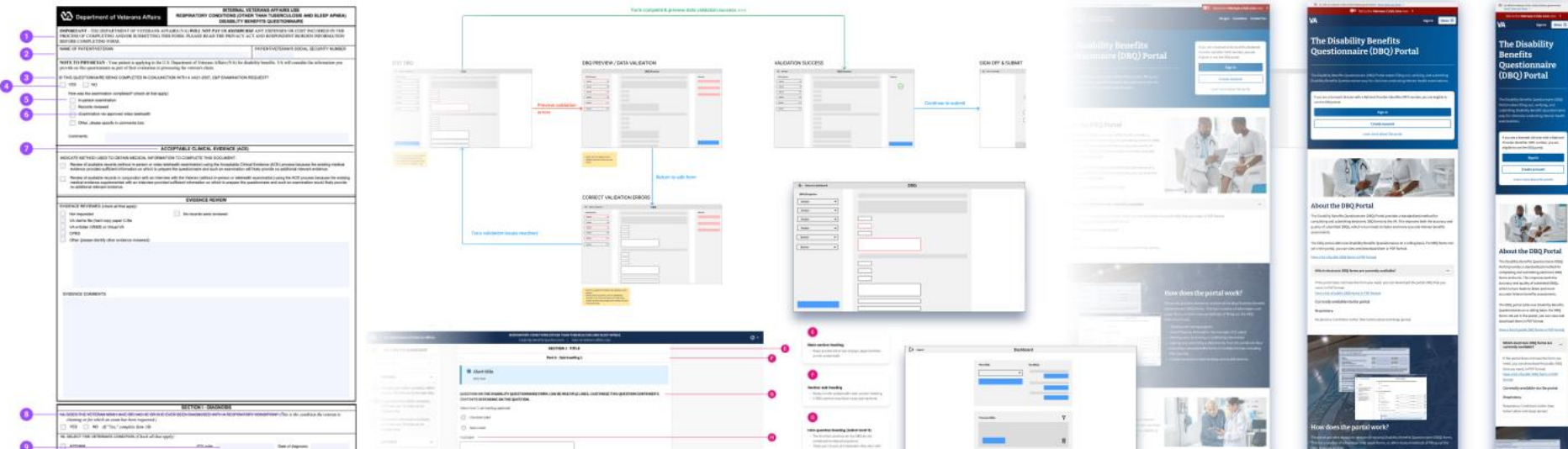




Nick Osmanski  
Senior UX Designer

## Case study 1

# The VA DBQ Portal



# The DBQ Portal | Overview

## Background

- Clinicians send Disability Benefits Questionnaire (DBQ) forms to the VA
- DBQs are paper forms, electronic PDFs, or some database format (ex: csv, xml)

## The problem

- VA spends a lot of time correcting errors, and confirming information accuracy
- This creates more work for Rating Veterans Service Representatives (RVSRs), and prevents Veterans from receiving their benefits in a timely manner

### A DBQ form

Department of Veterans Affairs		HEART CONDITIONS (INCLUDING ISCHEMIC AND NON-ISCHEMIC HEART DISEASE, ARRHYTHMIAS, VALVULAR DISEASE AND CARDIAC SURGERY) DISABILITY BENEFITS QUESTIONNAIRE
Name of Patient/Veteran	Patient/Veteran's Social Security Number	Date of examination:
<b>IMPORTANT - THE DEPARTMENT OF VETERANS AFFAIRS (VA) WILL NOT PAY OR REIMBURSE ANY EXPENSES OR COST INCURRED IN THE PROCESS OF COMPLETING AND/OR SUBMITTING THIS FORM.</b>		
<small>Note - The Veteran is applying to the U.S. Department of Veterans Affairs (VA) for disability benefits. VA will consider the information you provide on this questionnaire as part of their evaluation in processing the Veteran's claim. VA may obtain additional medical information, including an examination, if necessary, to complete VA's review of the Veteran's application. VA reserves the right to confirm the authenticity of ALL completed questionnaires. It is intended that this questionnaire will be completed by the Veteran's healthcare provider.</small>		
Are you completing this Disability Benefits Questionnaire at the request of:		
<input type="checkbox"/> Veteran/Claimant		
<input type="checkbox"/> Third party (please list name(s) of organization(s) or individual(s))		
<input type="checkbox"/> Other: please describe		
Are you a VA Healthcare provider? <input type="radio"/> Yes <input type="radio"/> No		
Is the Veteran regularly seen as a patient in your clinic? <input type="radio"/> Yes <input type="radio"/> No		
Was the Veteran examined in person? <input type="radio"/> Yes <input type="radio"/> No		
If no, how was the examination conducted?		
<b>EVIDENCE REVIEW</b>		
Evidence reviewed:		
<input type="radio"/> No records were reviewed		
<input type="radio"/> Records reviewed		
Please identify the evidence reviewed (e.g. service treatment records, VA treatment records, private treatment records) and the date range.		

