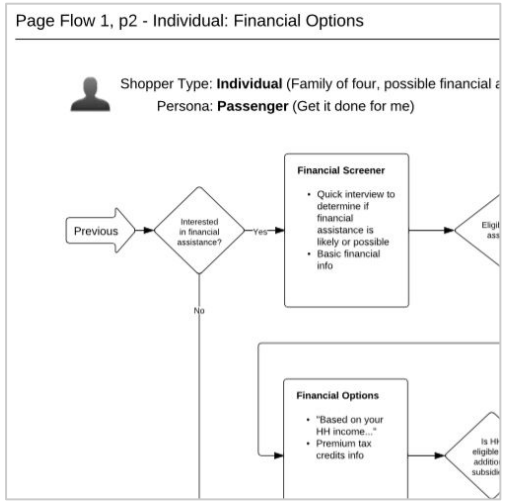
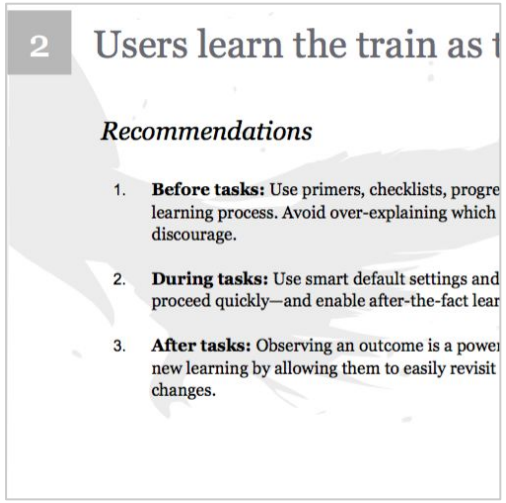
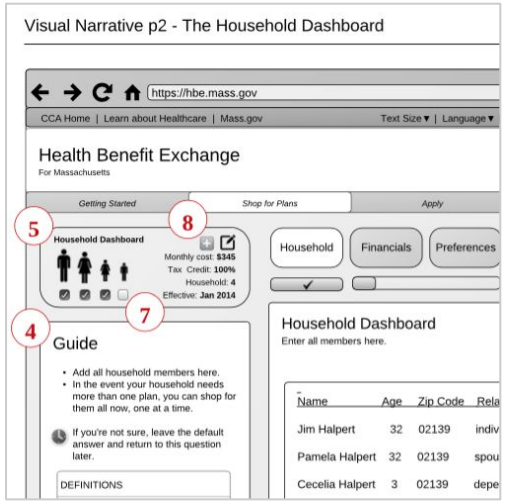
Translating Requirements into a User Experience

Challenge: Our client was concerned about their online health insurance marketplace: only the engineers and policy wonks could understand it! Regular non-expert shoppers were getting stuck. The user experience (UX) layer was missing.

Solution: A three-part strategy:







1 Consumer-friendly.

Step 1 was to translate policy and technical requirements into a set of human-friendly screens.

2 The User Experience layer.

Step 2 was about changing how the organization approached screens, data, and people.

3 Theory into Practice.

Step 3 combined the first two steps into a practical framework that dovetailed: physical screens, policy goals, and user process and outcomes.

New Spin Design, Inc.

User Interface Strategy

Massachusetts Health Benefit Exchange

Table of Contents

How to Use this Document

The goal of this document is to advance the process flows to the next level and to inform subsequent phases of unpacking the ACA and making it a reality.

This is a starting point and by no means complete or final. The concepts, page flows and wireframes are an initial attempt to test assumptions and illustrate possible directions.

Section 1—Page flows *3*

- **Scope:** two sets of page flows (individual and employer/employee) to illustrate the basic user experience
- **Zoom/Detail level:** The step after process-flows. A mix of web pages and summarizing process steps (i.e. not exclusively page-by-page).
- **Focus:** Simplified happy paths of Passenger persona. Limited path branches to maintain clarity and brevity.

Section 2—Guide of UX Principles for HIX *13*

10 selected high-level user experience principles, application-level examples and recommendations. Not an inflexible blueprint, but a reference guide of crucial objectives to inform the evolving decisions by the implementation team.

Section 3—Visual Narrative *35*

Based on the simplest page flow above, the visual narrative tells a user's story from end-to end, highlighted by wireframes of the key pages and components that illustrate key UX principles.

Appendix A—User Persona Matrix *43*

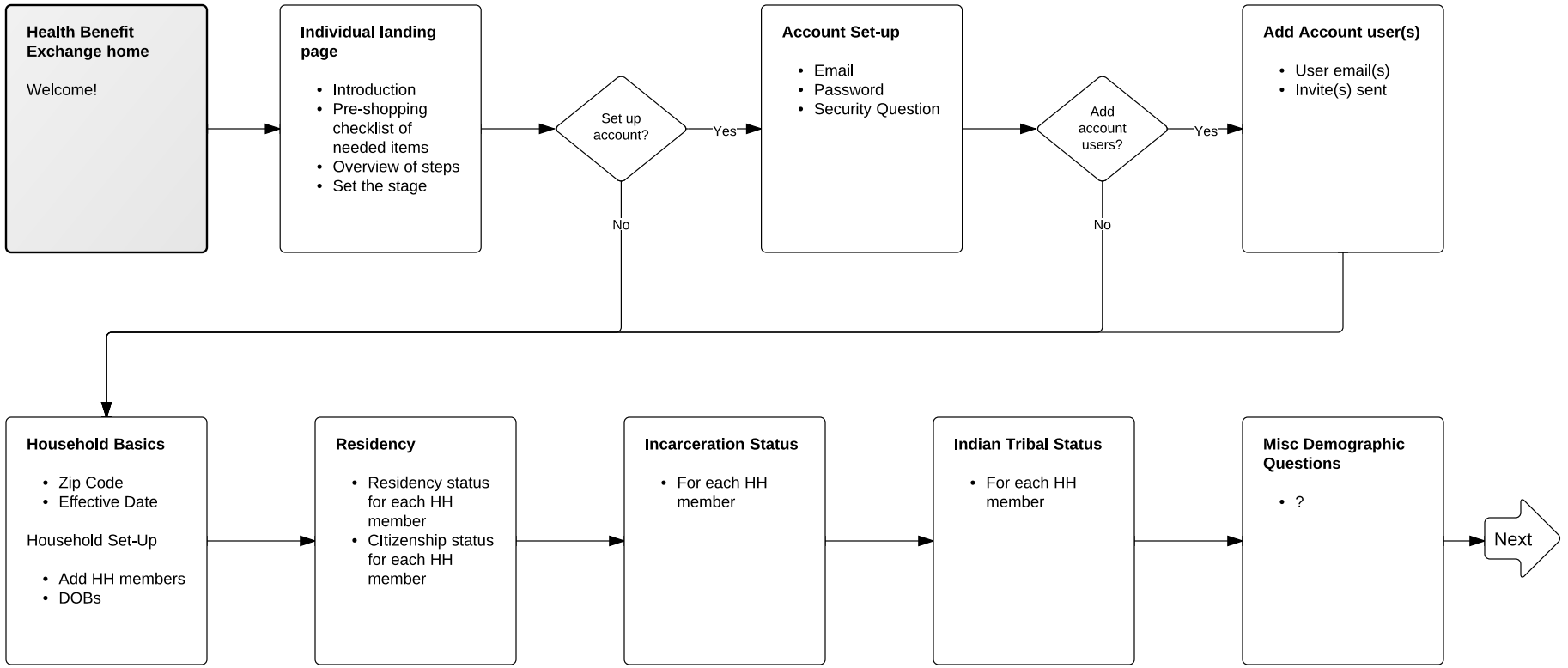
Appendix B—Issues Beyond Scope of Phase I. *45*

Section 1

Page Flows

Shopper Type: **Individual** (Family of four, possible financial assistance, creates account, 'happy' path)

Persona: **Passenger** (Get it done for me)



How To Use This Document

- **Page or Topic:** These page flows contain mostly pages, yet some of the 'pages' are topics that might eventually use 1+ actual web pages.
- **Labels:** Page titles and process terms are functional labels for internal use only.
- **Streamlined paths:** To achieve the illustrative clarity of a 'happy' path (i.e. users with minimally complex needs), page boxes and decision diamonds provide only a fraction of the possible routes needed to accommodate every use case.

Shopper Type: **Individual** (Family of four, possible financial assistance, creates account, 'happy' path)

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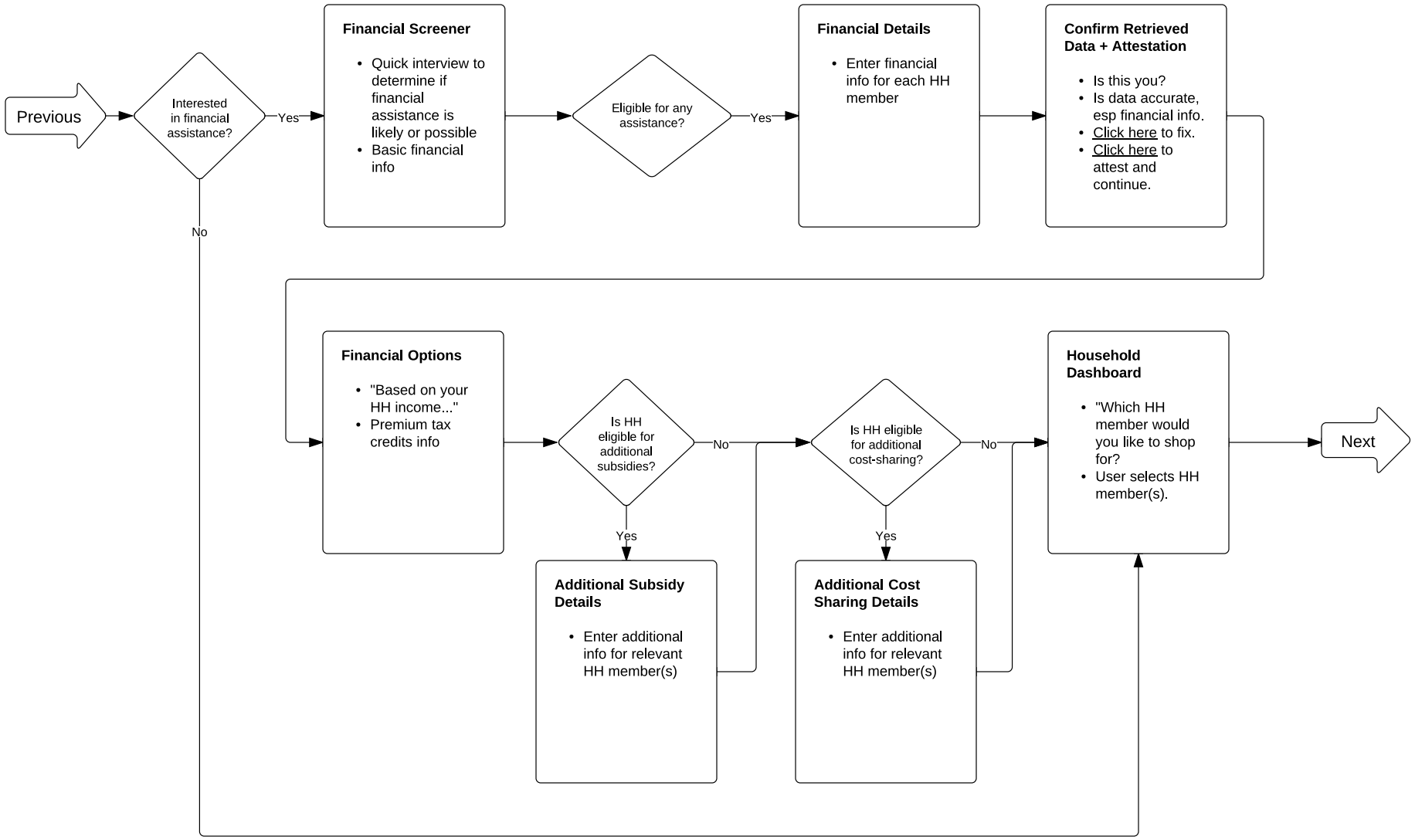

