

NCI Experimental Therapeutics (NExT) Program: Report of the Overall Project

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I. Executive Summary

The National Cancer Institute's Experimental Therapeutics (NExT) Program is collaborative effort between the NCI Division of Cancer Treatment and Diagnosis (DCTD) and the Center for Cancer Research. NExT provides support in the form of research resources to researchers in an effort to accelerate the transition of cancer treatments from the lab to the clinic. Researchers are accepted into the NExT program by having their proposals assessed for scientific merit by a review committee. User-Centered Design (UCD) was contracted to assess the NExT website to improve its usability and usefulness, especially as it pertained to potential applicants. An expert review and two usability tests were conducted on the website.

Expert Review

An initial expert review in October 2010 provided comments about the website regarding the overall organization of content, navigation, and stylistic elements. Overall, it was found that:

- The treatment of the navigation could be improved, both visually and functionally.
- The website contained useful information, but was often too text heavy.
- There were labeling and terminology issues that might confuse end users.
- Various visual design, page layout, and stylistic issues could be addressed to make aspects of the website more clear.

Usability Test Round 1

Results from the first usability test in May 2011 showed that most participants had difficulty with many tasks on the NExT website. Both novices and individuals who were familiar with NExT had trouble discerning the purpose of the NExT program from the website. Although the Home Page contained relevant information, it was not noticed and did not resonate with most participants. Participants struggled to understand how NExT could provide resources to researchers without providing funding. In fact, many were unclear about the relationship between researchers and the NExT program.

Additionally, most participants could not find information about applying to the program. The "Entry to Pipeline" tab did not resonate as a place to find instructions for applying.

Participants were also unable to determine how program resources would be allocated. No one, without previous experience with the program, understood the relevance of the Governance Structure to resource allocation.

Expert users who were familiar with the program did use the website to find various materials and to introduce other investigators to the program. However, most other participants had difficulty locating information within the website. Many pages were text-heavy contributing to the participants' difficulty in extracting information.

Usability Test Round 2

The second usability test in September 2012 was a comparative test between two mock-ups. Based on the difficulty participants had understanding the various material on the Home Page and elsewhere in the previous test, both mock-ups had been designed to provide better information about the purpose of the NExT program. Results showed that participants preferred elements of both home page options: they preferred the visual aspect of one design, but the more explanatory content of the other design.

In regards to other design options, internal pages that provided headings formatted to describe paragraph contents were preferred over those without headings. Stage Gates were preferred when they were presented

graphically rather than simply as an expanding list, although the small size of the font in the graphic design limited participants' ability to read and comprehend the material.

The change of wording to "How to Apply" (from the previous "Entry to the Pipeline") greatly facilitated participants finding the application instructions.

Most of the content on the website was understood, although participants commented that much of it was considered to be too dense; this was especially true for those who were not native English speakers. Participants' comments reflected that they wanted to know what was important to them or "What's in it for me?"

- What do I need to do to apply?
- What will I get from the program if I am accepted?

The website divides the answer to the first question between a link to the application and instructions of what is needed. Many participants tended to go immediately to the application and skip the instructions. Further, the instructions didn't start until below the fold (when a user has scrolled past the first screen) and the format of the instructions made it difficult to determine exactly what needed to be done. Additionally, guidance about the types of projects that NExT preferred was not obvious.

Most participants felt that the second question, "What will I get from the program if I am accepted", was not answered on the website. They suggested that scrubbed examples of projects that are already part of NeXT would help with their understanding. Participants could not determine how resources would be allocated to projects and the Governance Structure material was not helpful in this regard. The governance structure did not seem pertinent to potential applicants; participants instead wanted to know with whom they would be interacting and how the interaction would take place. Participants believed that material about intellectual property, a critical issue to most researchers, was not described on the website in a way that they could understand how NExT handled the issue. The CBC Participant Agreement did not improve their understanding. In fact, the CBC agreement made most participants realize that they would need a lawyer to protect their side in any legal agreement.

Despite the significant improvements seen on the website mockup as compared to the website in the first test, improvements were still thought necessary. UCD suggests that:

- A new homepage graphic be created that better sells the program to potential applicants.
- The content of the site be rewritten based on principles for writing for the web and Plain Language.
- Additional content be added as necessary to answer potential applicants questions about what to expect from the program.
- The overall format of the Application and its Instructions be redone so that each item needed for the application is obvious—perhaps as a checklist,
- Links going directly to the Application should instead have an intermediate page advising users that reading the instructions is needed before filling out the application.
- NExT investigates whether or not a wider page layout is possible, since a limited page width in the current design creates problems for the NExT Stage Gates page.

II. Introduction

The National Cancer Institute's Experimental Therapeutics (NExT) Program is a collaborative effort between the NCI Division of Cancer Treatment and Diagnosis (DCTD) and the Center for Cancer Research. It is intended to accelerate the transition of cancer treatments from the lab to the clinic. NExT consolidates NCI's anticancer drug discovery and development resources into a therapeutics pipeline of high-priority projects and is capable of supporting research from initial discovery through Phase II clinical trial evaluation. The NExT website (<http://next.cancer.gov/>) serves to inform researchers in government, academia, and industry about the program and how they can participate in it. It provides background information on the program and instructs users on how to apply.

User-Centered Design, Inc. (UCD) was contracted to conduct three rounds of usability testing, with changes being made to the website after each round based on the results. However, after the first round, it was determined that significant changes to the homepage of the website would be needed prior to another round of testing. In lieu of a third round of usability testing, UCD created two alternative homepages, and then conducted the second, and final, round of usability testing. In addition, UCD conducted an expert review, prior to the first round of testing in order to familiarize ourselves with the website and to present initial feedback based on industry standards and best practices.

Research Goals

The purpose of the usability evaluations was to determine the effectiveness and usability of the NExT website to ensure that potential users (both novice and expert) can find the information they need to understand and apply for the NExT program. The goal was to refine the website in a step-wise manner by iteratively testing with small pools of users, responding to issues, and then testing again. This allowed the second usability test to gather feedback on the effectiveness of the modifications made after the first round of testing.

The key questions that the testing was designed to answer were:

- How easily can users who are unfamiliar with the NExT program learn about, and understand, what it is and what it can offer them?
- How well can users locate materials and the information they need to submit a NExT application?
- How well does the website communicate information regarding goals, policies, guidelines, etc.?

III. Methodology

Expert Review

In October 2010, UCD conducted an expert review of the NExT website in an effort to familiarize ourselves with the website and provide feedback on the overall organization of content, navigation, and stylistic elements. One Human Factors Engineer and one Interaction designer conducted independent reviews based on industry standards and best practices. A compendium of both reviews was presented that addressed potential usability, style guide, and information architecture issues.

Round 1 Usability Test

Remote usability testing was conducted on the existing NExT website with seven participants between May 24th - 27th, 2011. Each session lasted approximately 45 minutes. Participants were recruited from a list of potential participants that NCI/NExT provided. Participants represented a range of familiarity with NExT, work settings, and job positions.

Familiarity	Number
Expert (associated with NExT program)	2
Novice (some knowledge of NExT)	2
Unfamiliar (no prior knowledge of NExT)	3

Work Setting	Number
Academic	5
Government	2

Job Roles	Number
Scientist	3
Investigator	1
Professor	2
Director of Drug Discovery and Development program or related program	2

Protocol: The live NExT website was used for the first round of testing. Both an exploratory and task-based protocol was used. Participants were first allowed to freely explore the website to see what they were able to learn about the program on their own. They were then given tasks to find specific information on the website, and exploratory follow-up questions were asked in order to explore participants' expectations and confusions.

Round 2 Usability Test

Based on the results of the first round, two alternative homepage designs were created in an effort to improve the ability for users to understand the NExT program. In addition, alternative displays were created for several of the sub-pages, and a "Home" tab was added to the main navigation. Two mockups were created that incorporated these different options. Remote usability testing was conducted with nine participants between August 24th – 29th, 2012. Each session lasted approximately 45 minutes. Participants were recruited from a list of potential participants that NCI/NExT provided.

As in Round 1, participants represented a range of familiarity with NExT and work settings. Seven participants were directly involved with drug discovery and development. The other two were indirectly involved (protocol writing, and imaging). In addition, two participants had English as a second language.

Familiarity	Number
Novice (some knowledge of NExT)	3
Unfamiliar (no prior knowledge of NExT)	6

Work Setting	Number
Academic	3
Government	3
Industry	3

Protocol: A task-based protocol was used; however, due to time limitations and the complexity of the tasks, most participants did not complete all of the tasks. Instead, they were allowed to focus on the tasks that were important to them. Since there were two mockups, half the participants used one design, and half used the other design. Toward the end of their session, participants were shown the alternative design and asked for their feedback.