## **My role**

- The sole designer assigned to this project team, supporting:
  - Front-end developers
  - Back-end developers
  - VA PO and SMEs
  - Internal PMs
- Final deliverables included:
  - Developer-ready design system components
  - Hi-fi mockups and prototypes
  - Demos and presentations to PMs and POs
  - (5-6 months project time)

## **Solution & impact**

- An electronic portal where users could fill out and send DBQ forms to the VA, incorporating standardized formatting and form data validation
- Consistent positive reactions from VA stakeholders and SMEs
  - 10 DBQ forms designed
  - Planned expansion of scope before project termination

## Interviews

- VA stakeholders: POs and PMs
  - VA Product Owner feedback about the state of the DBQ form process
  - VA Project Managers provided insight to the goals and needs of the project
- VA SMEs: Clinicians and RVSRs
  - I interviewed retired and practicing VA clinicians
  - I spoke to practicing VA Rating Veterans Service Representatives (RVSRs)

## DBQ form UX evaluation

- Form improvements
  - Standard sections for non-sequential navigation
  - Collapse conditional elements
  - Simplify Diagrams

3. DOES THE VETERAN HAVE ANY OF THE FOLLOWING PULMONARY CONDITIONS?

☐ YES ☐ NO (If "No," proceed to Section IV) (If "Yes," check all that apply):

- ☐ Asthma (If checked, complete Part A below)
- ☐ Bronchiectasis (If checked, complete Part B below)
- ☐ Sarcoidosis (If checked, complete Part C below)
- ☐ Pulmonary embolism and related diseases (If checked, complete Part D below)
- ☐ Bacterial lung infection (If checked, complete Part E below)
- ☐ Mycotic lung infection (If checked, complete Part F below)
- ☐ Pneumothorax
- ☐ Gunshot/fragment wound
- ☐ Cardiopulmonary complications
- ☐ Respiratory failure
- ☐ Tumors or neoplasms
- ☐ Other pulmonary conditions, pertinent physical findings (If checked, complete Part I below)

80. List missing teeth by number:

Right Upper      Left Upper

Right Lower      Left Lower



## The clinician

Both private (unlicensed by the VA) and licensed clinicians see multiple patients per day, and may not complete a DBQ in one setting.

### Needs

- To stop and resume a DBQ form
- To be notified of conflicting form entries and missing information

### Pain points

- Ambiguous wording or unclear DBQ instructions
- Long and unnecessary sections of the DBQ form



## The VA RVSR

The RVSR handles multiple DBQ forms for each Veteran. Rating is time consuming, so each error has a compounding effect.

### Needs

- Complete DBQ forms
- Data consistency and accuracy (no conflicts)