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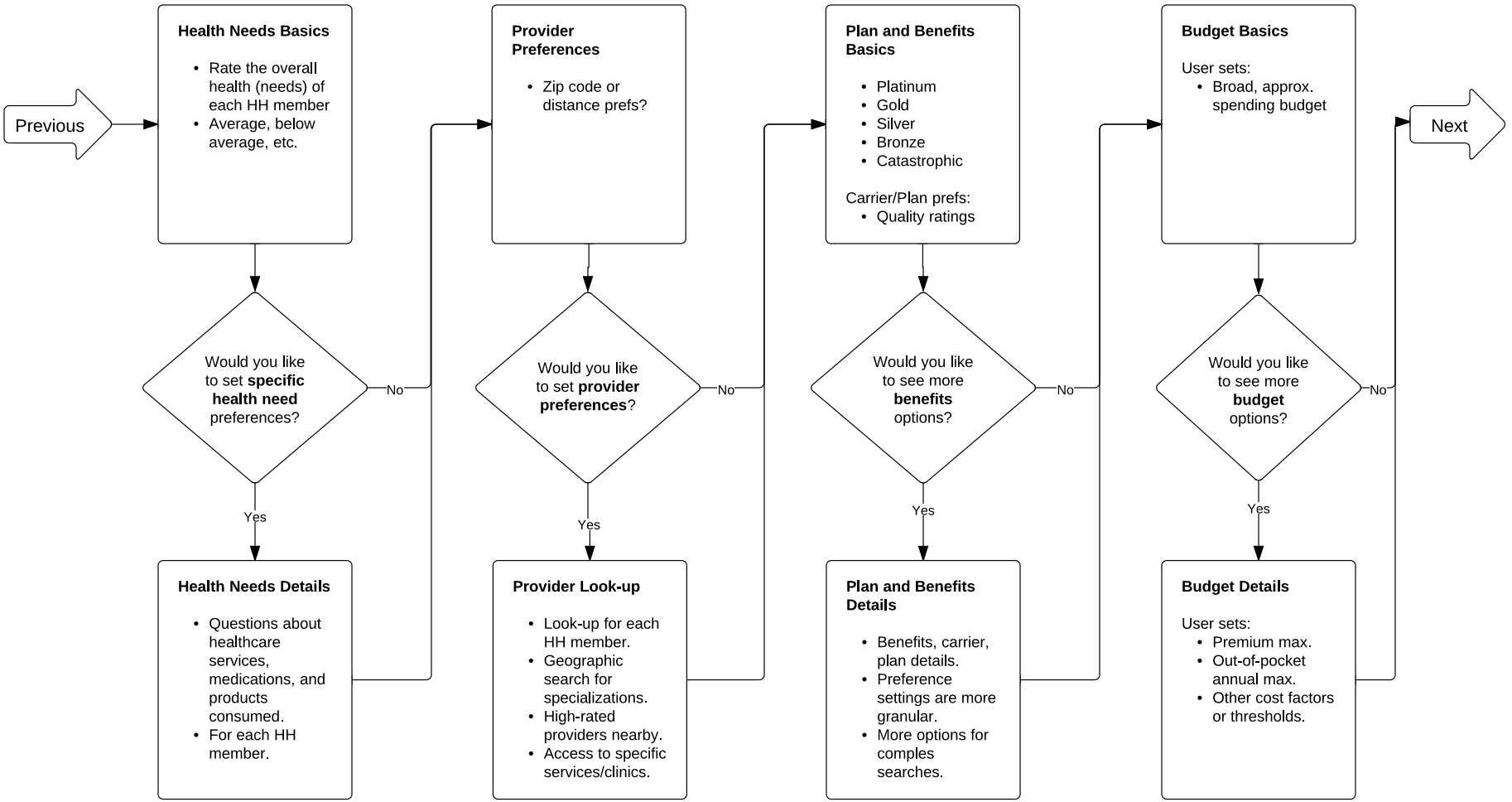

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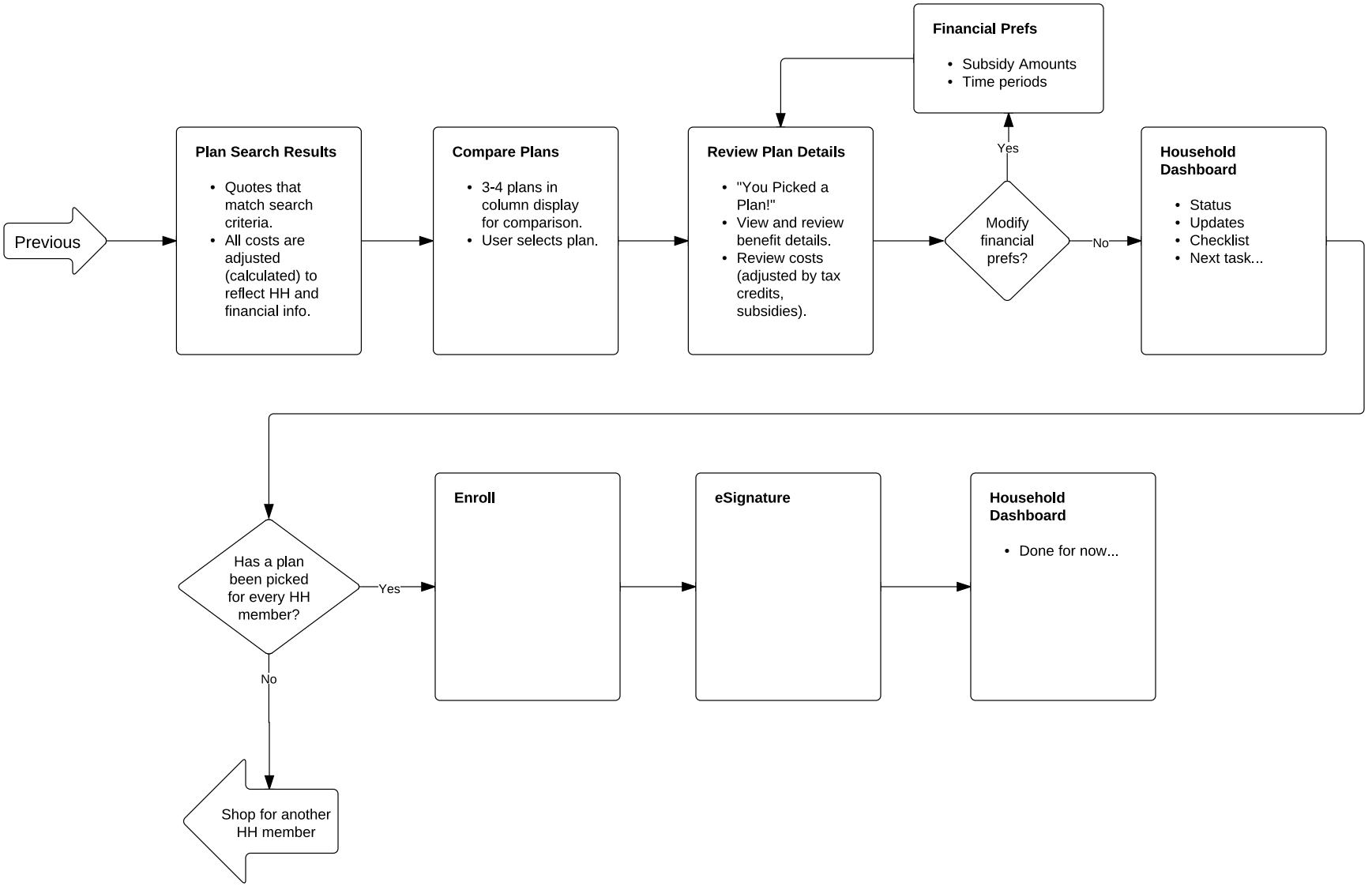
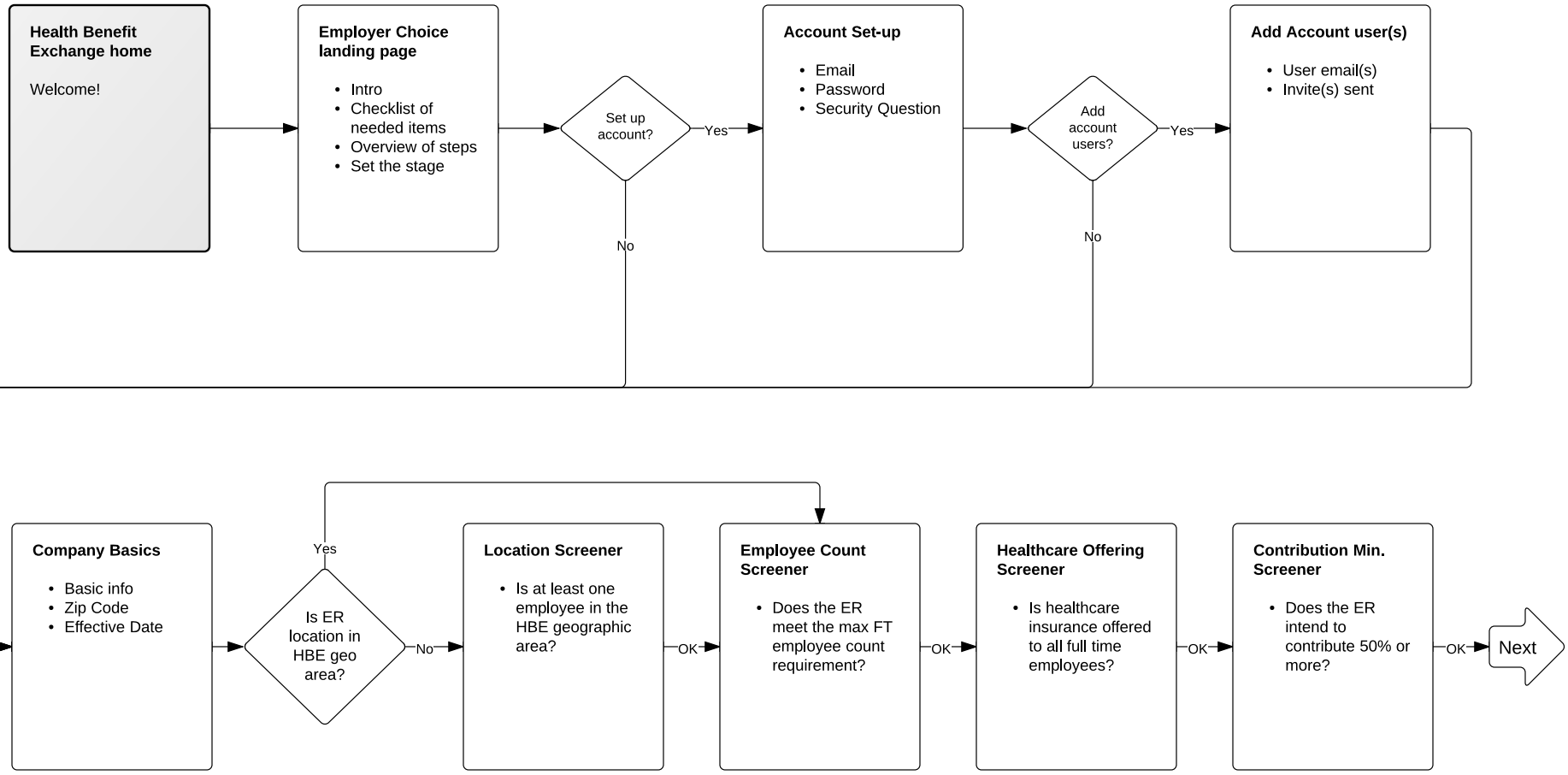