IV. Expert Review Findings

Navigation

A variety of potential issues related to navigating were found, including:

- There was no Home Page link in the main navigation.
- Links within content were not obvious due to their color and lack of an underline.
- The use of both drop-down menus and left navigation could be confusing.
- The left navigation did not stand out visually and could be missed by users.
- “Resubmission Instructions” was listed in the drop-down menu in the top navigation, but not in the left navigation.
- The “previous” and “next” navigation links within sections of Discovery and Development sections were not intuitive.
- It is not clear which links are internal to NExT and which take the user to a different site.
- The “Cancer Imaging Program” link on the “Other NCI Programs” page under “Discovery” is the only link in the list that goes to a different part of the website, which could be confusing.

Content

The website contains useful information, but much of it was too text heavy and difficult to follow. In particular:

- The About NExT page describes different organizations that are involved at different stages, but it is hard to see how they all fit together.
- The Instructions page is very long with several layers of indentation which could

In addition, there are places where more (or alternative) information may be necessary. For example, the website says approved proposals gain access to drug discovery and development resources, but it is not obvious what those resources are.

Labeling and Terminology

There were several places throughout the website where the labeling and terminology may confuse users:

- The homepage “Do you need” section may be better phrased as “Benefits of NExT.”
- The label “Pipeline” may not be familiar to new users; “How to Apply” might be clearer.
- The label “Pipeline Management” may be confusing; “How it Works” might be more clear.
- The use of “Main” as the label for the landing page of each section could be confused for the “Home” link.

Stylistic Issues

There were various visual design, page layout, and stylistic issues, including:

- The font styles and colors on the home page didn’t support the page hierarchy.
- The content box on the homepage may suffer from banner blindness (i.e., users might not notice it).
- The page title is duplicated on the page: in the banner and in the content area.
- The NExT Governance Structure diagram is at the bottom of the page, but would be more useful at the top, and it doesn’t indicate any directional flow between groups (i.e., who advises who)
- The Stage Gate arrow graphic is difficult to read and the text is part of the image (508 concern).
- It is a little hard to tell the steps apart in the Stage Gate Guidelines table (bullets may help).
- The visual styling of the left navigation doesn’t differentiate between second and third level pages.

- The “Toxicology and Pharmacology Branch” page within Discovery and within Development look nearly identical.
- The “Pharmacodynamics Assay Development Pathway” image on the “Biomarkers” page uses a really small text size that is difficult to read.

V. Round One Usability Test Findings

Finding the NExT Website

When time permitted, participants were asked to try to get to the NExT website from cancer.gov and the DCTD website. Participants used a variety of approaches:

From cancer.gov

- 1 successfully found the site using search (“NCI NExT”)
- 1 looked in “NCI Drug Dictionary” but was unsuccessful
- 1 did not know where to look

From DCTD site

- 1 noticed a link to the NExT website on the homepage
- 1 did not know where to look.

Though few participants performed a search, it is generally an effective method of finding information and worked for the one participant that tried it.

Discovering the Purpose of NExT

Both novice participants and those completely unfamiliar with NExT had trouble discerning the purpose of the program. Participants expected to find a description of the purpose on the homepage, but were not sure where to look (Figure 1).

The “Do you need” section was helpful for some participants, but not all. Participants commented that it “looks like PR,” is text-heavy, and is “stuff I already know.”

Several participants looked in the “About NExT” tab and still had difficulty understanding the purpose of NExT.

One person found the content in the Discovery and Development tabs to be helpful.

Most participants tried to discern the purpose of NExT from the text in the gray box on the right side of the homepage. It includes, “Who,” “What,” “When,” “Where,” “How,” “Sponsors,” and “What NExT is not,” and was read by all participants. However, despite reading the “What” section, several participants still did not understand the purpose. Some described the purpose as: “To develop candidate drugs, provide screening, optimization, etc.,” and “to provide compounds to clinicians for clinical trials.” In addition, several participants commented that the text size was too small.

Recommended changes included:

- Make the content in the gray box more prominent, as it contains important information.
- Add an explanation of how the program benefits researchers.
- Move “What NExT is not” higher on the page since it helps describe the program.
- Link to examples of how the program works.

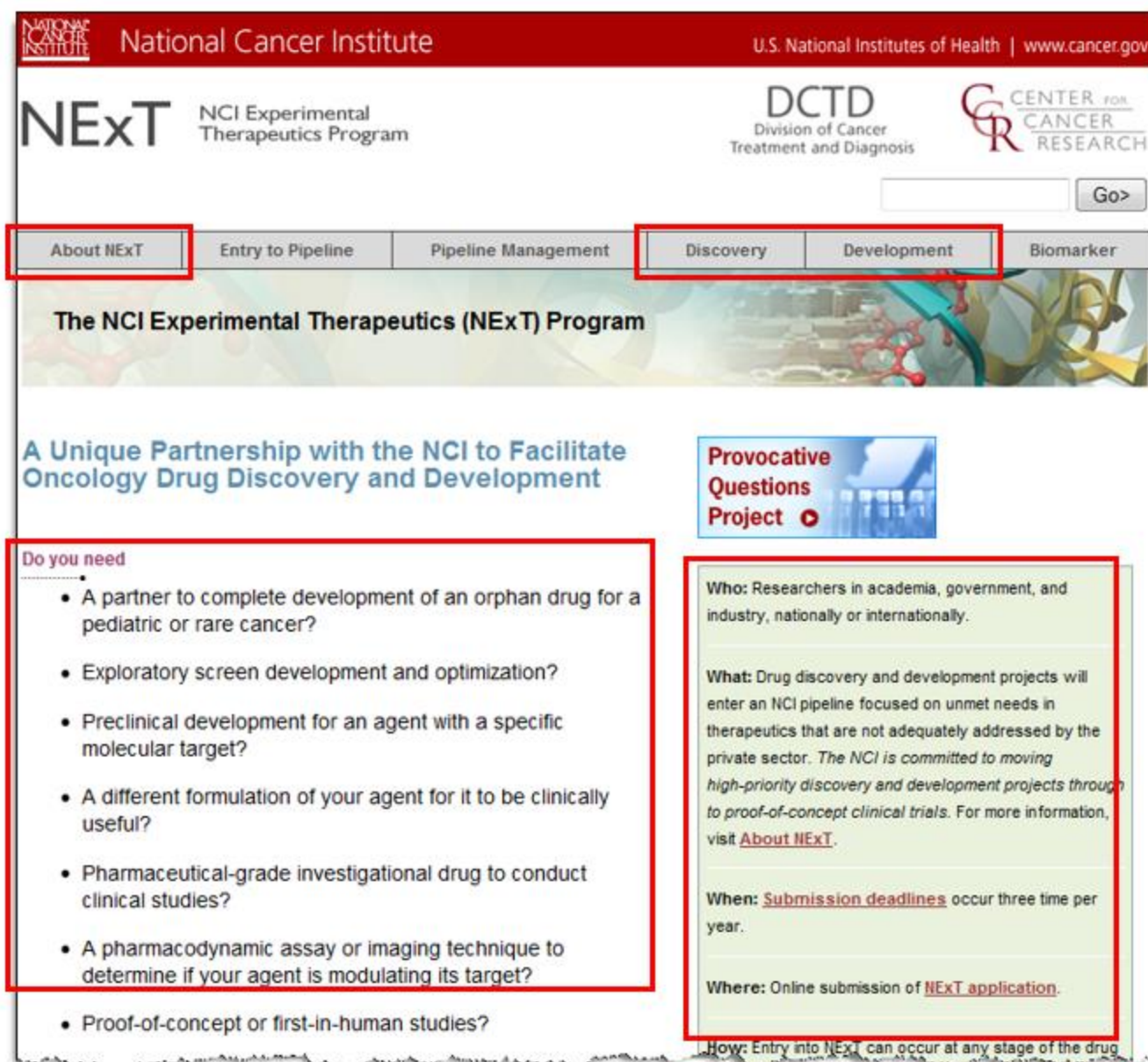


Figure 1: Where participants looked for information on the purpose of NExT.

Understanding Funding vs. Resources

Participants struggled with the concept of NExT being a source for resources but not of funding. The explanation for this is buried at the bottom of the gray box on the homepage (Figure 2). Some participants explicitly said that the program *does* provide funding. Others expressed confusion over what the program provides, if not funding. Most were unclear about the connection between researchers and the NExT program.

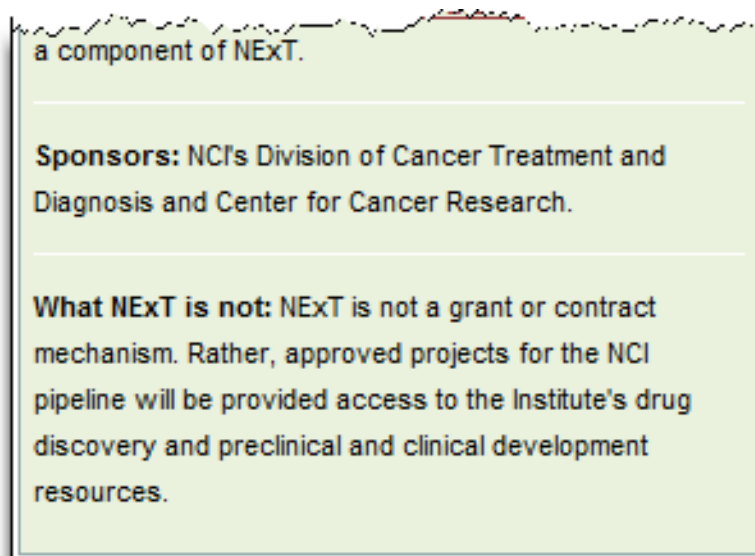


Figure 2: Explanation that NExT is not a grant or contract mechanism.