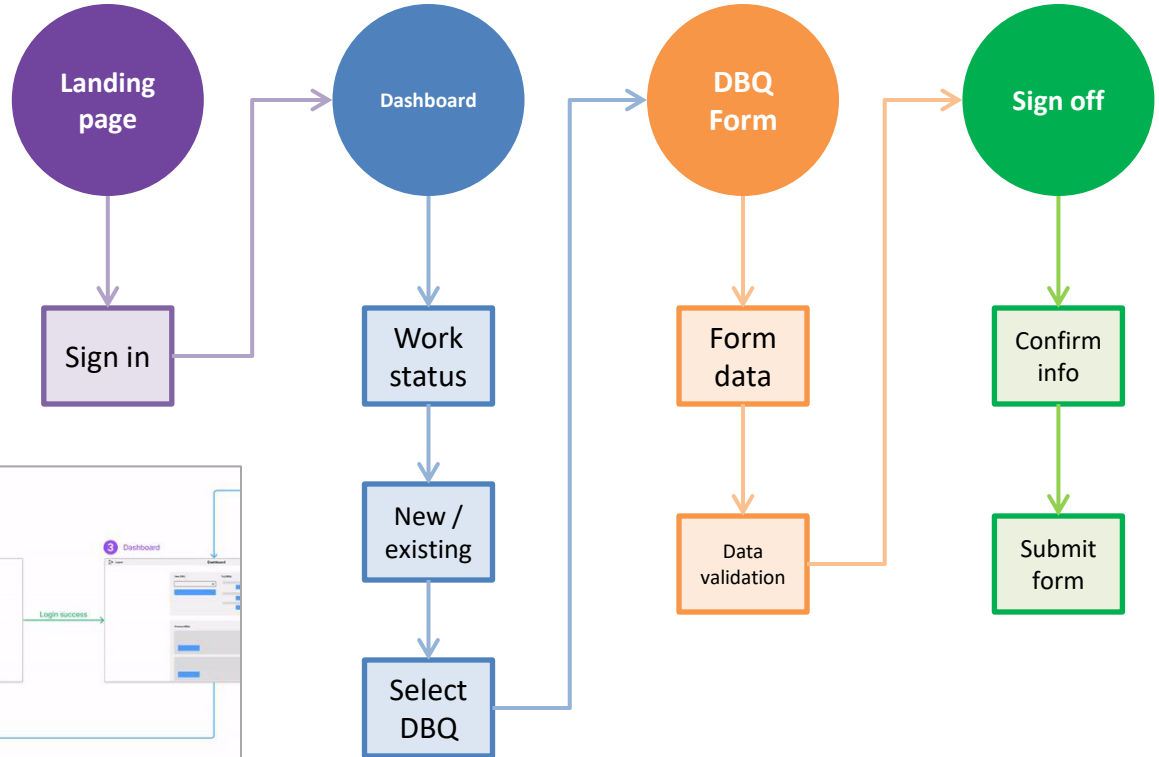
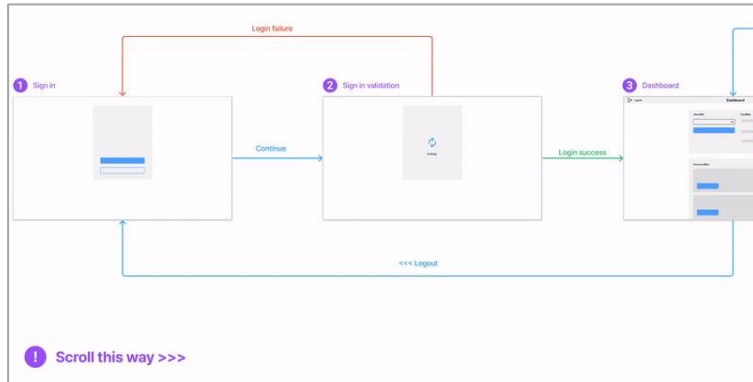
### Pain points

- Incomplete or conflicting form data
- Illegible handwritten form sections
- Manually searching through DBQ forms

# The DBQ Portal | *User flow*

## Key features

- From VA PM and POs:
  - Landing page
  - A dashboard
  - The DBQ form
  - Validating form data
  - Sign and submit



## Design iteration

## Lo-fi form

## Mid-fi form

[Return to dashboard](#)

## SECTION B - SECTION HEADING

**NOTE TO PHYSICIAN**

Your patient is applying to the U.S. Department of Veterans Affairs (VA) for disability benefits. VA will consider the information you provide on this questionnaire as part of their evaluation in processing the Veteran's claim.

**1A. Example question about the Veteran's condition with multiple choices and fields:**

Additional context information about the question.