Type: **Employer** Three employees, creates account)

Type: **Employee** (Family of four, single plan)

Persona: **Manager** (Keep me posted)



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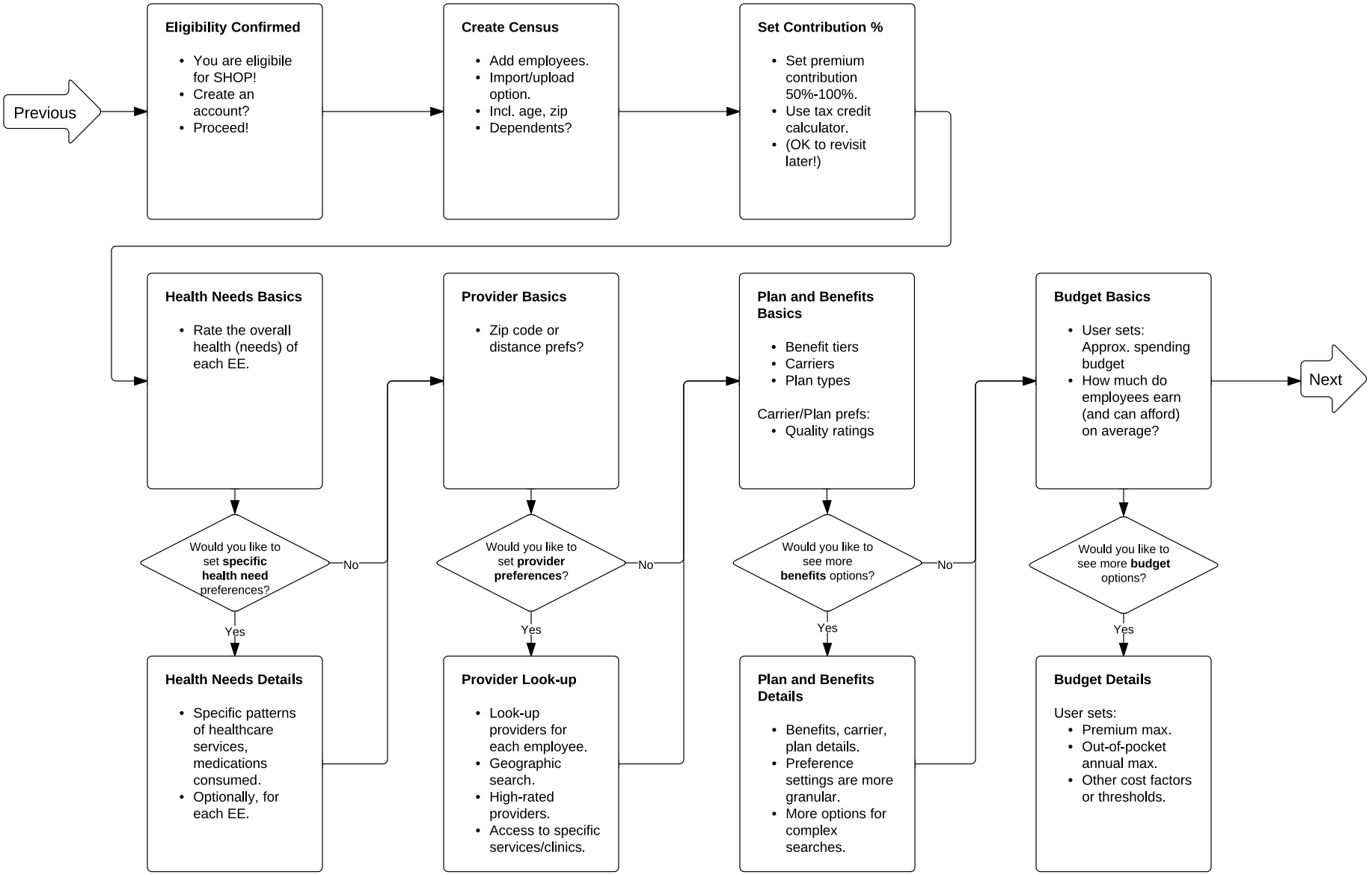

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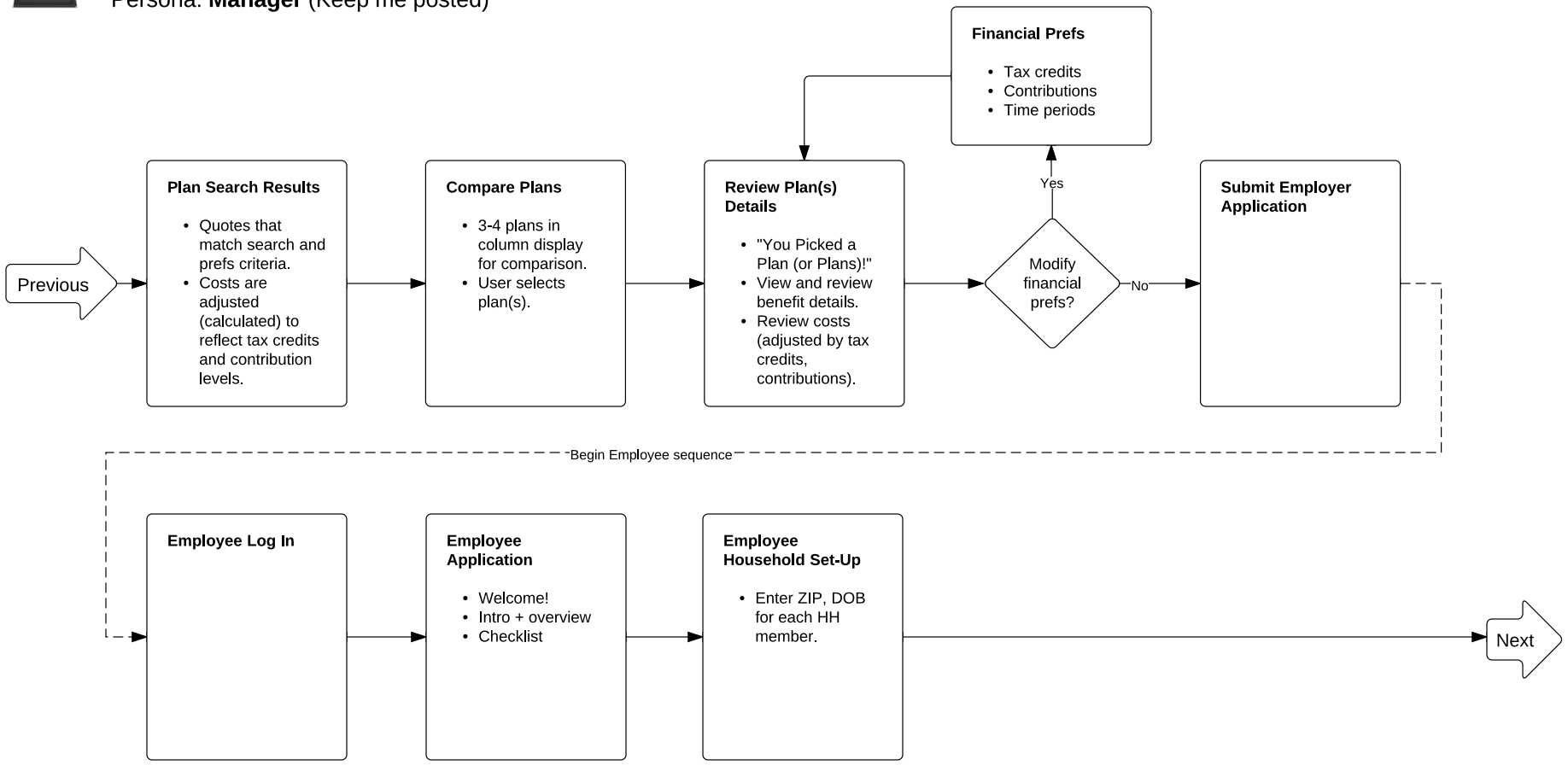