Identifying Available Resources

Participants were asked to locate what resources were available to researchers through the NExT program. Some participants looked in the “Discovery” or “Development” tabs, but all had difficulty finding a list of resources.

Some participants felt like the website required too much clicking in order to find information. For example, “Discovery Activities in DTP” links to several subpages, each of which provides a short explanation of what the branch supports, and then from there it links to the website of that branch. Since the content on each of the branch pages is fairly small, it may be possible to combine them all onto one page (same with Development Activities in DTP), thus requiring fewer clicks.

In addition, describing the “activities” in terms of “resources” offered to applicants may make it easier for users to understand what the NExT program can offer them.

Applying to the Program

Most participants had trouble locating information on how to apply to the program. Some noticed the link in the gray box on the homepage to “NExT application,” but this took them to ProposalCentral, not the instructions (Figure 3). The tab label, “Entry to Pipeline” (Figure 4), did not resonate with participants (including Experts) as a path to the application process. They understood the term “pipeline,” but the label did not imply an application to the program. Several participants suggested a new label be used, such as “Submit Application,” “Apply to Program,” etc.

When participants clicked on the link to ProposalCentral, the website opened in a new tab; however most participants thought they were still on the NExT website. When asked to return to the NExT website, they were confused because they thought they could just hit the Back button. They did not realize they were in a new tab. [It should be noted that in the second round of testing, this was not an issue even though the website still opened in a new tab.] The debate about whether to open external websites in the same window vs. a new window is ongoing and the solution often varies, depending on the website. In this particular case, since users may want to refer back to the NExT website when they fill out an application, it is probably best to keep opening the site in a new window. [As discussed later in this report, the creation of a landing page for “Submit an Application” may help with this issue since users expect main navigation links to go to a page on the current website.]

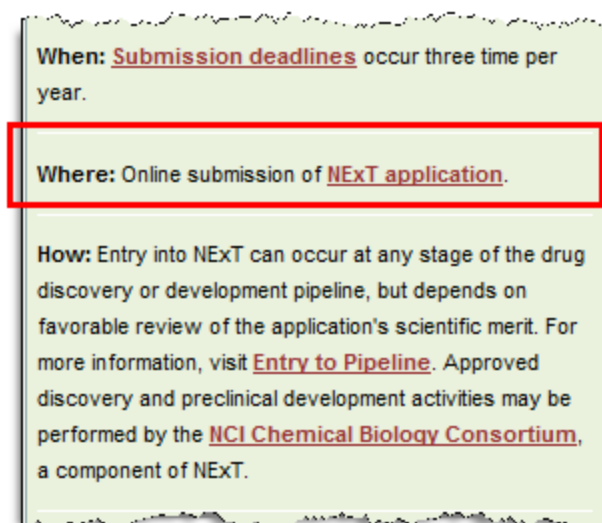


Figure 3: Link to ProposalCentral on homepage.

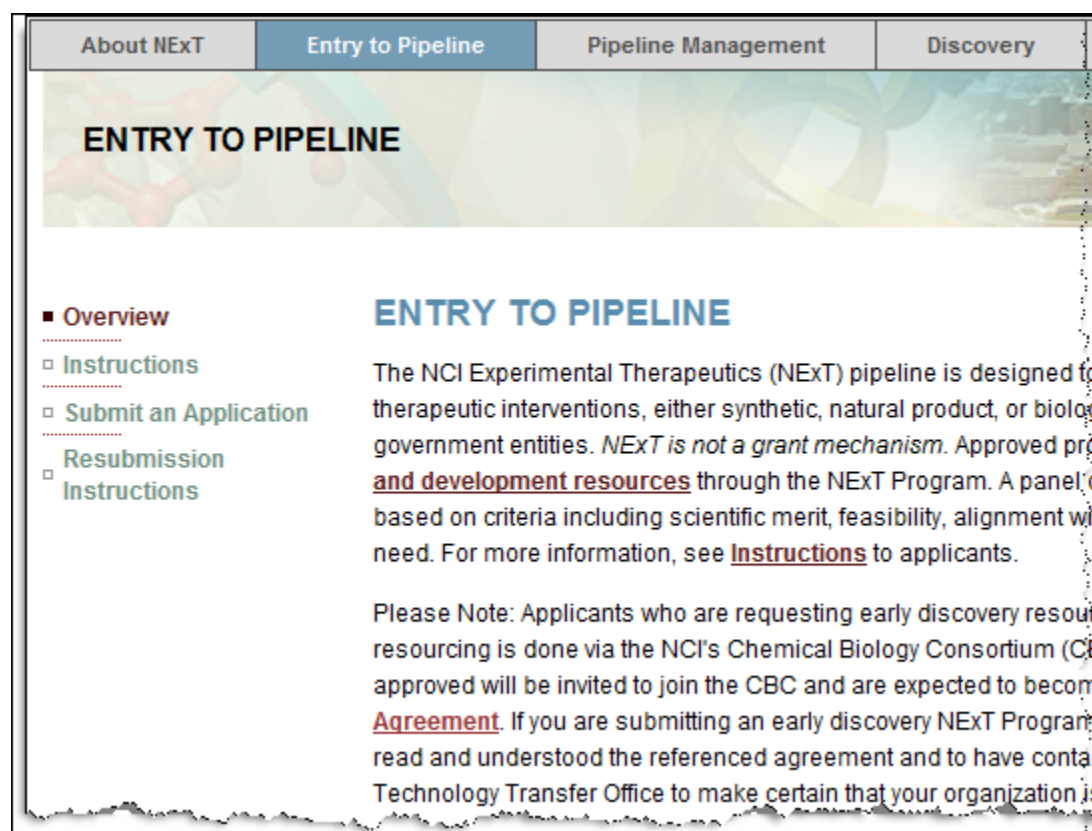


Figure 4: "Entry to Pipeline" label did not imply "application."

Locating Information Within Pages

Several key pages within the website are text-heavy, with no bold text or headers to break it up. This formatting contributed to participants' difficulty in extracting information. For example, one participant wanted to know how long the application could be and had significant difficulty locating the answer, "should not exceed 5 pages," on the Instructions page (Figure 5). Rewriting the content in plain language [as discussed later in this report] and

formatting it to aid scanning (i.e., bolding key words and phrases, adding headers, and using bulleted lists) would help in the readability of long passages.

NExT Proposal Instructions

Last Updated: 01/14/11

This is not a grant application - if successful, funds will not be transferred to your institution to support your project. Rather, this is an application to access the scientific capabilities and resources of the NCI with the goal of moving promising anti-cancer agents into clinical testing. If successful, you will partner with the NCI in developing a drug development pipeline. Depending on the drug development stage of your agent, it will be optimized and tested in HTS, medicinal chemistry, GLP toxicology, etc - all with the goal of filing an IND with the FDA and entering it into clinical testing.

General Instructions

Applications to the NExT Program are evaluated for scientific merit, feasibility, alignment with NCI mission, novelty, and clinical need.

Special consideration will be given to applications that address unmet needs in therapeutic oncology, including "undruggable" targets, orphan malignancies, and pediatric cancers.

Clearly indicate in the body of the proposal what you would like the NCI to provide in the form of resources in response to this application.

Please Note: Applicants who are requesting early discovery resources should be aware that such resourcing is done via the NCI's Chemical Biology Consortium (CBC). Applicants whose projects are approved will be invited to join the CBC and are expected to become signatories to the [CBC Participants Agreement](#). If you are submitting an early discovery NExT Program application, you are expected to have read and understood the referenced agreement and to have contacted your institution's or company's Technology Transfer Office to make certain that your organization is willing to accept the terms of this agreement.

The "NExT Concept Application" for both discovery and development projects includes 5 sections as described in detail below; additional material can be uploaded as an appendix. Please use the NExT Concept Application Template, available only when the cycle opens, in [proposalCENTRAL](#). Please convert all documents to PDF files, and please make sure all PDF files are not password protected, before submission.

Required Documents for Discovery and Development Applications

1. NExT Concept Application

The concept application document should not exceed 5 pages and should outline the scientific nature and rationale of the proposed project and should include the following:

Figure 5: "Should not exceed 5 pages" instruction is buried in the text.

Clear Instructions for Applying

One "expert" participant said she had followed the instructions for applying and successfully submitted her application. She felt the instructions were clear and thorough. However, she also thought the "Entry to Pipeline" label should be changed.

Understanding Allocation of Resources

When asked how the NExT program resources would be allocated, most participants were unsure what this meant. They thought it would be up to them to request certain resources. None of the participants spontaneously looked in the "Pipeline Management" section (Figure 6) for information on resource allocation.