<input type="checkbox"/> Choice	Label <input type="text"/>	Label <input type="text"/>
<input type="checkbox"/> Choice	Label <input type="text"/>	Label <input type="text"/>
<input type="checkbox"/> Choice	Label <input type="text"/>	Label <input type="text"/>

**1B. Example question with a long description field:**

Additional context information about the question.

**1C. Example question with radio buttons that trigger conditionals:**

Additional context information about the question.

☒ Yes

☐ No

## PART A - SECTION SUB-HEADING

**NOTE TO PHYSICIAN**

Your patient is applying to the U.S. Department of Veterans Affairs (VA) for disability benefits. VA will consider the information you provide on this questionnaire as part of their evaluation in processing the Veteran's claim.

## Testing prototype

VA

RESPIRATORY CONDITIONS (OTHER THAN SLEEP TUBERCULOSIS AND SLEEP APNEA)

Disability Benefits Questionnaire | Internal Veterans Affairs Use

SECTION HEADING

1A.

QUESTION 1 - AN EXAMPLE QUESTION ON THE DBQ FORM. THIS QUESTION CAN BE MULTIPLE LINES.

Yes

No

1B.

QUESTION 2 - EXAMPLE QUESTION ON THE DBQ FORM. THIS QUESTION CAN BE MULTIPLE LINES.

Yes

No

1C.

QUESTION 3 - EXAMPLE QUESTION ON THE DBQ FORM. THIS QUESTION CAN BE MULTIPLE LINES.

Yes

No

# The DBQ Portal | Usability testing

The screenshot displays the VA DBQ Portal interface. The top header includes the VA logo and the text 'U.S. Department of Veterans Affairs'. Below this, the title 'RESPIRATORY CONDITIONS (OTHER THAN TUBERCULOSIS AND SLEEP APNEA)' is shown, along with 'Disability Benefits Questionnaire' and 'Internal Veterans Affairs Use'. The main content area is titled 'SECTION I - DIAGNOSIS'. It contains two main sections: '1A. DOES THE VETERAN NOW HAVE OR HAS HE OR SHE EVER BEEN DIAGNOSED WITH A RESPIRATORY CONDITION?' and '1B. SELECT THE VETERAN'S CONDITION'. Section 1A has radio buttons for 'Yes' and 'No'. Section 1B has a list of conditions with checkboxes: 'Asthma', 'Emphysema', 'Chronic Obstructive Pulmonary Disease (COPD)', 'Chronic bronchitis', 'Constrictive bronchiolitis', 'Interstitial lung disease (if checked, specify:)', 'Restrictive lung disease (if checked, specify:)', and 'Mycotic lung disease (if checked, specify:)'.

VA | U.S. Department of Veterans Affairs

RESPIRATORY CONDITIONS (OTHER THAN TUBERCULOSIS AND SLEEP APNEA)  
Disability Benefits Questionnaire | Internal Veterans Affairs Use

SECTION I - DIAGNOSIS

1A. DOES THE VETERAN NOW HAVE OR HAS HE OR SHE EVER BEEN DIAGNOSED WITH A RESPIRATORY CONDITION?

☒ Yes  
☐ No  
If "Yes" complete item 1B

1B. SELECT THE VETERAN'S CONDITION

Check all that apply

☒ Asthma ICD Code  Date of diagnosis

☐ Emphysema ICD Code  Date of diagnosis

☐ Chronic Obstructive Pulmonary Disease (COPD) ICD Code  Date of diagnosis

☐ Chronic bronchitis ICD Code  Date of diagnosis

☐ Constrictive bronchiolitis ICD Code  Date of diagnosis

☒ Interstitial lung disease (if checked, specify:)  
 ICD Code  Date of diagnosis

☐ Restrictive lung disease (if checked, specify:)  
 ICD Code  Date of diagnosis

☐ Mycotic lung disease (if checked, specify:)  
 ICD Code  Date of diagnosis

**Note**  
Interstitial lung diseases include but are not limited to asbestosis, diffuse interstitial fibrosis, interstitial pneumonitis, fibrosing alveolitis, desquamative interstitial pneumonitis, pulmonary alveolar proteinosis, eosinophilic granuloma of lung, drug-induced pulmonary pneumonitis and fibrosis, radiation-induced pulmonary pneumonitis and fibrosis, hypersensitivity pneumonitis (extrinsic allergic alveolitis) and pneumoconiosis such as silicosis, anthracosis, etc.