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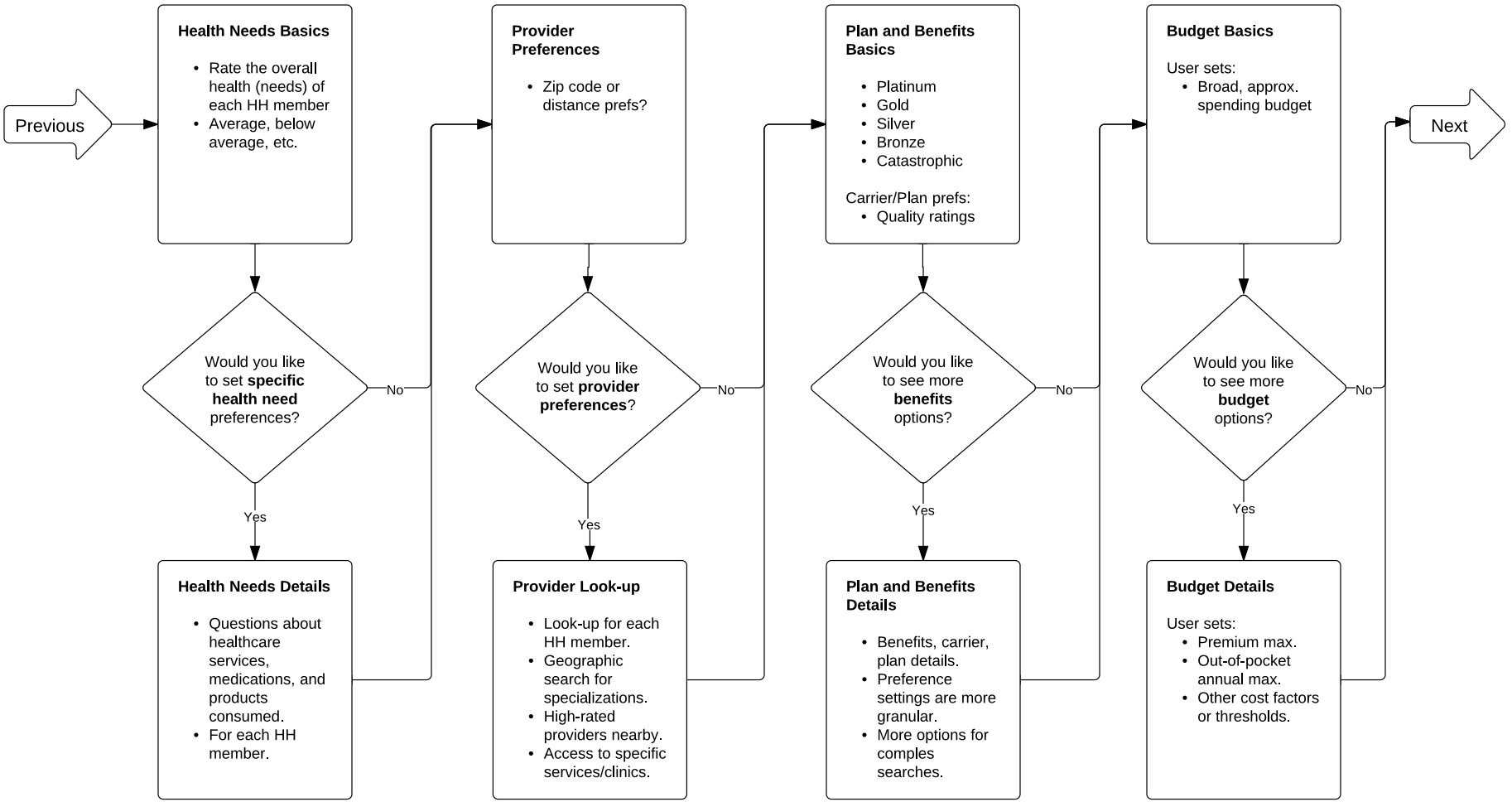

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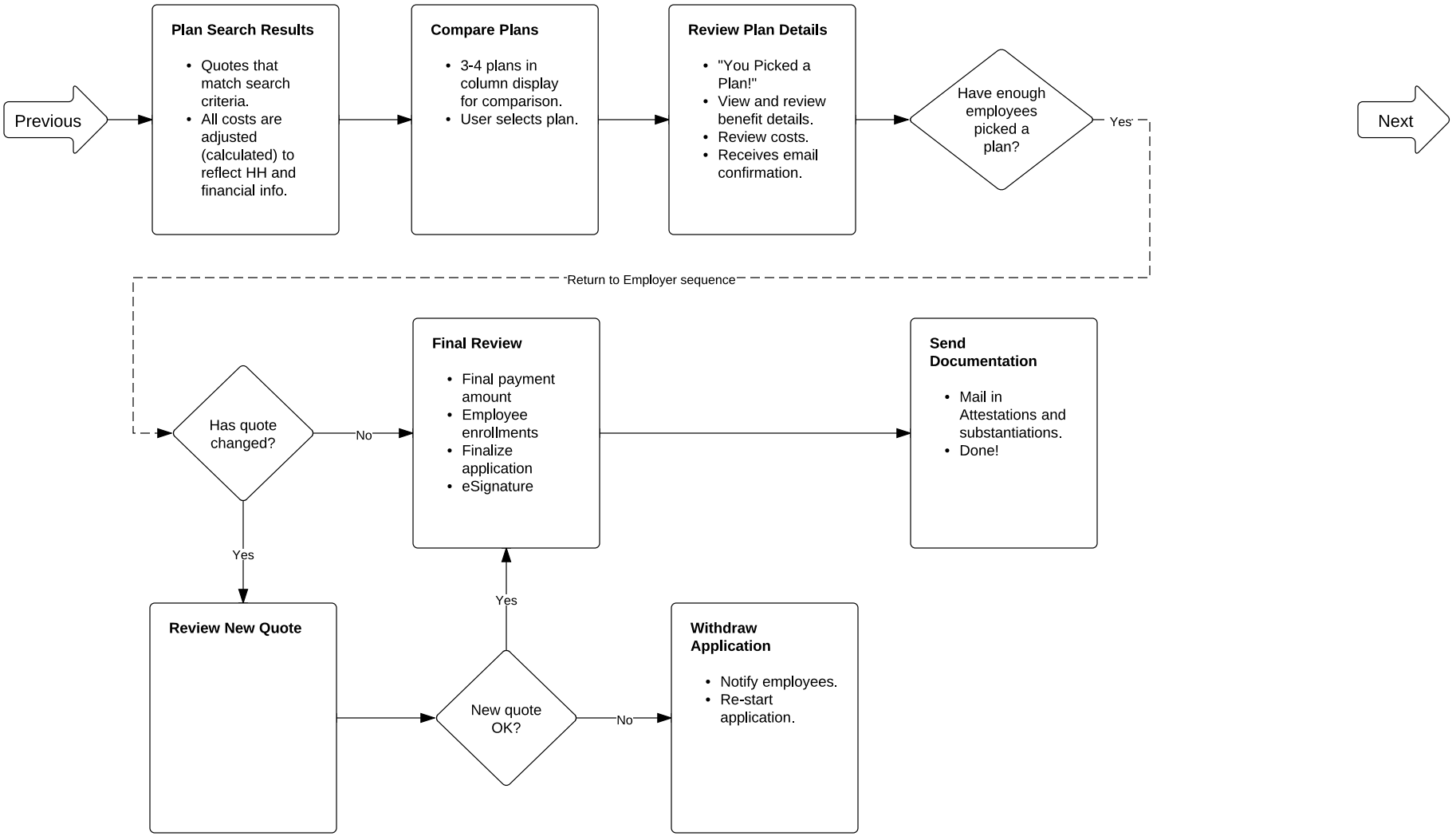


Section 2

Guide of UX Principles for HIX

New Spin Design, Inc.

Introduction

In this document are 10 selected high-level ***user experience principles****, with corresponding* ***application-level examples*** *and* ***recommendations****.*

The contents of this document are not an inflexible blueprint, but a reference guide of crucial objectives to inform the evolving decisions by the implementation team

1. Design for the user imperative.
2. Users learn the train as they ride the train.
3. Teaching is fundamental.
4. Help is integral.
5. This is a Web app, not a 'site'.
6. Navigation strategies that teach.
7. Design can inform.
8. Different paths for different users.
9. Learning is imperfect.
10. Be learnable.

1

Design for the user imperative.

The UX should be defined/informed by the user's point of view, rather than organizational or vendor needs and conveniences.

Everyone wants to champion the user, but the institutional imperative (over time, institutions tend to serve institutional needs) is a very real phenomena. It permeates our thinking, our answers and our questions.

The temptation to set aside user needs sometimes occurs when we encounter an 'inconvenient' user need:

1. I don't want to register or login.
2. I don't have much time, patience or understanding.
3. I want to change my mind.
4. I think differently and sometimes wrong.
5. I don't like buying insurance.

But because the success of the Health Benefit Exchange (HBE) is measured by the success of any given user, the user's point of view must prevail over *how* institutions naturally use, value, and organize information.

1

Design for the user imperative. (cont.)

Examples

1. For the HBE, it would be easy to design multiple financial assistance wizards (one for each participating agency) even though users think of assistance as a single concept.

2. Window shoppers often like to remain anonymous.

3. Users sometimes return to previous screens (off-task!) during the shopping sequence—especially as they learn how their decisions impact their outcomes.

