

Supplementary figures

Figure S1

Let's start by marking diseases

Mark all the diseases in the sentence below.

Does choice of insulin regimen really matter in the management of **diabetes** ?

Sometimes you will see multiple instances of the same disease - Be sure to mark them all!

Mark all the diseases in the sentence below.

To assess the management of **diabetes** , we reviewed records of 20 **diabetes** patients .

Sometimes the disease is described by a conjunction of several words. Mark these disease conjunctions as a single span of text.

Mark all the diseases in the sentence below.

Of the 20 patients , 17 had **type 2 diabetes mellitus** .

Sometimes the disease conjunctions are separated by words like 'and/or'. Decide if there are two distinct diseases to highlight, or if it is a single disease conjunction.

Mark all the diseases in the sentence below.

The remaining 3 had **inherited and/or type I diabetes mellitus** .

Sometimes different diseases are discussed. Mark all the diseases below.

Remember to mark disease conjunctions as spans and to mark different diseases separately.

Of the 20 patients , 10 patients were also diagnosed with **heart disease** or **rheumatoid arthritis** .

Sometimes the diseases are abbreviated. Mark all instances of disease abbreviations.

Mark all diseases in the sentence below.

We will discuss the effect of different insulin regimen on **type 2 diabetes mellitus** patients (ie- **T2DM** patients) ...

Practice what you've learned so far...

Try marking the disease and disease abbreviations in this phrase now!

... with or without rheumatoid arthritis (RA) or heart disease (HD) .

Now let's mark some symptoms.

Symptoms are the physical manifestations of the disease. Mark the symptoms in the sentence below.

In particular, we will examine the effects of these insulin regimen on the symptoms of the diseases. We will focus on some common symptoms such as fatigue as well as ...

Sometimes a single symptom is described with a long block of text and may have joining terms such as 'and' or 'or'.

In that case, highlight the entire symptom as a single span of text. Finish Training #1 by marking the symptom in the text below.

Another crucial symptom is tingling and/or numbness in the hands or feet .

Figure S1 - Screenshots of Training 1 and the feedback screen. Training 1 introduced the user to the rules of the task in a series of nine interactive training pages and one feedback page. Each page in Training 1 generally provided one rule, a single sentence example, and an instruction on how to interact with the example in order to continue. Early user experience tests indicated that the leap from annotating single sentences (Training 1) to whole paragraphs (actual task) was daunting without some sort of transition. Training 2 acclimated the user to the task through a series of four pages with increasing amounts of text revealed on each page at a time. Training 3 introduced the feedback mechanism through a single page example.

Figure S2

The screenshot displays a feedback interface. At the top, a light blue box contains the text: "You were paired with: Doc_G-man", "Level: Expert", and "Earned 889 points!". Below this, a white box shows a sentence with annotations: "Age at diagnosis as an indicator of eligibility for BRCA1 DNA testing in familial breast cancer." The words "BRCA1" and "familial breast cancer" are highlighted in blue, while "breast cancer" and "ovarian cancer" are highlighted in green. A larger white box below contains a paragraph of text with similar annotations. A legend at the bottom identifies green boxes as "Your partner's annotations" and blue boxes as "Your annotations".

You were paired with:
Doc_G-man
Level: Expert
Earned 889 points!
Be the change you wish to see in the world.

Age at diagnosis as an indicator of eligibility for BRCA1 DNA testing in familial breast cancer.

We searched for criteria that could indicate breast cancer families with a high prior probability of being caused by the breast / ovarian cancer susceptibility locus BRCA1 on chromosome 17 . To this end , we performed a linkage study with 59 consecutively collected Dutch breast cancer families , including 16 with at least one case of ovarian cancer . We used an intake cut-off of at least three first-degree relatives with breast and / or ovarian cancer at any age . Significant evidence for linkage was found only among the 13 breast cancer families with a mean age at diagnosis of less than 45 years . An unexpectedly low proportion of the breast-ovarian cancer families were estimated to be linked to BRCA1 , which could be due to a founder effect in the Dutch population . Given the expected logistical problems in clinical management now that BRCA1 has been identified , we propose an interim period in which only families with a strong positive family history for early onset breast and / or ovarian cancer will be offered BRCA1 mutation testing . .

■ Your partner's annotations
■ Your annotations

Figure S2 - Feedback screen example. A user's annotations are compared with a partner's in order for the user to learn. For the practice documents and gold standard documents the user is always paired with the gold standard annotations in the form of an expert partner: Doc_G-man.

