states that “The click area of the checkbox should be at least 24 x 24 px” .

### Dexamethasone

- Taken as an antiemetic in oncology regimens, and for 12 months after stopping when future cycles are anticipated?
- Taken as prolonged courses (>10 days) for the treatment of severe Covid-19?

Updated checkbox with more accessible size and labels.

As I was reviewing I received an email requesting additional changes:

**1. Opening page.**

- Can you remove the last section starting "if no SEC is indicated". It doesn't need to be on this page.
- Change title: Identifying not identify.
- Change sufficient HPA access to significant HPA access.

**2 . Second page**

The list in question 1 is missing the antifungals: Itraconazole Ketoconazole Voriconazole and Posaconazole. Can you add them to the list. Suggest set them out as in the original paper:

**Potent Protease inhibitors:**

Atazanavir

Darunavir

Fosamprenavir

Ritonavir (+/- lopinavir)

Saquinavir

Tipranavir

**Antifungals:**

Itraconazole

Ketoconazole

Voriconazole

Posaconazole

**Antibiotics:**

Clarithromycin—long term courses only

**3.** On this page below(start page), the CYP3A4 inhibitors "see list below" are those listed in the first question ie

Atazanavir Darunavir Fosamprenavir Ritonavir (+/- lopinavir) Saquinavir Tipranavir

Antifungals: Itraconazole Ketoconazole Voriconazole Posaconazole

Antibiotics:  
Clarithromycin—long term courses only

**4. Need to reword the following page ( end page no sec)**

- No need for first line "The patient's results". Please can you remove it?
- First sentence is good other than add the to be "The patient is unlikely to be at risk... etc
- Second sentence. Change to "It does **not** appear that a Steroid Emergency Card is needed for this patient. However this tool is only a guide and the patient should always be considered clinically for any other reasons why a card may be needed.
- Then remove the sentence already in starting "however this tool is only a guide...."

**5.** On the page below (end page sec needed),

- remove "the patient's results".
- Take out the word highly
- Before Next Steps, add "This patient may need steroid cover if admitted to hospital, unwell or invasive procedure."
- Last sentence, remove the word endocrinology and change to "The card can be obtained from any pharmacy, and is also available in a PDF format". (include your link)

**6.** First line (Oral continuous page). Please add in brackets (If the patient has taken a variable dose, enter the highest dose taken.)

**7.** Injections. I think that this can be simplified:

- Keep dexamethasone the same, but make it dexamethasone injection (not just dexamethasone)
- Second line, change to dexamethasone, hydrocortisone, methylprednisolone and / or triamcinolone injection:
  - With any other glucocorticoid by any other route
  - 3 or more injections of any within the last 12 months

**8.** Inhalers. Please can the question be changed to "Is the patient also using nasal glucocorticoids"?

The answer yes, would still lead to those lower thresholds, and no would be the higher doses.

Also can I check that the right table has been used for the answer no? I put in that the patient was on 800 micrograms of beclomethasone and it said that a SEC was needed. I think that it needs to be 1000 or more.

**9.** Topical. Please can the question be changed to "Is the patient applying potent or very potent topical glucocorticoids in quantities of:

- More than 30g a month to rectal or vaginal areas, or
- More than 200g a week to any other area?"

**10.** Topical. Can the question below be changed to "Is the patient using also taking significant amounts of other forms of glucocorticoid?"

**11.** (end page no sec) Remove "Please review the following", and in the skin lightening section, change steroid to steroids

**12.** Rectal. I have reread the evidence again and think I didn't get the question correct. It should be "Is the patient using either of the following" and remove the part about 30g per month.

- If no, then back to routes.
- If yes, the wording, "There are some reports of these rectal glucocorticoids causing adrenal insufficiency when used for inflammatory bowel disease. Consider usage of these and any other concomitant steroid use to decide if a Steroid Emergency Card is needed. (Then return to routes).

Lastly, with back to the oral route, can the word intermittently in the first question be underlined? Also I noticed that if you put in a dose of continuous oral steroid that is below

the threshold, it takes you back to the wrong place ie not back to the routes  
**Implemented these changes today as well, see git commit #edf2d89**

## 08/04/2025 (POI (testing) & W3C continued)

Continuing documenting code and ensuring best practice against W3C standards  
Jane requested a meeting as the inhaled page was not working as expected, SECs were not being given when expected and values were not adding up.