2

Users learn the train as they ride the train.

Users won't fully understand the process until they've completed it.

While many Massachusetts residents may have previously visited the Connector, many users are still unfamiliar with health insurance and how it works. And for some, an online insurance marketplace adds the challenges of understanding the web and how websites work.

As such, all users will learn 'on the job'. Some much more than others. This experiential learning presents a chicken and egg challenge for HIX developers: only *after* finishing the HBE sequence will users have all the abilities to succeed:

- An understanding of the mechanics of health insurance.
- The accurate and complete memory recall of their own life circumstances.
- The relevant documentation.
- Responding to how the HBE site 'thinks'.

2 Users learn the train as they ride the train. *(continued)*

Recommendations

1. **Before tasks:** Use primers, checklists, progress bars, etc. to front-load the learning process. Avoid over-explaining which can overwhelm, delay and discourage.

2. **During tasks:** Use smart default settings and assumptions to allow users to proceed quickly—and enable after-the-fact learning.

3. **After tasks:** Observing an outcome is a powerful teacher. Enable users to use new learning by allowing them to easily revisit previous screens and make changes.

3

Teaching is fundamental.

In the HIX marketplace, offering plans and teaching consumers are inextricably linked.

For most HIX users, there is a gap between:

1. their current understanding of their health insurance needs; and
2. the abilities needed to successfully complete an HIX shopping sequence.

Bridging this gap is therefore a constant and fundamental mission of the HBE site: to provide a self-learning experience to a diverse audience that not only empowers them to finish, but to finish strong, i.e. selecting the optimal healthcare options with a high degree of confidence and satisfaction and even pride.

3

Teaching is fundamental. *(continued)*

Recommendations

To respond to this core challenge, the HBE can deploy multiple teaching methods:

- Explainers and visuals
- Examples and modeling
- Reinforcement and testing (asking)
- Discovery and experience

...and weave them into multiple website aspects:

- Help Guide
- Navigation
- Visual Design
- Architecture
- Content

4

Help is integral.

Help is a When, not an If.

If all users—from policy experts to healthcare newbies—will require some form of help, it should be an integral part of the interface and process, rather than viewed merely as a piece of content. An intelligent help tool assumes users are smart, self-sufficient travelers who sometimes need and appreciate a wise tour guide.

4 Help is integral. *(continued)*

Recommendations

1. **Help is the wrong word? Guide!** Help implies someone is needing a rescue. Instead of reacting to a crisis, calling it a "Guide" changes the name -- and the relationship between site and user: instead of wandering the wild jungle alone, the user now has a proactive source of guidance to navigate their unique set of unknowns and questions.

2. **Help is not just an appendix.** It's just-in-time advice (and, yes, sometimes definitions.)

3. **Help is for everyone. For me.**
   a. The guide should engage every *type* of user, not just newbies (Even experts use reference guides, Dummies books, Cliff Notes in their work).
   b. Proactive: In the help window, make the guide a constant presence, reinforcing context as each page loads.

4. **Avoid FAQ spam.**
   a. FAQs often solve someone else's problems.
   b. FAQs should be dynamically included to be content- and context-aware.
   c. FAQs should not add even *more* piles of data users sift through.

5. **Help is visual:** Use infographics, diagrams, arrows, data visualizations.

6. **Help is sometimes in the body content zone:** Examples in the body can model the desired user behavior, teach possibilities, options, etc.

5

This is a web app, not a 'site'.

If a website's primary function is to present content, a web app's purpose is to dialog with the user.

Apps invoke a very different interaction model (compared to, say, a book or an online article) and a different sort of thinking for HIX developers.

5

This is a web app, not a 'site'. *(continued)*

Recommendations

1. **Avoid scrolling pages.** The convention of scrolling pages asks users to repeatedly memorize off-screen data. Disappeared content can:
    a. Impair decision-making and cognitive processes.
    b. Disorient users (if they can't see labels) as to which page/section/step they are on.
    c. Lower user trust.
    d. Mentally fatigue the user.

2. **Navigation works differently in an app.**
    a. The wizards may be sequential, but the navigation is not.
    b. Link creatively to create intuitive connections. Use the full potential of hypertext.
    c. There are many ways to find content:
        i. Landmarks (icons, graphic style)
        ii. Color-coded sections

3. **Trade-offs: Keeping content onscreen requires a more granular content-chunking method.** Organizing content into smaller bite-size components means more information tiers (that *can* become cumbersome).

6

Navigation strategies that teach.

Navigation is the spine of the user experience.

Navigation systems offer an array of powerful tools for teaching users how a HIX web app works. By strategically chunking, naming and sequencing the content, the HIX navigation:

1. **Communicates the process flow** to the user**.** From the welcome screen to the enrollment page.
2. **Provides a reinforcing context** to users that defines the content and how to interact with it.
3. **Shows meta data** like: status, location, granularity, step, order, priority, data relationships.

6 Navigation strategies that teach. *(continued)*

Recommendations

1. **Use progress bars, wizards and checklists as a model for navigation.**
   In a task-centric environment, lists of navigation labels:
   a. Become visual checklists.
   b. Constantly orient users to their current task, status and location within the larger sequence.

2. **Navigation and content-chunking are tightly-linked partners.**
   In a sequence of small chunks of content, navigation unifies content.

3. **Navigation isn't just forwards and backwards.**
   You *can* get there from here.
   a. **Bookmarks.** To save the user's last completed step.
   b. **Pull-down drawers**.
      - Just-in-time and relevant to current context.
      - enable a simple-looking UI to present large amounts of content
   c. **Too much navigation can overwhelm.**
   d. **Create consistent conventions.** Like cooking in someone else's kitchen: visitors should be able to quickly learn where things are, how things work, how to find things, etc.

7

Design can inform.

In a user environment where data overwhelm is a risk, the impulse exists to minimize the overall presence of design.

Yet while 'clean' design is essential, the visual design should assert its powerful ability to shape how users experience the information design. Minimalism, as a design approach, doesn't permit an unfinished or underpowered design.

Design can inform. *(continued)*

Recommendations

1. **Design informs navigation.** Simple and intuitive design elements can orient users to where they are in the flow -- and also where they want to go.
   a. Landmarks (icons, graphic style)
   b. Color-coded sections

2. **Design informs learning and comprehension.**
   a. Leverage font hierarchies and color saturation levels to communicate data relationships and priorities.
   b. Only use the necessary amount of design. Let the data do the work.

3. **Design informs the emotional tone.** A simple and obvious design brings calm and focus to the user.

4. **A web app's 'desktop' is its heart.**
   a. Safeguard the desktop from confusion and overwhelm.
   b. Use hide-and-show tools to keep the viewport uncluttered.

8

Different paths for different users.

Users are not monolithic.

The four user personas articulated by Enroll UX 2014 are a first step in the nascent quest to fully understand and serve the diversity of HIX users.

- Passenger - Get it done for me
- Apprentice - Hold my hand
- Manager - Keep me posted
- Engineer - get out of my way

Beyond these personas are even more prisms to view users with different learning styles, values, time budgets, agendas -- and aspects yet to emerge.

8 Different paths for different users. *(continued)*

Recommendations

1. **Create flexible navigation.** Create multiple front and doors and side doors to access information. Create multiple exits.

2. **Create flexible sequences.** Allow users to determine the order of the steps when possible.

3. **Create flexible finish lines.** Allow users to choose when to stop their session. Don't penalize users for not 'finishing'.

4. **Examples of session agenda types**:
    a. The Express lane (for anonymous shoppers)
    b. The Guided Tour (step-by-step for shoppers seeking to buy today.)

5. **Examples of features to accommodate different user types:**
    a. Screen skipping for Passengers
    b. 'Settings' or detail panels let Engineers 'open the hood'.

9

Learning is imperfect.

Enable 'fixing' strategies to allow users to apply their experiential learning.

Given the knowledge gap for many HIX users, the interface should assume that users will not complete the entire shopping experience perfectly. Users will frequently forget facts, skip steps, skip reading, and sometimes guess wrong. A flexible user experience should allow users to have 'a-ha' moments and fix those initial mistakes.

Learning is imperfect. *(continued)*

Recommendations

1. **Don't let users 'break' the overall sequence:**
   a. Allow users to skip steps.
   b. Allow user to partially complete steps.
   c. Let users 'go back' and fix things.

2. **Fixing mistakes and adding data out-of-sequence should be easy.**

3. **Avoid fixing penalties: disorientation, derailment, loss of momentum.**
   a. It's not enough to merely provide routes to previous screens; users may feel lost and marooned after completing their fix.
   b. Instead, provide a route *back* to their pre-fix location to maintain their momentum and encourage similar data gardening activities.

4. **Example of a fixing strategy:**
   a. Use modal (pop-up) windows to allow users to update health preferences (originally encountered in the pre-shopping interview) while they are shopping -- and then return instantly to their previous step. The shopping screen reflects the improved data state.
   b. Experiential learning: the first outcome prompted the user to make the update. The second outcome rewarded the updating behavior and encouraged more.)

10

Be learnable.

Focusing on the user imperative, HIX developers can enhance learnability using concrete techniques.

Sometimes, in the haste to be helpful to users, site tasks and content can unintentionally become less clear and recognizable. Instead, make it easy for users to obtain—and keep—their new knowledge.

Be learnable. *(continued)*

Recommendations

1. **Display the same data in the same way**
   a. Different formats to present the same data makes users work harder to relearn the data which increases task time -- and mental fatigue.
   b. Users may give inaccurate or inconsistent responses in different contexts because they may change how users think and feel about data
   c. When data needs to be reformatted (e.g. for summaries) try to retain the same data relationships, spatial locations, etc.
   d. Example: Imagine if you were asked to complete a 1040EZ with the numbers on the left side.