Figure 6: "Pipeline Management" section.

Participants who looked at the NExT Governance Structure page upon prompting were confused by the text and accompanying graphic (Figure 7), unless they were already familiar with the program. They did not see the relevance of the content and did not understand how the governance structure would affect their connection with NExT.

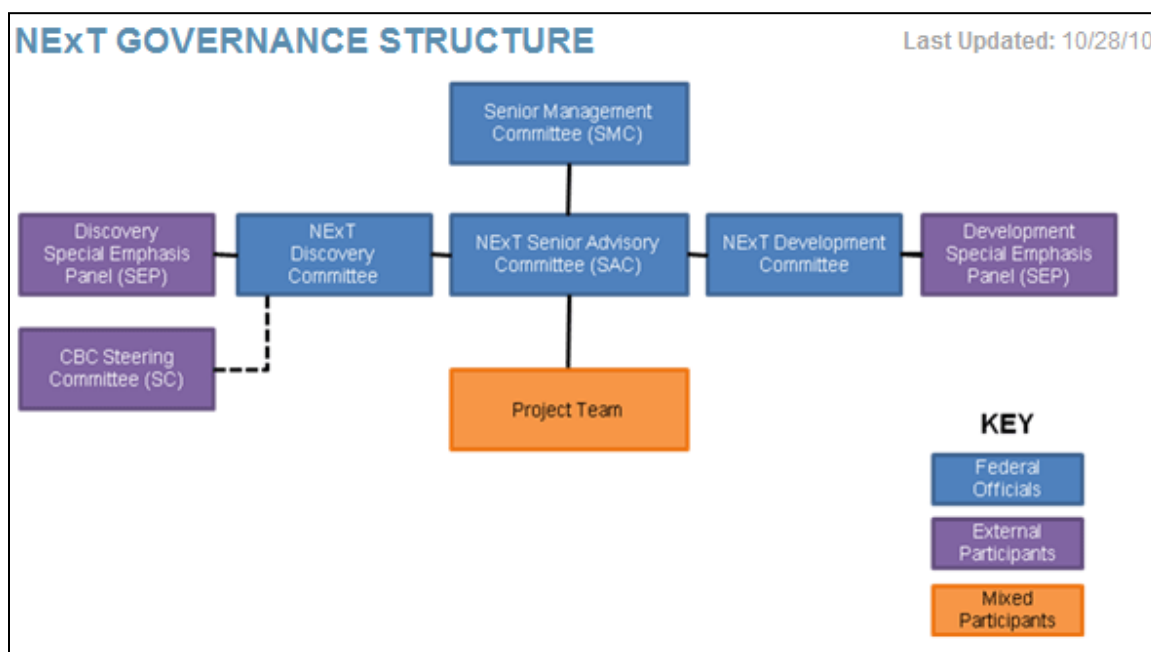


Figure 7: NExT Governance Structure graphic.

Website Usage and Additional Comments from Expert Users

Participants who were expert users reported using the site to:

- Introduce other investigators to the program.
- Provide information about his/her center.
- Look for key documents (e.g., CBC Participants Agreement, MTA).
- Review “Stage Gate” information.

After showing the website to other investigators who might be interested, those potential applicants asked for clarification on:

- How is this program different from other NCI programs?
- What is this program if it isn't a funding mechanism?
- If I don't get funding, what do I gain from the program?
- How does resource allocation work?
- How is intellectual property handled?
- What is the process for entering into the program?
- What is the process once you are in the program?

In addition, expert users suggested:

- Showing an example of how the overall process works.
- Showing the review process
- Clarifying “pipeline” as this may mean different things to different investigators. In particular, academic researchers may not understand the applied-research perspective.
- Clarifying the relationship between NExT, DCTD, and DTP.

VI. Round Two Usability Test Findings

Participants Understood NExT's High Level Goal

In this round of testing, participants easily determined the high level goal of the NExT program, which is to facilitate collaboration in an effort to move cancer related drugs through the pipeline more efficiently. Some of the items on the homepage that seemed to convey this included: the title in the header (“NCI Experimental Therapeutics Program”), the tagline (“Partnering with the NCI for Oncology Drug Discovery and Development”), the paragraph titled “What is NExT,” and the “Who” section which specifies that NExT is for researchers in academia, government, and industry (Figure 8). Though participants understood that NExT would provide them with resources, they had some difficulty explaining what those resources would be.

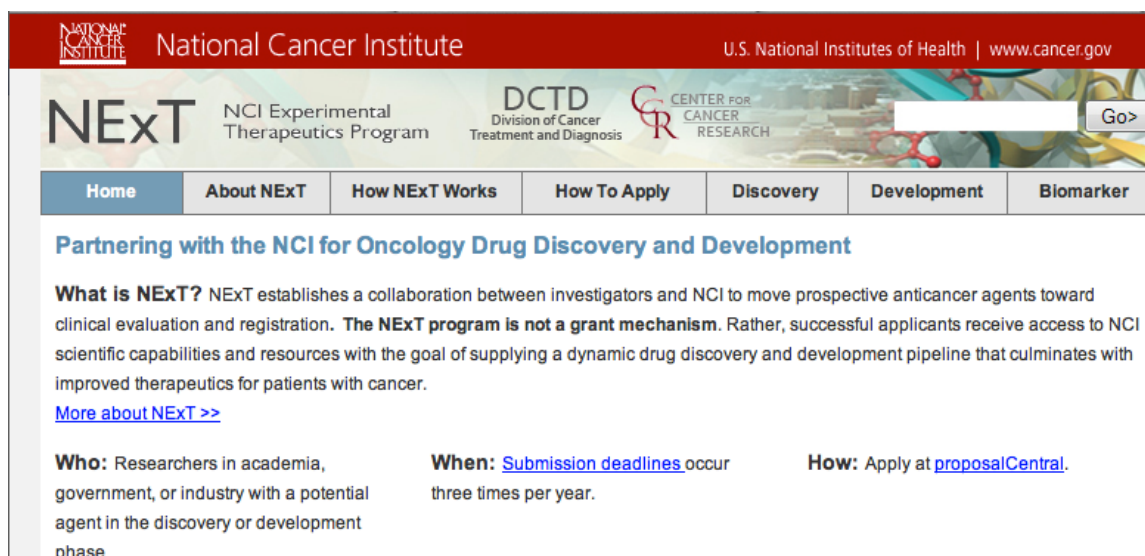


Figure 8: The top section of the homepage.

Not A Grant Mechanism

In the first round of testing, it was not clear to participants that NExT is not a grant mechanism. One of the changes made prior to the second round of testing was to clarify this on the website. It was mentioned on the homepage (in bold), the “How to Apply” page, and the “Instructions” page (Figure 9). Participants all noticed the message this time. Nearly all participants understood that this meant they would not be given money (though one participant was still unsure).

One participant said that the message was too repetitive. He commented, “I don’t know how many times you’re going to beat us over the head with, ‘This is not a grant application.’” However, given the misunderstanding in the last round of testing, it is better for the website to state it too many times than not enough.

Another participant commented that on the homepage, the statement should not be the second sentence. Rather, it should tell users what NExT *does* offer (successful applicants receive access to NCI resources), and then what it does *not* offer (funding).

Home	About NExT	How NExT Works	How To Apply	Discovery	Development	Biomarker
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Partnering with the NCI for Oncology Drug Discovery and Development

What is NExT? NExT establishes ~~as a collaboration between investigators and NCI to~~ move prospective anticancer agents toward clinical evaluation and registration. **The NExT program is not a grant mechanism.** Rather, successful applicants receive access to NCI scientific capabilities and resources ~~with the goal of supplying a dynamic drug discovery~~ and development pipeline that culminates with improved therapeutics for patients with cancer.

[More about NExT >>](#)

HOW TO APPLY

Last Updated: 06/20/11

The NCI Experimental Therapeutics (NExT) pipeline is designed to assist translation to the clinic of novel therapeutic interventions, either ~~synthetic, natural product, or biologic~~, arising from academic, private, or government entities. **NExT is not a grant mechanism.** Approved proposals gain access to **drug discovery and development resources** through the NExT Program. A panel of experts will review the applications based on criteria including scientific merit, feasibility, alignment with NCI mission, novelty, and clinical need. For more information, see **Instructions** to applicants.

NExT PROPOSAL INSTRUCTIONS

Last Updated: 09/14/11

This is not a grant application - if successful, funds will not be transferred to your institution to support your project. Rather, this is an application to access the scientific capabilities and resources of the NCI with the goal of moving promising anti-cancer agents into clinical testing. If successful, you will partner with the NCI in developing a drug development pipeline. Depending on the drug development stage of your agent, it will be optimized and tested in HTS, medicinal chemistry, GLP toxicology, etc - all with the goal of filing an IND with the FDA and entering it into clinical testing.

Figure 9: Three places the website tells users NExT is not a grant mechanism.