Was given patient scenarios to test:

Pt No	Continuous oral steroid	Inhaled without nasal	Inhaled with nasal	Need SEC?
1	0	Budesonide 1000 mcg		Y
2	0	Budesonide 800mcg		N
3	0		Fluticasone propionate 200mcg	N
4	0		Fluticasone propionate 400mcg	Y
5	Hydrocortisone 10mg	Beclomethasone Extra fine 400mcg		Y
6	Hydrocortisone 5mg	Beclomethasone Extrafine 200mcg		N
7	Prednisolone 3mg		Mometasone 100mcg	No
8	Prednisolone 4mg		Mometasone 200mcg	Y

After testing:

Pt No 1: Total = 1 required SEC

Pt No 2: Total = 0.8 did not require sec, redirected to routes

Pt No 3: total = 0.5 , did not require sec, redirected to routes

Pt No 4: total = 1 . required sec

Pt No 5: total = 1.46 required SEC

Pt No 6: total = 0.73 did not require sec , redirected to routes

Pt No 7: total = 0.85 did not require sec, redirected to routes

Pt No 8: total = 1.3 required sec

All scenarios passed.

The reason this happened was because of how I calculated my dosage values in the inhaled page,

**Initial code:**

```
const withTotal = results.reduce((acc, value, i) => {
  return (acc + value / withOtherTreatmentVal[i]) + dailyDosageVal;
}, 0);

const withoutTotal = results.reduce((acc, value, i) => {
  return (acc + value / withOutOtherTreatmentVal[i] ) + dailyDosageVal;
},0);
```

I also returned with & without Total as the final value in the calculate function

The issue lied in where I used the dailyDosageVal from context, here I used it in the callback function of the reduce function, this was essentially adding the dailyDosageVal to **EVERY** element in the array causing incorrect values to be outputted. In other words for every input the user typed in a value for I would add the daily dosage value from the oral context skewing the data a lot.

To fix this I simply added an additional variable to hold the final value which added the daily dosage value as well

**Updated code:**

```
// Sum each inputted value divided by its value from JSON
const withTotal = results.reduce((acc, value, i) => {
  return acc + value / withOtherTreatmentVal[i];
}, 0);

const finalTotal = withTotal + dailyDosageVal;
// console.log("Final total is : " + finalTotal);

return (finalTotal);
};

// Sum each inputted value divided by its value from JSON
const withoutTotal = results.reduce((acc, value, i) => {
  return acc + value / withOutOtherTreatmentVal[i];
}, 0);

const finalTotal = withoutTotal + dailyDosageVal;
// console.log("Final total is : " + finalTotal);
return (finalTotal);
};
```

09/04/2025(W3C testing and hardening completed)

Fully finished documenting code and implementation

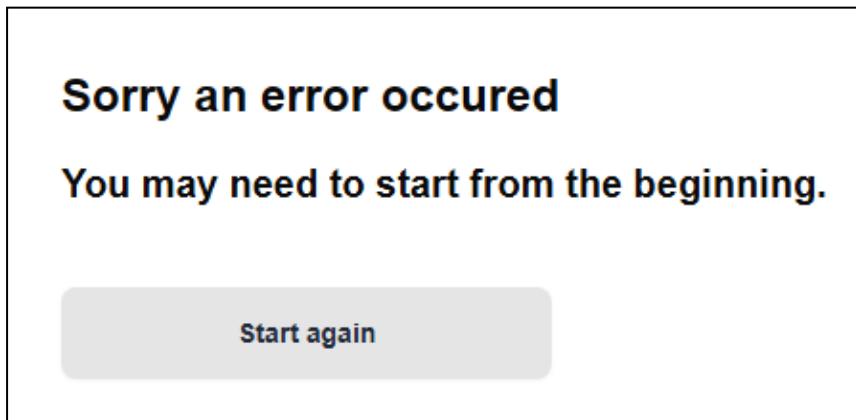
10/04/2025(Requirement Review)

Collecting files and writing test cases in preparation to start report write up.

After reviewing my requirements I realised I had only partially implemented a critical requirement.

The requirement in question is: **FR5 Session Control / question control (Must have)**

If users access the SEC page directly via the url, they are met with this message,



All other pages do not have this and can be accessed via the url.