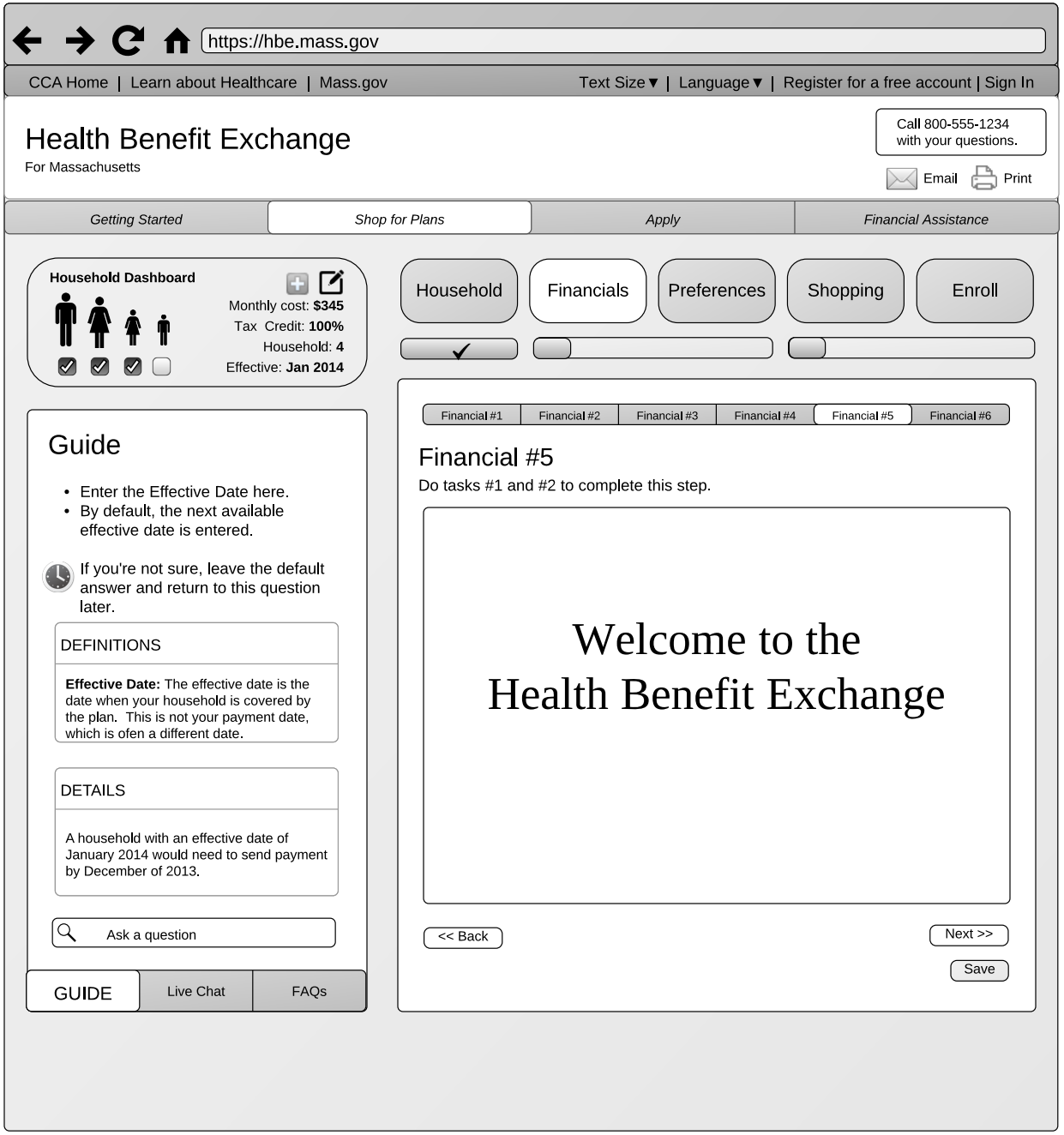
2. **Avoid mental juggling.**
   a. Keep task information on the viewable screen.
   b. Avoid asking users to do math in their head.

3. **Use landmarks.** Icons and visuals can help trigger the memory for re-engaging previous content

4. **Use style-guides to create conventions.** Consistent coding results in consistent data presentation.
   a. **Example:** Small content fragments can be used by both task pages and tangential modals for fixing actions.

Section 3

Visual Narrative



User Interface Strategy

-- A Visual Narrative --

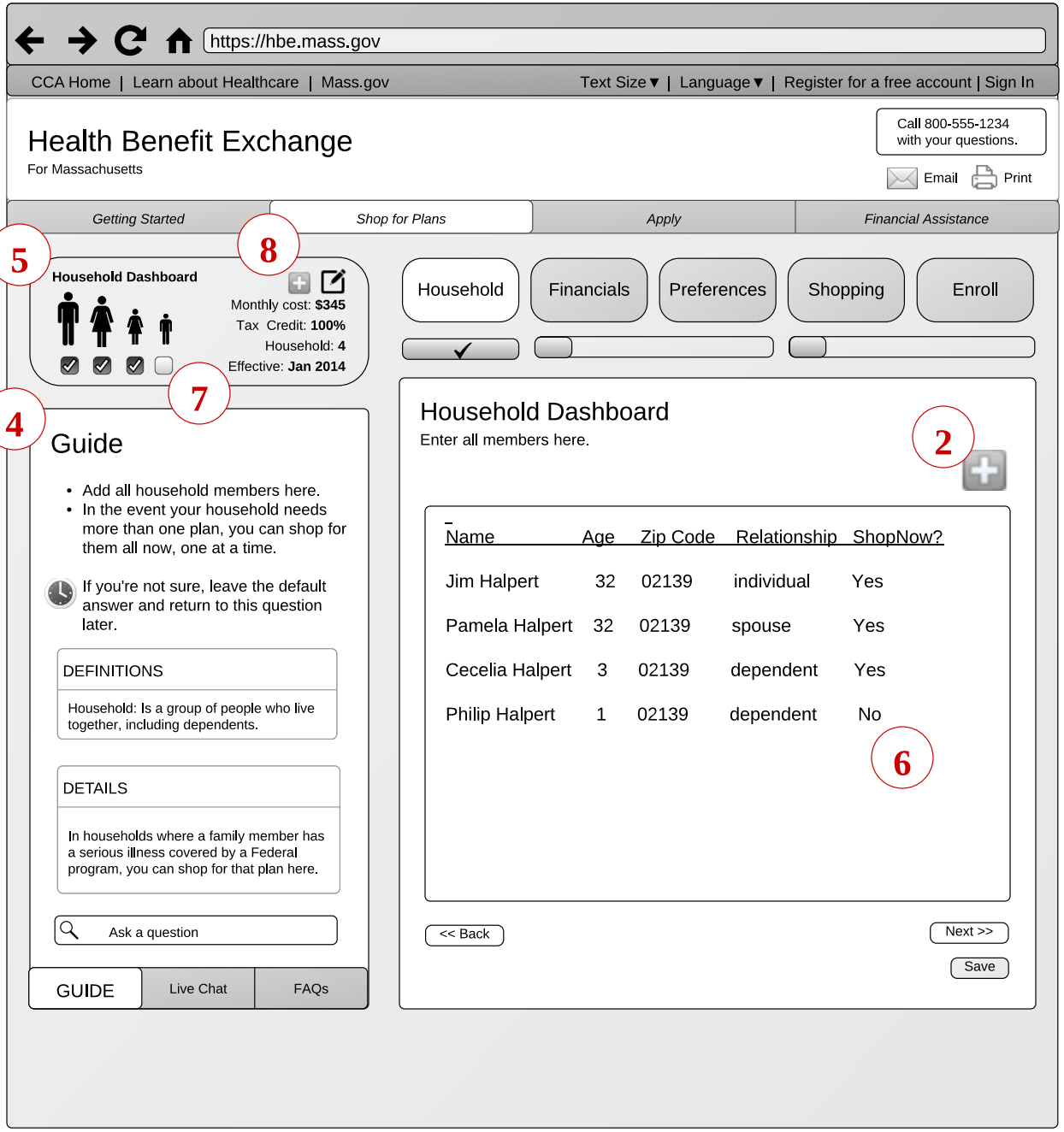
The story of how a family of four in Massachusetts purchased healthcare insurance at the 2014 Health Benefit Exchange.

How to Use this Document

- Based on the simplest page flow, this visual narrative tells a user's story, highlighted by wireframes of the key pages and components that illustrate key UX principles.
- This document contains selected wireframes of a fictitious shopper's path. It is not a complete step-by-step wireframe version of a page flow.
- The goal of theses wireframes is to illustrate, rather than prescribe.

Criteria

- Individual shopping sequence
- Passenger persona (get it done for me)
- Possible financial assistance
- Happy path (minimally complex needs)



The Household Dashboard

1. Jim Halpert is ready to buy healthcare insurance for his wife Pam, their daughter Cecelia, and their son Philip.

2. Jim's first step is to enter his family and build his dashboard.

3. The Halpert's son Philip has an expensive but treatable illness that's covered by an obscure federal insurance plan but only covers children.