Complicated Text

Participants had trouble getting a clear picture of the NExT program because the text was complicated and hard to digest. Several participants commented that it should be written in simpler language, and that it should be more concise and geared towards potential applicants. The complexity of the text was especially an issue for two participants with English as a second language. Both of these participants had trouble scanning the text and indicated that they would need a lot more time to really understand it all.

Since users of a website are unlikely to spend an hour on the website trying to figure it out, if they cannot easily determine whether the NExT program would be appropriate for them, they will probably move on. Though the subject matter is complex by nature, it is always possible to improve readability for the web. Some basic formatting changes (such as the use of headers to break up content on the page and the use of concise bulleted lists) can improve users' ability to scan and understand the content. The website <http://centerforplainlanguage.org> is a good resource for learning about how to write in plain language.

What Applicants Need to Know

A reoccurring theme across participants was that the website needed to focus more on what was important to *potential applicants*. Several participants commented that the website appeared well organized at first (the main navigation labels made sense and they liked the drop down menus), but that once they started looking around, it was difficult to find what they wanted to know. Basically, participants wanted to know what to expect. Some of the questions they had included:

- What's in it for the researcher?
- What is the process? Not only for applying, but what happens after a person is accepted?
- What is the researcher's role vs. the role of the committees in the governance structure?
- How much collaboration is there when structuring the project?
- Will the researcher be interacting with all of the committees, or a single individual within NExT?
- What type of interactions will the researcher have with NExT?
- How much control does the researcher have at each of the decision points in the stage gates?
- How can the relationship with NExT be severed?

These questions, and any others that potential applicants might have, need to be addressed on the website (in plain language). Though the answers to these questions will probably be addressed on various pages throughout the site, it may also be helpful to create an FAQ. Having this information consolidated in one place (if it answers users' real questions and if it's concise) may also help give users a better overview of the program and what to expect.

Homepage Graphic – Sell the Program

Participants wanted the homepage to “sell” the program. They wanted it to quickly tell them what it would do for them, how it works, and why they should even be interested. Neither of the graphics seemed to do this well. Participants liked the visual styling of the pipeline graphic (Figure 10), but preferred the flowchart graphic (Figure 11) since it seemed to walk through the process (though it didn't quite have all the right information). Participants also liked the idea of the links in the flowchart, which led to more information, indicating that an interactive graphic of some kind might be well received.

Industry participants were already very familiar with the stage gates, so seeing them on the homepage in the pipeline provided no value to them. Even participants who were not as familiar with the pipeline also wanted to see something more informative. Some of the suggestions for concepts that should be highlighted on the homepage included: details about collaboration, availability of useful resources to participants, and the overall process. Since there is a lot of information behind each of those concepts, an interactive graphic that provides teaser information on each concept and allows the user to click a link to learn more may be useful. One participant commented that the homepage overall was too bland, so a more colorful, interactive graphic would be a good way to make the page more interesting and draw users in.

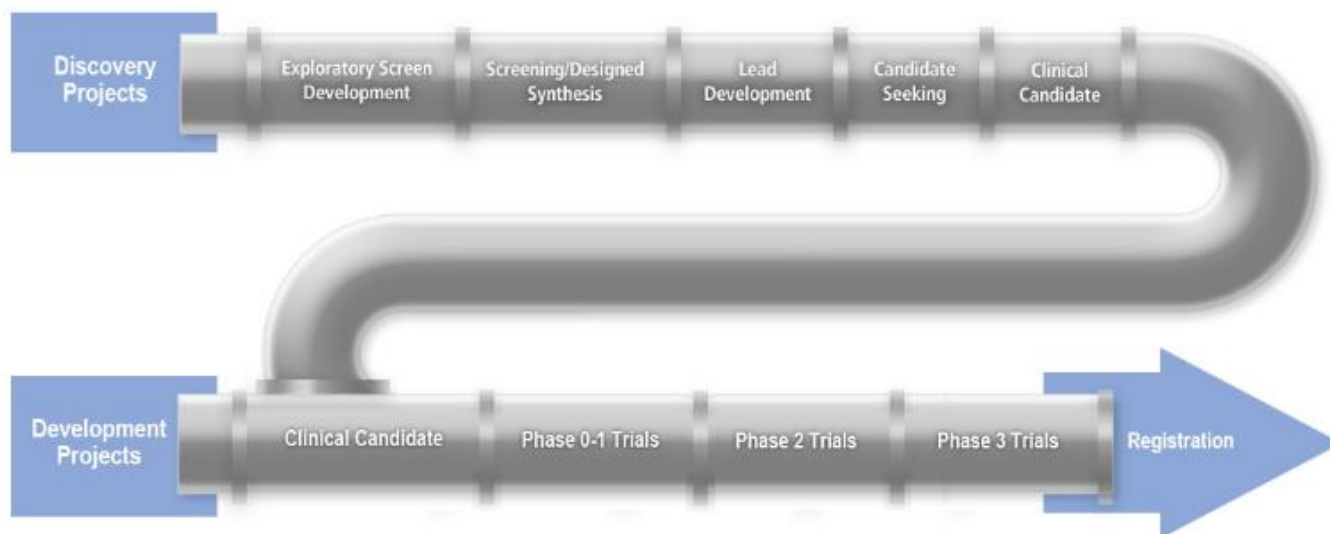


Figure 10: One of two homepage graphic options – pipeline.

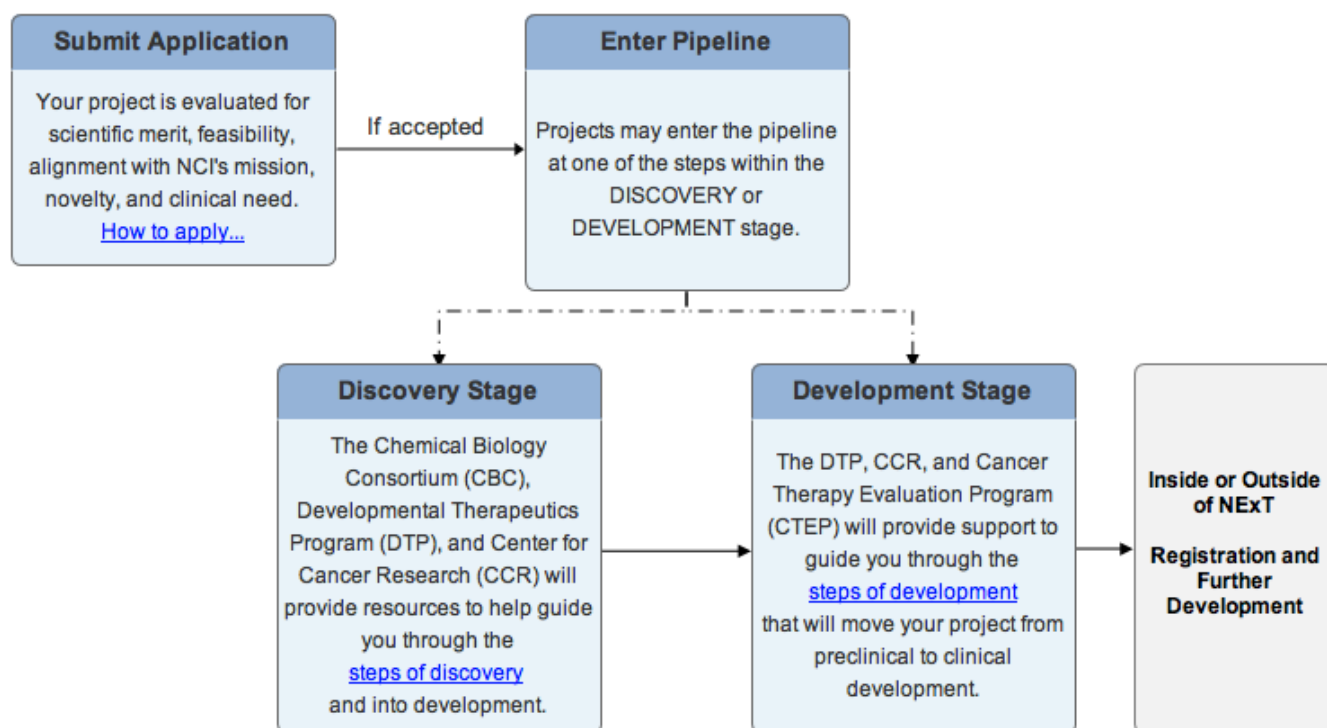


Figure 11: One of two homepage graphic options - flowchart.

Additional Persuasive Content

Several participants said that providing *scrubbed* examples (i.e., success stories) of projects that have been a part of NExT would help provide a better understanding of the program. It would help show applicants what they could expect and would be a persuasive way to sell the program. Since a project can enter at any part of the pipeline, the examples would not need to be exhaustive, but it would be ideal if they could showcase several different types of projects. Including information about at what point the project entered the pipeline, what resources NExT provided, how those resources helped, and the outcome of the project may be useful. Along the same lines, one participant suggested that “press releases” about successful projects (if available) would be nice.