To fix / address this issue I was thinking of implementing another context provider that simply checks if the user clicked start in the main page before accessing the pages otherwise they are shown this error / redirected to the start page.

Researched on how to do this and landed on this article

<https://medium.com/@dennisivy/creating-protected-routes-with-react-router-v6-2c4bbaf7bc1c>

I tried to implement this however due to the way I have designed my application, where every route is accessed via navigation from button click it causes every route to not be accessible. So to fix this I mixed this solution and my own where I create a global boolean that essentially "allows" the user to use the app.

## Added functionality:

### Permission context component

```
* This component creates a context provider to be used in conjunction with the ProtectedRoute component.
* It is essentially a global flag that provides permission to users to access the application.
*
*
* It creates context, a context provider, a custom hook to consume the context
*
* @author Pavan Sahadevan
* @version 1.0
* Developed as a proof of concept for NHS England and as a final year project for CI601 from the University of Brighton.
*/
import { createContext, useState, useContext } from "react";
// Create a new context for permission context
const PermissionContext = createContext();

// Provider component that wraps the app to provide access to the permission provider state

export function PermissionProvider({ children }) {
    // Start with false - user is not "allowed" initially
    const [isAllowed, setIsAllowed] = useState(false);

    // The Provider supplies the state and its updater function to children components
    return (
        <PermissionContext.Provider value={{ isAllowed, setIsAllowed }}>
            {children}
        </PermissionContext.Provider>
    );
}

// Custom hook to use context
// Only used in one location (start page)
export function usePermission() {
    return useContext(PermissionContext);
}
```

### ProtectedRoute component:

```
* This component is used in conjunction with the Permission Context component.
* It uses the usePermission hook to check the boolean value of isAllowed.
* If it is false it navigates the user to the start.
* This is important as it prevents users accessing routes via the url.
*
*
* It creates context, a context provider, a custom hook to consume the context
*
* @author Pavan Sahadevan
* @version 1.0
* Developed as a proof of concept for NHS England and as a final year project for CI601 from the University of Brighton.
*/

import { Navigate, Outlet } from 'react-router-dom';
import { usePermission } from './PermissionContext';

export default function ProtectedRoute() {

    // Destructure isAllowed state from permission context to check value
    const { isAllowed } = usePermission();

    // If not allowed, redirect to start
    if (!isAllowed) {
        return <Navigate to="/start" replace />;
    }

    // Otherwise, render the nested routes
    return <Outlet />;
}
```

Updated files:

App.jsx:

```
50 // Route protection so users aren't able to access routes without visiting start first
51 import ProtectedRoute from "./components/ProtectedRoute.jsx";
52 import { PermissionProvider } from "./components/PermissionContext.jsx";
53
```

Wrapped in permissionProvider

```
62 <PermissionProvider>
63   <Routes>
64     {/* Public routes, can be accessed at any time */}
65     <Route index element={<Start />} />
66     <Route path="/start" element={<Start />} />
67
68     {/* Protected routes, cant be accessed until start is visited */}
69     <Route element={<ProtectedRoute />}>
70       <Route path="/q1" element={<Question1 />} />
71         <Route path="/routes" element={<SteroidRoutes />} />
72         <Route path="/routes/oral" element={<Oral />} />
73         <Route path="/routes/injection" element={<Injection />} />
74         <Route path="/routes/inhaled" element={<Inhaled />} />
75         <Route path="/routes/nasal" element={<Nasal />} />
76         <Route path="/routes/topical" element={<Topical />} />
77         <Route path="/routes/rectal" element={<Rectal />} />
78         <Route path="/routes/eye" element={<Eye />} />
79         <Route path="/end" element={<EndPage />} />
80         <Route path="/sickdayrules" element={<SickDayRules />} />
81       </Route>
82     {/* Fallback route incase of non existant route */}
83     <Route path="*" element={<NoPage />} />
84   </Routes>
85 </PermissionProvider>
```

Start.jsx

```
32   import { usePermission } from "../components/PermissionContext";
33
34   const [setIsAllowed, setIsAllowed] = useState(false);
35
36   const handleStartClick = () => {
37     // Hook for allowing user to access the main application
38     const { setIsAllowed } = usePermission();
39
40     setIsAllowed(true);
41     history.push("/q1");
42   };
43
44   return (
45     <div>
46       <h1>Welcome to the app!</h1>
47       <p>This is a protected area</p>
48       <button onClick={handleStartClick}>Start</button>
49     </div>
50   );
51 
```

Although it is very unlikely the actual end user would ever navigate via the url, it's still important to add this "guard" to prevent incorrect behavior before it even happens.