Figure S3

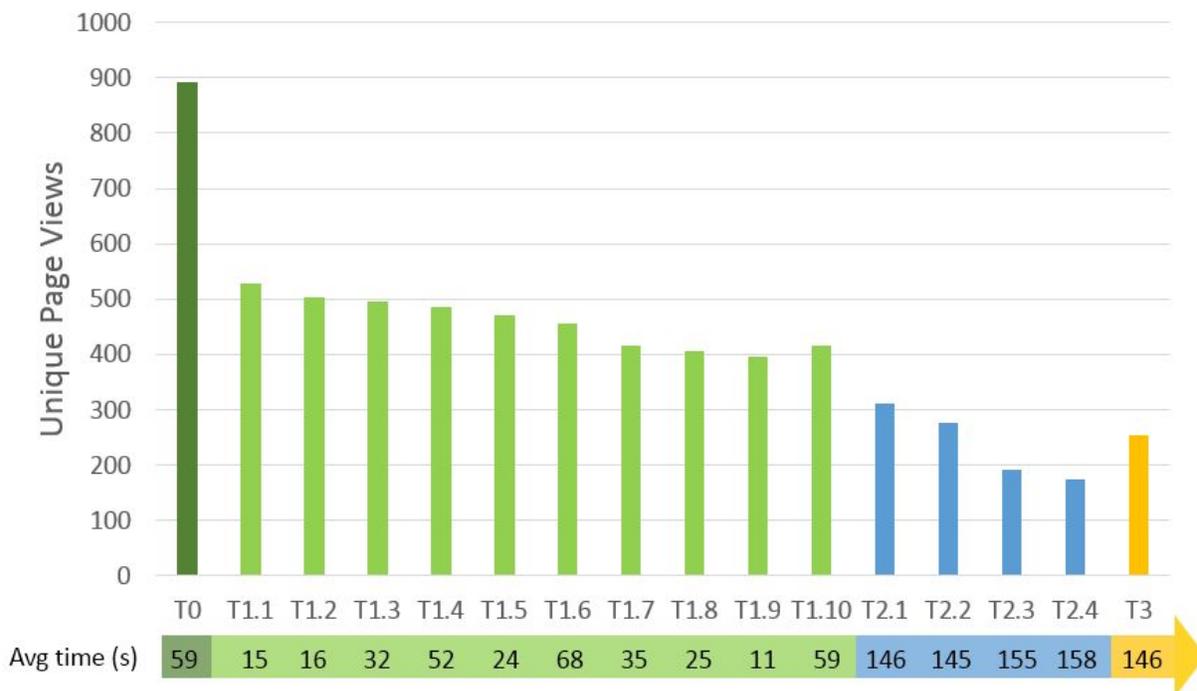


Figure S3- Page-by-page training drop off based on unique page views and average time spent per training page. Training 0 (T0) consisted of a single page with multiple available actions. Training 1 (T1) consisted of nine training pages (T1.1 - T1.9) and one feedback page (T1.19). Training 2 consisted of four training pages (T2.1 - T2.4) and Training 3 was also a single page. Unique page views increase frequently from T2.4 to T3 was likely due to the development team investigating and correcting a reported bug at that stage. Clearing the cache and revisiting that page in order to investigate the bug would increase the page view count even though it was the same user viewing that page.

The amount of time spent in Basic Training was much higher than desired, in part due to technical issues that were addressed after the experiment was started. Drop off was also high after this step as Mark2Cure was not designed for use on a mobile device, but mobile device users could progress with relative ease until Training 1.

Stepwise user drop off in Training 1 was highest between step 6 and step 7. User difficulties with step 6 was reflected in the increased average time users spent on step 6 as well as the numerous inquiries received about this step. Of the 233 emails received from participants, 22 emails specifically mentioned this step. In training 2, each step was a different abstract, and the abstracts were ordered from shortest and least complicated to longest and most complicated.

To acclimate users to seeing whole abstracts (compared to the single sentences they saw in Training 1), more and more of each abstract was revealed at each step. For example, in steps 1 and 2 of Training 2, the abstract was revealed roughly a sentence or two at a time. In step 3 of Training 2, half of the abstract was revealed at a time, and in step 4 of Training 2, the full abstract was revealed at once. Stepwise user drop off in Training 2 was highest between step 2 and step 3, which may reflect the increased difficulty of the abstract as well as the increased intimidation factor of seeing more of the abstract at once.