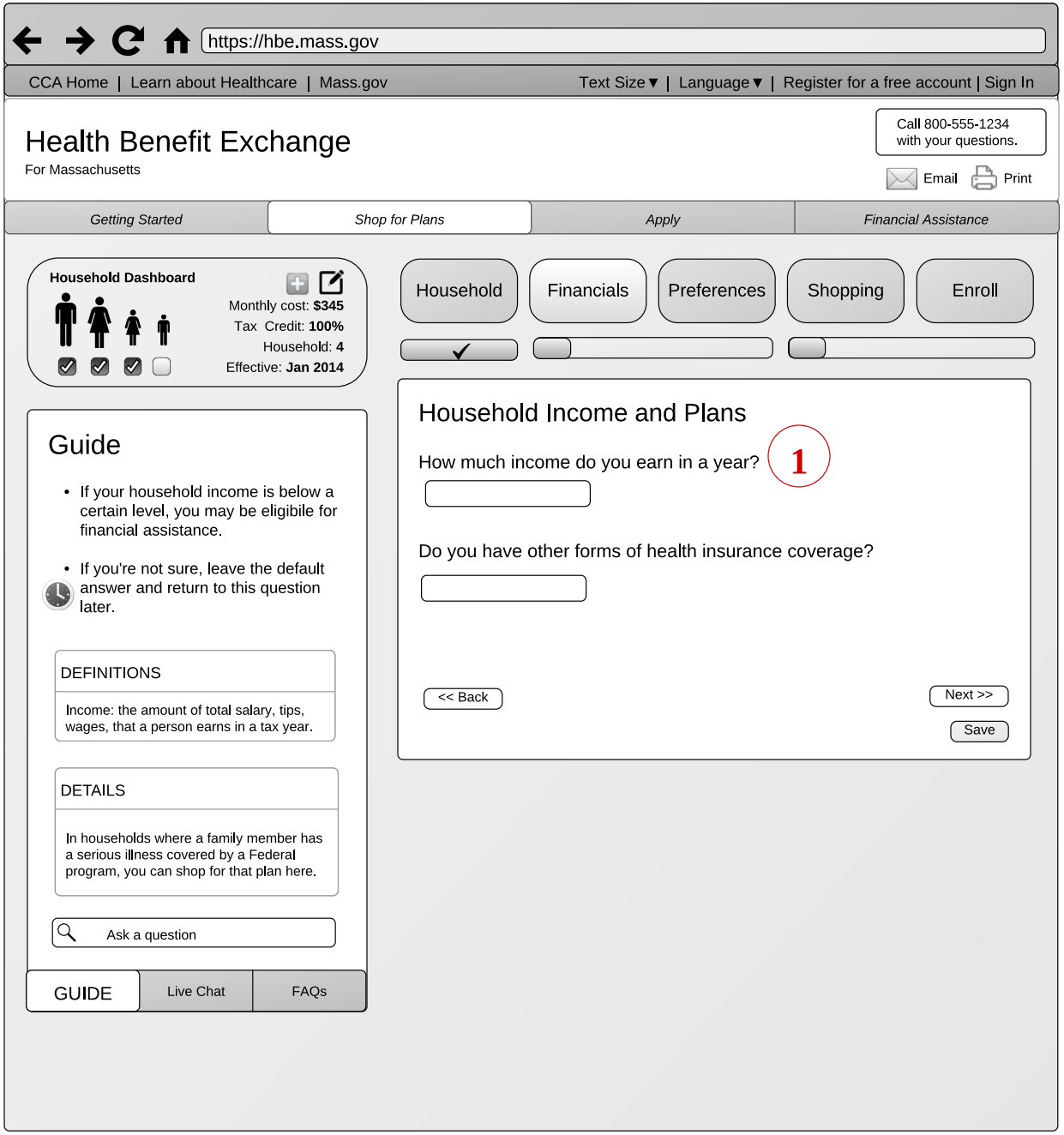
4. Jim learns from the screen-specific Guide that he can shop separately for different members in this single session.

5. The Household Dashboard navbar serves as a:
   - Data display
   - task checklist
   - status bar
   - Sequence location

6. Flexible grouping creates the ability to group members together (e.g. shop first for Jim, Pam and Cecilia, then Philip.)

7. We shop for one plan at a time.

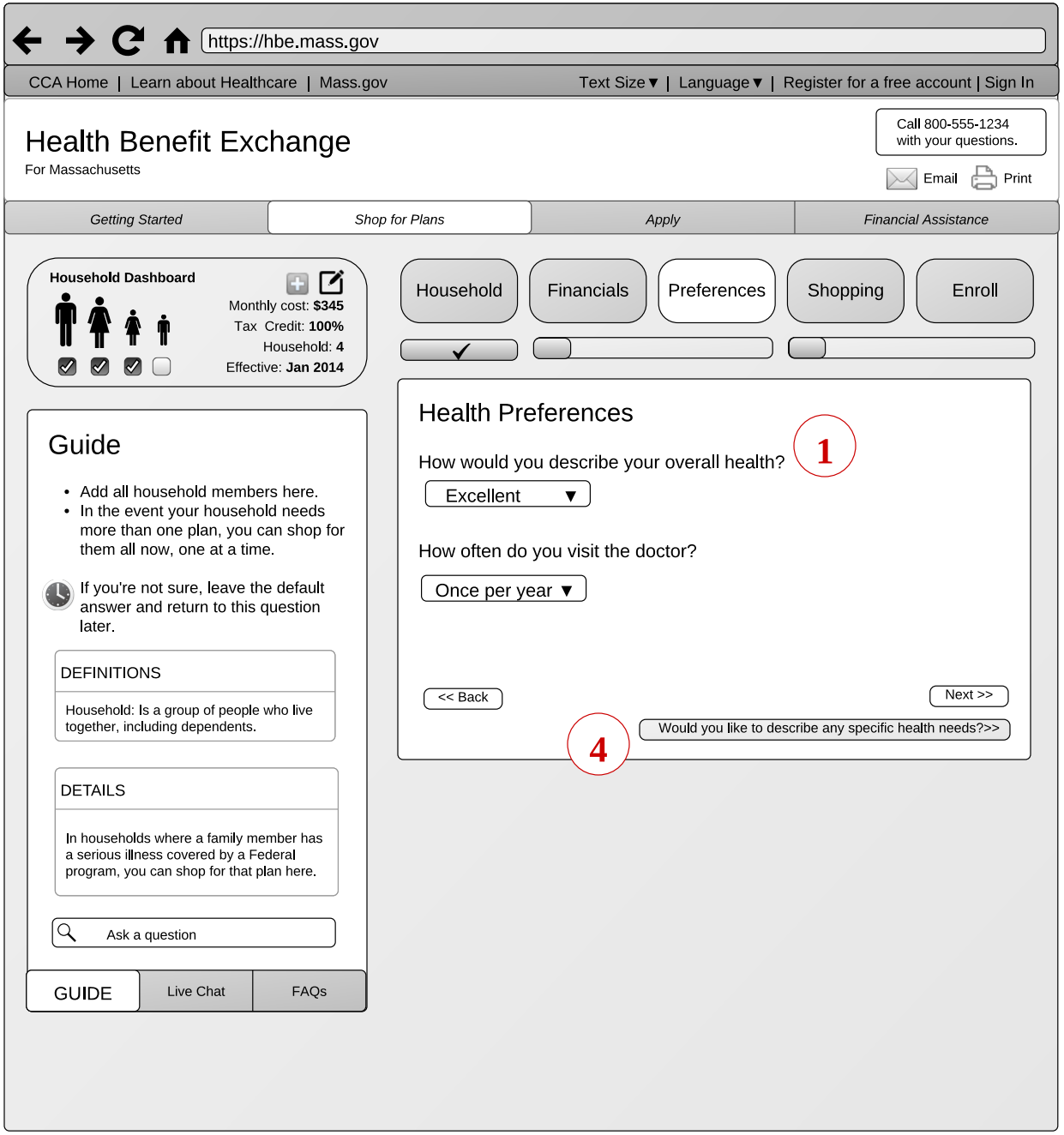
8. The Household Dashboard remembers previous plan Monthly premium and OOP data and provides running total.



The Financial Screener

1. Jim completes a ‘screener’ interview: a brief set of questions to determine if it's worth his while to complete the more in-depth questions.

2. Based on their family size and income, they're eligible for financial assistance, so they're routed to a more in-depth set of questions.



Preferences Basics

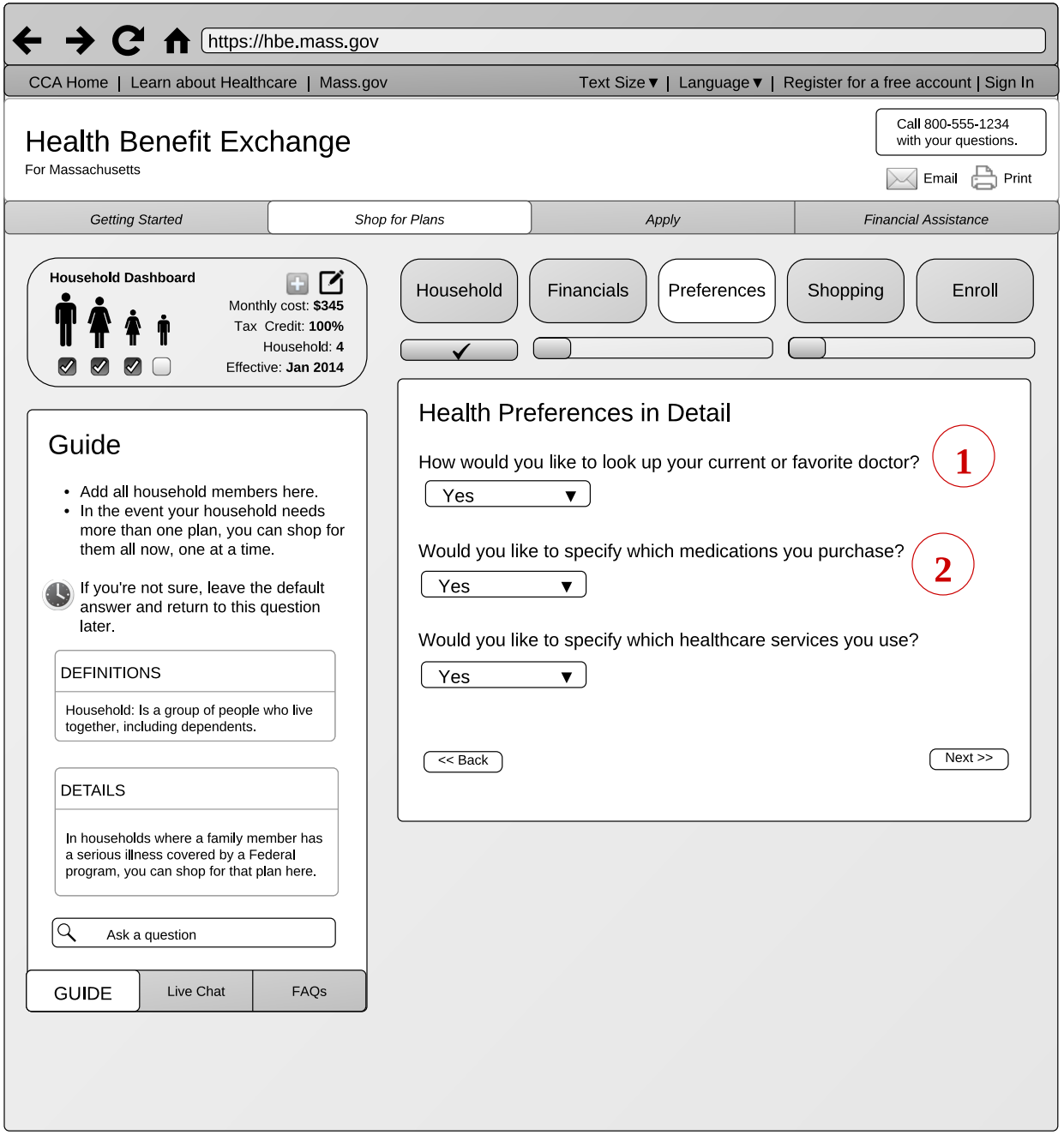
1. Jim doesn't have a favorite doctor, and is in generally good health, so as a Passenger he can skip the longer interviews.