Announcing Topics of Interest

One participant suggested including announcements about what type of projects NExT is particularly interested in at the time (as this is likely to change). Currently, the website does mention this on the application instructions page (Figure 12), but the information is not obvious. It is surrounded by other text that participants tended to skim over. Also, it is fairly general guidance. It may be helpful to create an “Areas of Focus” section on the homepage to highlight this information.

NExT PROPOSAL INSTRUCTIONS Last Updated: 09/14/11

This is not a grant application - if successful, funds will not be transferred to your institution to support your project. Rather, this is an application to access the scientific capabilities and resources of the NCI with the goal of moving promising anti-cancer agents into clinical testing. If successful, you will partner with the NCI in developing a drug development pipeline. Depending on the drug development stage of your agent, it will be optimized and tested in HTS, medicinal chemistry, GLP toxicology, etc - all with the goal of filing an IND with the FDA and entering it into clinical testing.

General Instructions

Applications to the NExT Program are evaluated for scientific merit, feasibility, alignment with NCI mission, novelty, and clinical need.

Special consideration will be given to applications that address unmet needs in therapeutic oncology, including "undruggable" targets, orphan malignancies, and pediatric cancers.

Clearly indicate in the body of the proposal what you would like the NCI to provide in the form of resources in response to this application.

Please Note: Applicants who are requesting early discovery resources should be aware that such resourcing is done via the NCI's Chemical Biology Consortium (CBC). Applicants whose projects are approved will be invited to join the CBC and are expected to become signatories to the [CBC Participants Agreement](#). If you are submitting an early discovery NExT Program application, you are expected to have read and understood the referenced agreement and to have contacted your institution's or company's Technology Transfer Office to make certain that your organization is willing to accept the terms of this agreement.

The "NExT Concept Application" for both discovery and development projects includes 5 sections as described in detail below; additional material can be uploaded as an appendix. Please use the NExT Concept Application Template, available only when the cycle opens, in [proposalCENTRAL](#). Please convert all documents to PDF files, and please make sure all PDF files are not password protected, before submission.

Figure 12: Information on the topic areas NExT is particularly interested in.

NExT Governance Structure

Participants had difficulty determining how resources were allocated to projects. The “NExT Governance Structure” page answers this question, and it is linked to from the “How NExT Works” page, which participants did

visit. In one mockup, the paragraph containing the link had a “Resource Allocation” header (Figure 13). In the other mockup, there was no header (Figure 14), just the surrounding text (which was the same in both versions). Participants who saw the version with the header went straight to the “NExT Governance Structure” page. Participants who saw the version without the header took a lot longer to find the correct page (if they found it at all). Some participants understood that committees would make decisions about resource allocation based on various factors, but it was not obvious to everyone. One participant said the page “started to explain it” but it wasn’t entirely clear.

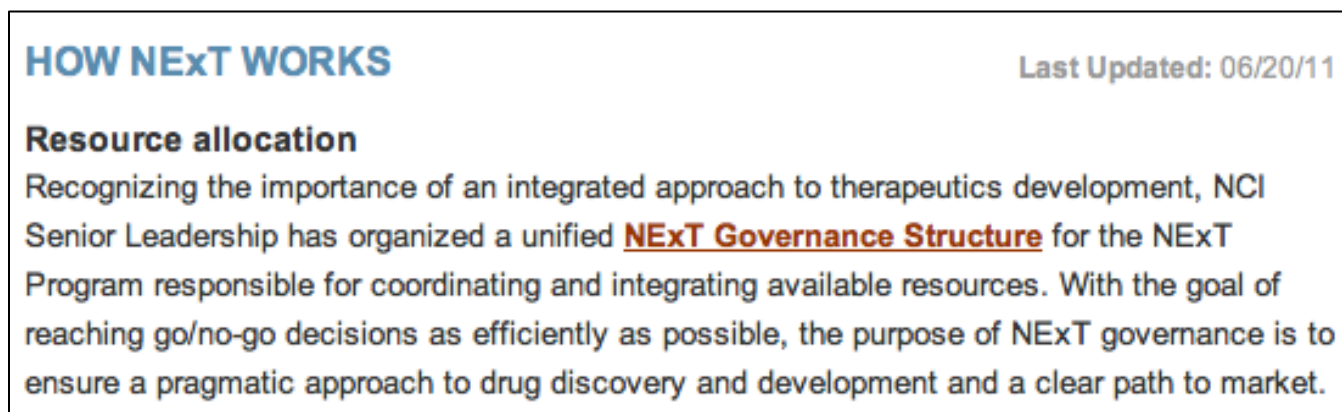


Figure 13: Paragraph surrounding "NExT Governance Structure" link with a header.

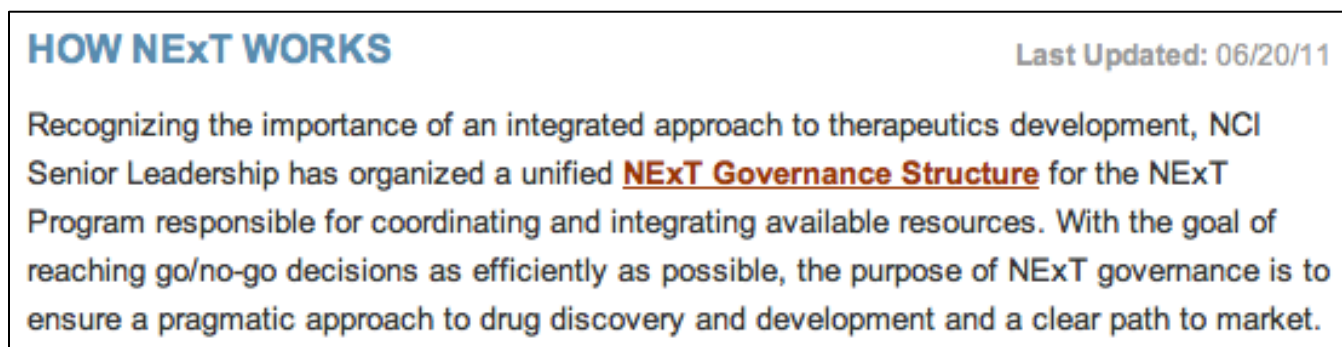


Figure 14: Paragraph surrounding "NExT Governance Structure" link, without a header.

Like much of the site, the “Next Governance Structure” page is very dense and is not written in way that aids scanning, or that is geared towards potential applicants. One participant commented that the content is the type of information you would present to committees, rather than researchers. Potential applicants do not need to know all the details about the various committees, except for as it applies to their experience – who will they be interacting with and how?

If this information does need to be presented on the website (perhaps for other user groups besides applicants), it would benefit from breaking the content up into one paragraph per committee, with the use of headers to identify each committee.

The label “NExT Governance Structure” was misleading for one participant. When she saw the word “structure” she thought it would only show the image of the structure (Figure 15), like an org chart. She did not realize there would be explanatory text with it. For her, the label “NExT Governance” would have been better. Since only one participant had this problem, it is difficult to tell whether or not this would be a common misconception, but it is worth considering.