## Meeting notes for tomorrow:

### Requirements:

Reviewed them and most of them passed which is great but this maybe because it's too broad.  
is this okay? Should I break it down?

### Testing

I did not do testing such as unit testing with a frame work and instead tested visually by seeing if input = an expected output.  
I have been testing my application throughout development by testing it works by mirroring inputs and outputs with the spreadsheet,  
how should I show this?  
Unable to get more patient scenarios as Jane is on holiday

### Log:

My log is extremely long( 75 pages) should I trim it or just put it as is in appendix?

### Showing proof of meetings:

I have made notes for every meeting but should I also show emails as some stuff is discussed and solved over emails?

### Logo:

Jane said logo will have to be double checked with to see if can be used, should I wait or just keep the temporary logo?

### Report:

Is there anything I should add as this project is unique?

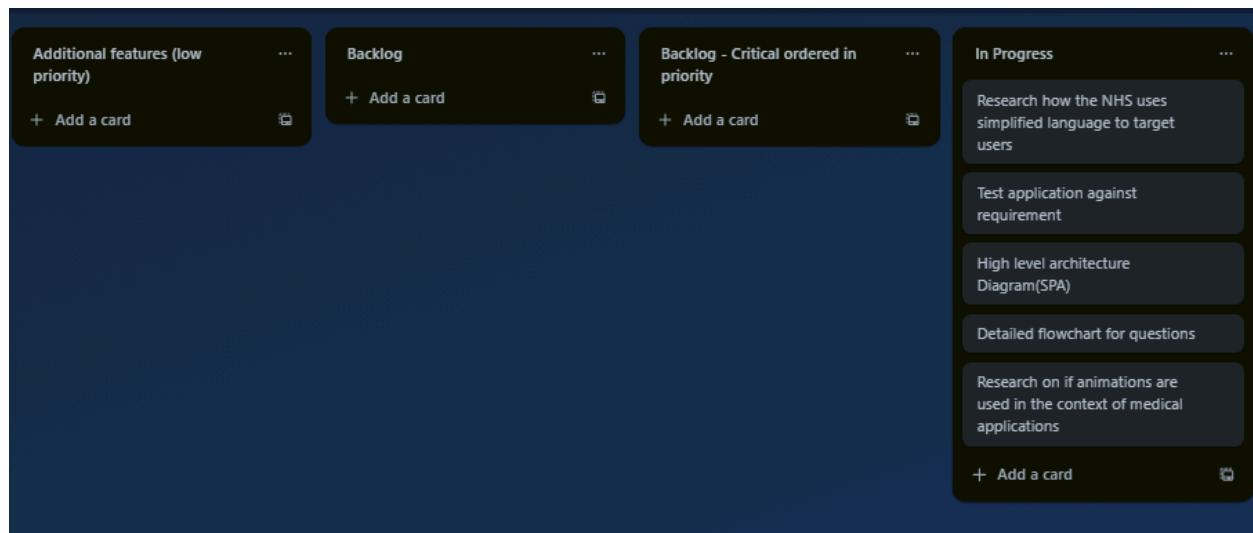
I plan to talk about how in the beginning, I constantly was tempted to add features just to pad the application out, so it would seem more "complex"

### Diagrams:

I am a bit confused as to what architecture diagram to use as my SPA does not really use any APIs or have a "backend",  
If i do use a SPA architecture diagram, it would be relatively simple, is it okay?

I do plan to do an activity diagram, is there any other diagrams I should aim to do?