2) Cost of care calculator: using actuarial data, Jim's likely annual deductible and out of pocket costs are calculated based on his self-rating of 'excellent', enabling the HBE to steer users like him towards favorable plans.

3. Using smart defaults allows users to quickly proceed and avoid derailing tangents (deep diving into non-critical branches that can be easily adjusted later.)

4.) Multiple routes enable the hands-on personas like Engineer and Apprentice to look under the hood and fine-tune their needs.

5. For people with ongoing conditions, the ability to define their specific needs upfront makes the Plan Quotes page more relevant.



Preferences Detailed

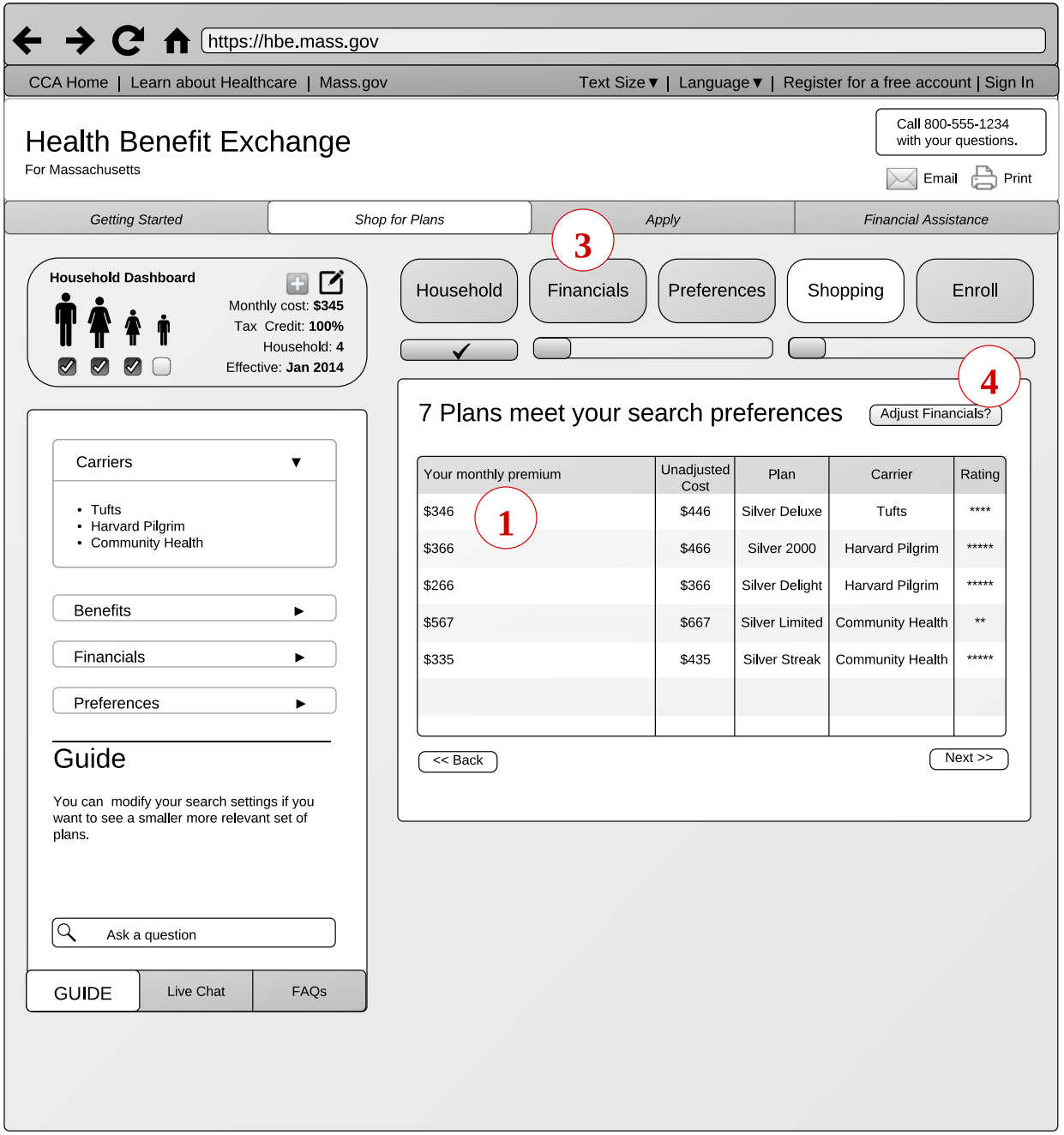
1. Pam has a favorite doctor.

2. Pam requires medications for high cholesterol.

3. Because Pam's doctor can be included as a preference, the Quotes page will only offer plans that have her doctor. This saves Jim from having to do a separate doctor look-up on *each* plan on the quotes page.

- "Roughly two-thirds of all commercial insureds report that a doctor they currently use is important in their health plan choice." (PBGH)

4. Medical services utilization profiles allow the HBE to calculate what the Halpert's out of pocket expenses will be, and therefore which plans are best suited for the Halperts.



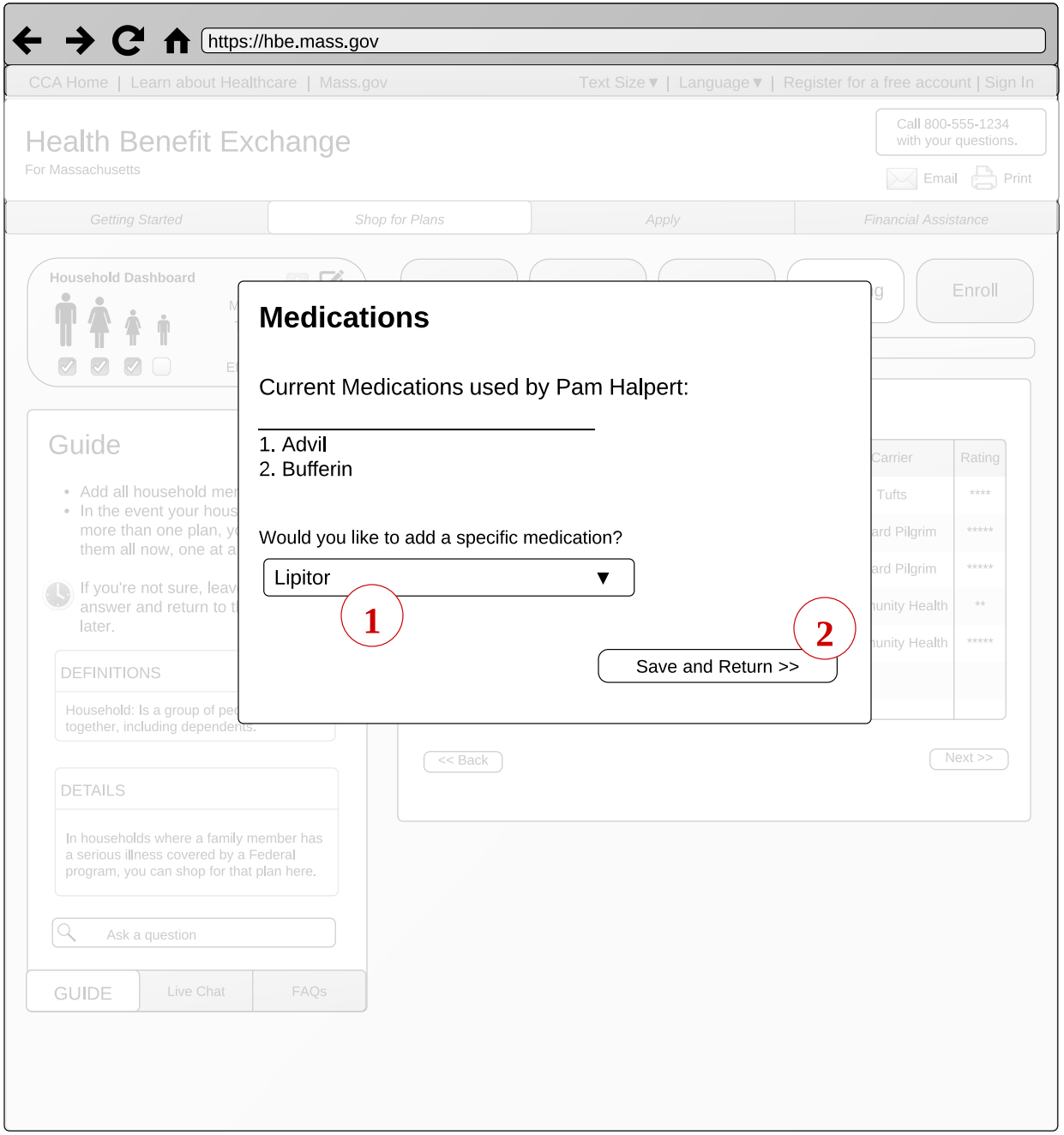
Plan Quotes

1. During the financial interview, Jim found out he qualifies for a premium tax credit. The HBE uses a behind-the-scenes calculator to automatically adjust all of the premium amounts on this page. (Jim can still see the actual prices.)

2. Jim is not asked to mentally apply the tax credit to each premium figure. It's baked in.

3. Smart defaults: While Jim had the option to set his own premium tax credit levels during the Financials interview, the HBE used a smart default (100%) at that point to help Jim maintain his momentum.

4. Jim can always adjust his financial settings after seeing the outcome on the Quotes page.



Modals Can Enable Fixing

1. Jim forgot the name of Pam's drug Lipitor, but remembered during the Quotes page.

2. A modal helped Jim add the drug name Lipitor -- but didn't derail him from his plan selection process.

3. The Halperts' out of pocket costs were updated to factor in the average cost of Lipitor.

4. The Plan Quotes page reloads to reflect the new prices.

* * *

Back on the Quotes page, Jim picked an affordable plan.

Afterwards, he found a special plan for his son Philip and then enrolled the whole family.

To be Continued....

Woo hoo!

You made it.