**Note**  
Restrictive lung diseases include but are not limited to diaphragm paralysis or paresis, spinal cord injury with respiratory insufficiency, kyphoscoliosis, pectus excavatum, pectus carinatum, traumatic chest wall defect, pneumothorax, hernia, etc., post-surgical residual (lobectomy, pneumonectomy, etc.), chronic pleural effusion or fibrosis.

## How & who

- Remote usability testing using Figma prototypes and a UAT live site
- Participants were given a general task: complete and send in a DBQ
- 3 clinicians, 1 VA PM, 1 RVSR

## Results

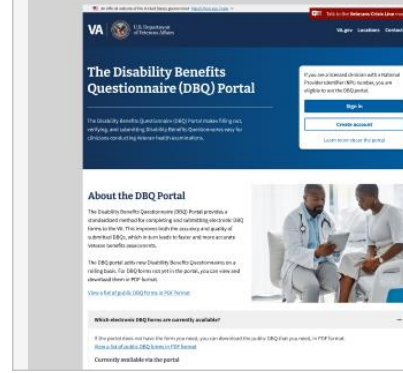
- New features included:
  - Side panel status icons
  - Veteran info context
  - Hide/show conditionals
- General positive feedback
  - More efficient
  - Participants preferred this over their current workflow



# The DBQ Portal | *Final deliverables*

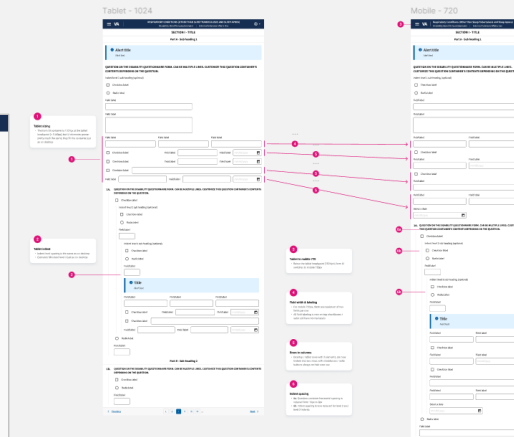
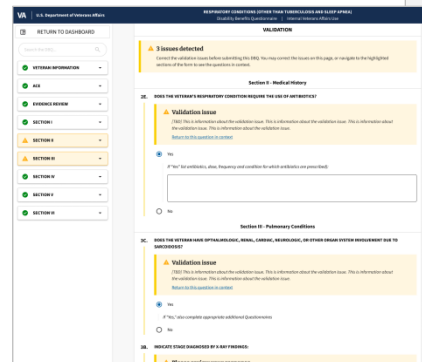
## Deliverables

- Design system components
  - 508 compliant colors, grids, typography, form elements etc.
- Mockups & prototypes
  - Annotated for developers
  - Desktop / mobile breakpoints
  - 10 DBQs in total
- Demos
  - End-of-sprint presentations to PMs and POs
- Front-end QA
  - Local server in Docker
  - Notes & feedback for devs



Responsive design

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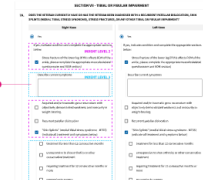


Indent structure update

<< Back to style index

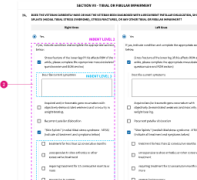
A. Old design (deprecated)

Form container



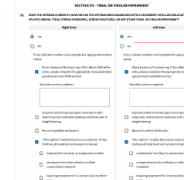
B. New design - updated container structure, indent, & border style

Form container



C. Newest updates + contiguous radio buttons

Form container



## Mini retro

- Lessons learned
  - More experience communicating design to devs (front-end QA review)
  - Making design system readable / navigable
- Do anything differently?
  - More usability testing with clinicians
  - No time for read data validation testing in UAT environment

Thanks!