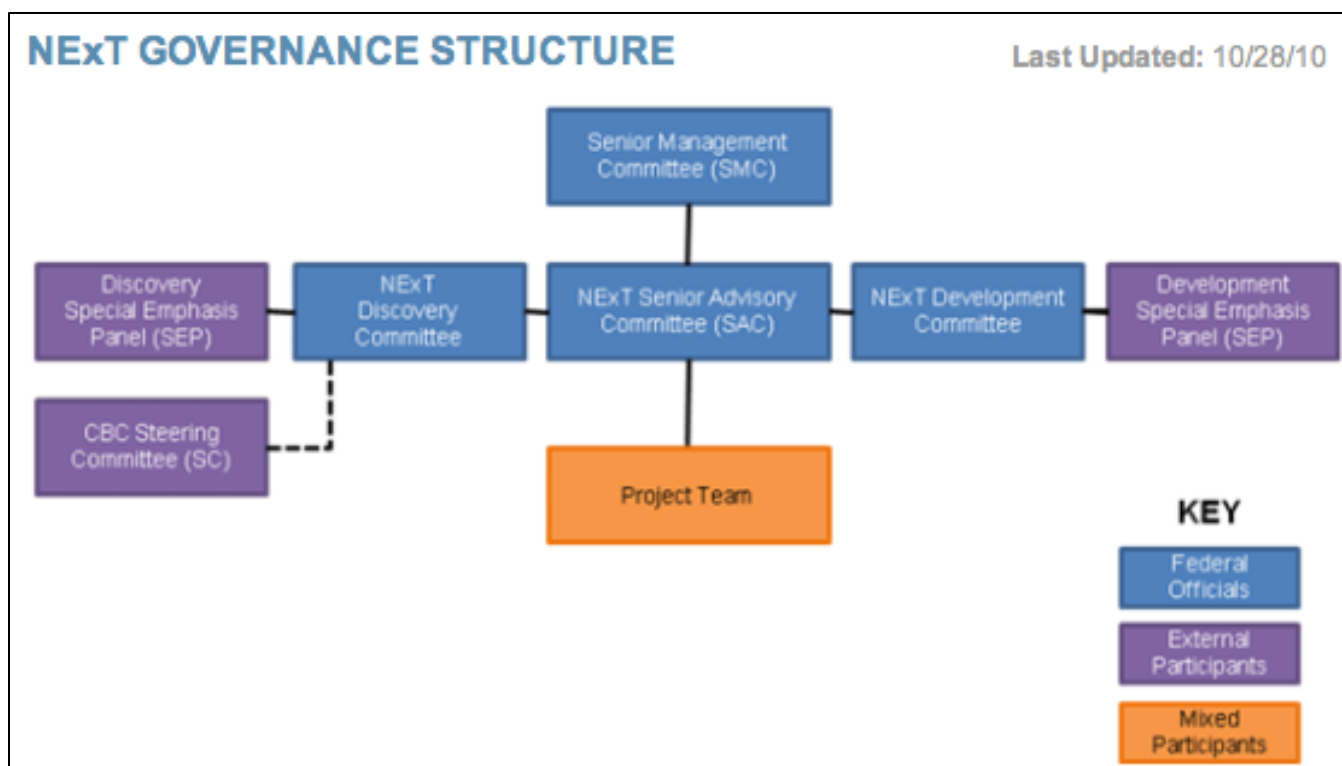


Figure 15: Graphic of NExT Governance Structure.

Intellectual Property

Intellectual property (IP) issues were a concern to several participants, especially those from industry. Due to their concerns over IP, industry participants felt the site was geared more towards academics, though they realized it could be useful for people in industry as well (particularly if they were from a small start-up company). The specifics of how intellectual property would be handled were not clear to participants. Though the “IP and Data Access” page explains some of this (Figure 16), participants did not find it obvious.

First, the label “IP” is used instead of spelling out “Intellectual Property.” It is best practice to spell out acronyms, both in the navigation and the page title. This helps emphasize the focus of the page and ensures users know what it means.

Second, though headers are used, they do not strongly imply that the content below them is about IP (e.g., CBC Participants Agreement, NExT MTA, NCI Employee Inventions, Contract Research Organization, CTEP-Sponsored Clinical Trials). For example, the “NExT MTA” is for applicants “entering the pipeline post lead compound development but prior to clinical trials” (i.e., mid-phase projects), but the user doesn’t know this until they read through the text. Rather than labeling the header “NExT MTA” (which means little to new users), it could say, “IP Agreement for Mid-phase Projects,” since users can likely identify with their project’s location in the pipeline.

Third, the page references the “Bayh-Dole Act” but does not explain what it is. It assumes that users will know what this means. Providing an explanation of what this means for applicants to NExT would be helpful.

Fourth, both the CBC Participants Agreement and NExT MTA are provided through links, but these documents are written in legal language. Users are not likely to read through these documents to get information. Instead, a summary about what the documents say regarding IP should be provided in plain language on the page itself.

Finally, at the bottom of the page there is an image that shows which agreements are required, depending on a project's location in the pipeline. None of the participants noticed this image, but it seems like it would be very helpful in guiding users to the relevant section of the page (depending on their project). Placing it at the top of the page, instead of the bottom, may help.

NExT NCI Experimental Therapeutics Program

DCTD Division of Cancer Treatment and Diagnosis

CENTER FOR CANCER RESEARCH

U.S. National Institutes of Health | www.cancer.gov

Home About NExT **How NExT Works** How To Apply Discovery Development Biomarker

- Overview
- NExT Governance Structure
- NExT Stage Gates
- IP and Data Access**

IP AND DATA ACCESS Last Updated: 10/28/10

NCI Patent Rights and Licensing Agreement Terms for the NExT Program

The following outlines the different patent and licensing mechanisms applicable to studies of third-party agents in the NExT Program. Please note that the NCI has a variety of agreement mechanisms by which these terms may be applied and will work with the NCI Technology Transfer Center to determine the appropriate agreement for the studies approved by the NExT Program.

CBC Participants Agreement:
Work done by Basic Ordering Agreement holders and other signatories of the CBC Participants Agreement is subject to the Bayh-Dole Act (35 U.S.C. § 200, et. seq.); in addition, all members are expected to follow the principles outlined in the [CBC Participants Agreement](#).

NExT MTA:
Applicants entering the pipeline for projects post lead compound development but prior to clinical trials (including activities formerly known as RAID) will be expected to execute a [NExT MTA](#). The terms of this agreement will govern the collaboration between the NCI and the applicant for pre-clinical development stage projects.

NCI Employee Inventions:
Normally, the NCI will not acquire intellectual property rights to inventions made by its employees using NExT Collaborator Materials under NExT, unless the NExT Collaborator and the NCI mutually agree that to do so would be in the best interest of the NExT Program.

access is granted only on a "need-to-know" basis.

NExT Pipeline – Agreement Types by Project Phase

Target Identification and Validation	Hit Finding	Lead Optimization	Early Clinical Safety and Efficacy	PoC/Phase I Trials	Phase II Trials	Phase III Trials	Registration	Post-Launch Activities
Drug Discovery			Early Development		Full Development			
Chemical Biology Consortium: target discovery through lead compound			"Mid-phase" projects (formerly RAID and DDO)		CTEP-sponsored clinical trials			
CBC Consortium Agreement			"NExT MTA," CDAs, MTAs		CTAs, CRADAs, and CSAs subject to CTEP IP option			
Associated Agreements								

NExT Home | Text-only | Contact NExT | Site Map | NCI Home | Accessibility | Policies | File Readers/Plug-ins

NCI USA.gov

Figure 16: "IP and Data Access" page.

CBC Participants Agreement

The CBC Participants Agreement is linked to in three different places on the website: "IP and Data Access," "How to Apply," and "Instructions" (Figure 17 and Figure 18), however no participants viewed it on their own. They had to be directed to click on it. There are several possible reasons for this.

First, the label itself does not imply what it is. Most participants did not seem to have a clear understanding of CBC's role and therefore "CBC Participant" did not mean much to them.

Second, the surrounding text is not particularly helpful. On the "IP and Data Access" page (Figure 17), it does not clarify what the CBC is, who "members" are, or why the agreement is necessary. The text on the "How to Apply"

and “Instructions” pages (Figure 18) is more clear about who will need to sign the agreement and why, but the link is embedded within the page, surrounded by text which causes participants to skip over it.

CBC Participants Agreement:
Work done by Basic Ordering Agreement holders and other signatories of the CBC Participants Agreement is subject to the Bayh-Dole Act (35 U.S.C. § 200, et. seq.); in addition, all members are expected to follow the principles outlined in the [CBC Participants Agreement](#).

Figure 17: Link to “CBC Participants Agreement” on “IP and Data Access” page.

Please Note: Applicants who are requesting early discovery resources should be aware that such resourcing is done via the NCI's Chemical Biology Consortium (CBC). Applicants whose projects are approved will be invited to join the CBC and are expected to become signatories to the [CBC Participants Agreement](#). If you are submitting an early discovery NExT Program application, you are expected to have read and understood the referenced agreement and to have contacted your institution's or company's Technology Transfer Office to make certain that your organization is willing to accept the terms of this agreement.

Figure 18: Link to “CBC Participants Agreement” on “How to Apply” and “Instructions” pages.

Once participants were directed to review the agreement, they said it looked like a standard legal document and therefore they would not read through it as a means of getting information. Several mentioned that this is something they would give to their lawyers. If there is important information in this document that potential applicants should know prior to applying, it needs to be presented on the website in plain language.

One participant commented that this agreement would pose a possible roadblock since industry lawyers will often want to use their own language.

Another participant commented that the use of “Participant” instead of “Researcher” was a little confusing. Though we recognize that this language will not change, it is important to keep this in mind, as the current link to the document is “CBC *Participants* Agreement.” It is not likely that users will identify with, and therefore an alternative link label would be beneficial.

NExT Stage Gates

The term “Stage Gate” was familiar to some participants. Some of them thought the term was fine and that users would understand it, but others, although familiar with the label, did not particularly like its use. One of these participants said they are really “decision points,” and would have preferred that as the label. Though not everyone was familiar with or liked the label, all participants were drawn to click on it on their own and seemed to understand what it was when they saw it.

Two versions of the NExT Stage Gates page were tested: the existing design (Figure 19, left), and an alternate design that listed the guidelines in bulleted lists rather than a table, with the Discovery and Development phases in collapsible/expandable panels (Figure 19, right). Participants preferred the graphical presentation of the stage gate guidelines as displayed in the table in the current design. On the alternate design, they thought that clicking

the panels to expand them was not good, and that the vertical presentation of specific guidelines caused the page to be too long.

In the current design, however, several participants commented that the text was hard to read. The blue arrow image was familiar to people from industry, but participants did not like that acronyms in the image were labeled below it. This required looking back and forth between the image and the key below it. In addition, the font size in the table of specific guidelines was too small to read comfortably.