Updated trelio:



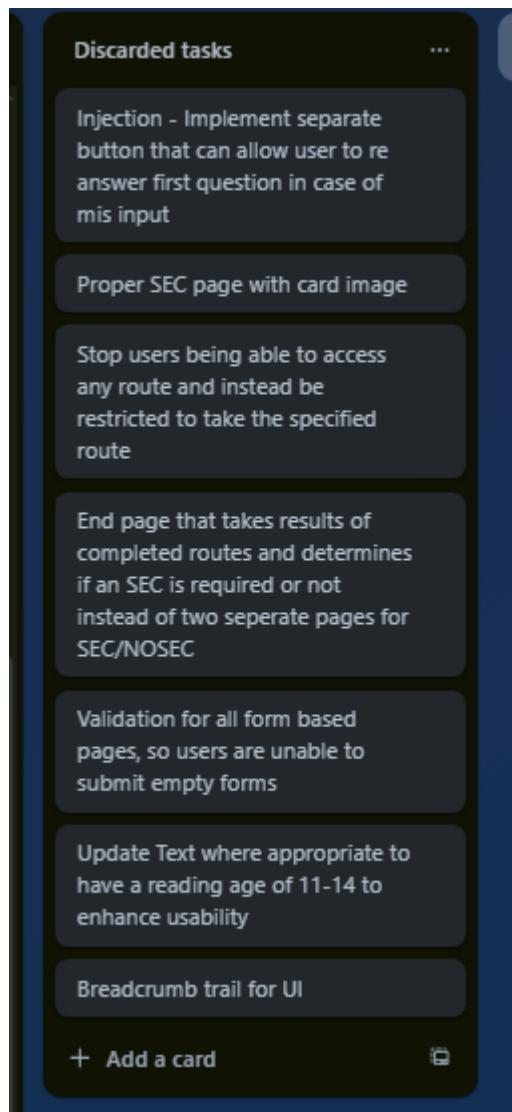
**Completed**

- Oral - Continous
- Oral - Intermittent
- Remove option of completed glucocorticoid route in route page
- Ensure users do not have to re-answer question 2 (Is the patient currently taking any glucocorticoids, or has done in the last 12 months?) / better navigation with react-router and make use of useContext
- Injection
- Inhaled restyle
- Inhaled -
- Transfer results from Oral route to be used to add to calculation in Inhaled Route
- Refactor form in Injection page to be checkmark instead of yes no buttons
- Back button on route pages
- Nasal
- Topical
- Rectal
- Output Data on choices taken by user in end page that shows SEC requirement
- Reset button in route pages

+ Add a card

**Eye ( low priority)**

- No more routes option in routes page
- Style components (tailwind)
- Full CSS review, proper validation and error handling
- Get rid of route checks after back button fully implemented and add disclaimer from Jane's email
- Sick day rules page
- No more glucocorticoids option in routes page
- User Testing
- Test user scenarios
- Intro Page



Requirements review also completed today

13/04/2025(POI)

While writing test cases and testing my application I discovered that the inhaled section was not working as expected.

If enter the following values:

Beclometasone: 400

Fluticasone propionate: 300

This should output 0.6 which means an SEC is not needed

**HOWEVER**

I was testing it against the spreadsheet provided by Jane and was using it to check all my calculations. I inputted the value for beclometasone and mirrored it in my application. My application resulted in an SEC being needed but the spreadsheet did not.

Upon further inspection I discovered that the formula for one of the cells was not properly inputted

What it should look like: C / F

No: Enter name of inhaler if using for at least 4 weeks	Total daily dose:	400 micrograms	0	1000
Beclometasone (As non-proprietary, or Clenil®, Easihaler®, or Soprobuc®)	Total daily dose:	400 micrograms	0	1000
Beclometasone extra fine (as Qvar®, Kelhale® or Fostair®, or Trimbow???)	Total daily dose:	micrograms	=C6/F6	500
Budesonide	Total daily dose:	micrograms	0	1000
Ciclesonide	Total daily dose:	micrograms	0	480
Fluticasone propionate	Total daily dose:	micrograms	0	500
Fluticasone furoate e.g. Trelegy®, Revlar®	Total daily dose:	micrograms	0	200
Mometasone furoate	Total daily dose:	micrograms	0	800
			0	
Oral Steroid Card and sick day				

Beclometasone:

Beclometasone (As non-proprietary, or Clenil®, Easihaler®, or Soprobuc®)	Total daily dose:	400 micrograms	0	1000
--	-------------------	----------------	---	------

No formula is present for this cell,

After formula is added:

400 micrograms	=C5/F5	1000
micrograms	0	500

After inputting the values again, it shows an SEC is required

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