The legibility of the stage gates page in the current design (both the blue arrow graphic and the table) is hindered by the width of the page – 752 pixels wide. This page width is designed to support an 800x600 screen resolution, which is no longer a standard that needs to be supported. Widening the page design to support a 1024x768 screen resolution may allow the labels for each stage gate to be incorporated into the blue arrow itself, rather than using acronyms and a key. In addition, it would be possible to use a larger font size in the table.

Submit an Application Link

When looking for information on submitting an application, participants often went straight to the “Submit an Application” link in the “How To Apply” drop down menu (Figure 20), prior to reading the instructions. This link goes to a different website, ProposalCentral. It is necessary to review the instructions before a user can submit an application. In addition, it is generally bad practice to link to a different website directly from the main navigation, as this can be disorienting to users.

Consider creating a landing page for the “Submit an Application” link on the NExT website that tells users they should read the instructions before submitting an application, and then provides a link to the website where they can submit the application. This will let users know they should read the instructions first, and it will let them know they will be leaving the website if they continue to the application.

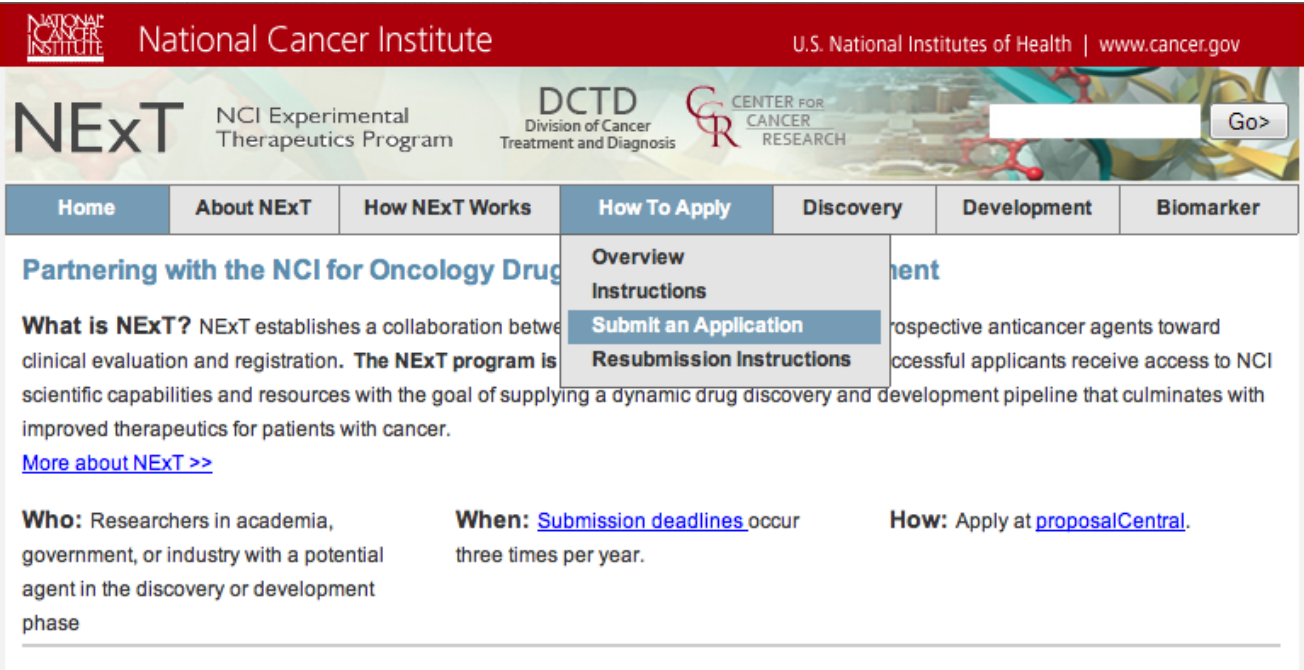


Figure 20: "Submit an Application" link in the "How To Apply" menu.

Application Instructions

The formatting of the “Instructions” page was problematic for some participants. One participant commented that the instructions do not actually start with instructions. Instead, it repeats some of what has already been said elsewhere on the site and is too verbose. Another said the instructions would be more helpful if they were formatted as a step-by-step checklist. Doing so would ensure that users do not miss important information (if each item had its own checkbox), and it would better emphasize the steps that need to be taken. For example, having applicants review the CBC Participants Agreement could be incorporated as one of the steps for applying.

Currently bullets are used to identify each piece of the application, which in general is good practice, except that on this page it makes it difficult to tell the difference between bullets indicating an item that needs to be included (e.g., background, hypothesis, research strategy and specific request) vs. bullets providing more detail about an item (e.g., “For early-stage drug discovery projects,” “For late-stage drug discovery projects,” and “For clinical drug development projects”) (Figure 21). The use of checkboxes would help distinguish between the two, as would making the sub sections under the “Research Strategy and Specific Request” collapsible/expandable (collapsed by default). This would let users see at a glance that specific information is required depending on

where a project is in the pipeline (i.e. early-stage discovery, late-stage discovery, or “clinical drug development”). Users could then view just the section that is relevant to them.

1. NExT Concept Application

The concept application document should not exceed 5 pages and should outline the scientific nature and rationale of the proposed project and should include the following:

- **Background:** Provide a summary of the field sufficient to allow an appropriate understanding of the scientific and medical context from which the opportunity emerges. Describe the target, targeted cellular pathways, and molecular mechanism of action, if known. Please be concise and specific; it is not necessary to address cancer incidence.
- **Hypothesis:** Include a clear statement of the hypothesis(es) to be tested and define the objectives of the proposal. Specifically, address the *scientific merit* of your proposal by evaluating whether your hypothesis is supported by the field. Provide evidence to validate the target and/or the approach for pharmacological intervention based on in vitro, in vivo, or clinical studies from your research or the literature. Provide a summary of the key experiments you have conducted to date; manuscripts and supporting material can be uploaded as an appendix. Include an assessment of safety and therapeutic index. When available, include information on the competitive landscape and comparator efficacy studies.
- **Research Strategy and Specific Request:** Clearly describe the intended research strategy defining the specific activities requested from the NCI with the proposal; if the research activities necessary to move the concept forward to the clinic are not established or clear, please indicate this. Include specific details as necessary to demonstrate that the project has been well thought out (for example, if requesting assistance in the development of a pharmacodynamic assay, include a description of the analyte to be measured, strategy for biospecimen acquisition, assay platform, etc.). Address the feasibility of the proposed research strategy.
 - **For early-stage drug discovery projects,** describe the proposed screening strategy, readiness of the primary assay, and any supporting secondary assays available, including structure-based, virtual, and selectivity assays. Supporting data can be uploaded as an appendix. For new molecular entities, describe the development status of the compound and optimization strategy (for guidance, please refer to the [NExT Stage Gates](#)). Indicate whether the compound has undergone medicinal chemistry optimization; if not, describe the proposed strategy. Describe available enzymatic, cell-based, and ADME assays, and where appropriate, access to a structure-based drug design platform; include a description of validated disease animal models (e.g., GEMMs). *Specify the expected resources or expertise required from the NCI to facilitate advancement of the agent into first-in-human studies.*

Examples of resources that can be provided by the NCI for discovery projects include, but are not limited to:

- Target validation; applicant should specify what needs to be done to increase the confidence in mechanism (e.g., transgenics, knock-out studies, RNAi, chemical probes).

Figure 21: Application instructions with several levels of indentation.

VII. Conclusion

The initial expert review revealed issues concerning navigation, content that is not written to aid readability, labeling and terminology, and the visual design/page layout. Many of these issues were confirmed in the first round of usability testing. Some changes were made prior to the second round of testing which did improve users' ability to understand and use the website. However, additional changes are recommended to further improve the website and ensure that it is appropriate for potential applicants. UCD suggests that:

- A new homepage graphic be created that better sells the program to potential applicants.
- The content of the site be rewritten based on principles for writing for the web and Plain Language.
- Additional content be added as necessary to answer potential applicants questions about what to expect from the program.
- The overall format of the Application and its Instructions be redone so that each item needed for the application is obvious—perhaps as a checklist,
- Links going directly to the Application should instead have an intermediate page advising users that reading the instructions is needed before filling out the application.
- NExT investigates whether or not a wider page layout is possible, since a limited page width in the current design creates problems for the NExT Stage Gates page.

VIII. Appendices

Verbal Informed Consent Form

Verbal Informed Consent Form for the Evaluation of the NExT Website

As part of this research, I need to ask you to formally agree to this usability test and interview. As part of a research project for the National Cancer Institute, we are seeking to evaluate the appropriateness and usability of the NExT Website for researchers—both those who are already familiar with NExT (“experts”) and people unfamiliar or relatively new to NExT (“novices”). Individuals who we think would have an appropriate background are being asked to participate in a usability test and then to reflect on the website. So we are asking you for about 45 minutes of your time.

We won’t be asking anything personal and no identifying information will be shared. Any findings will be reported in aggregated form.

If it’s alright with you, we’d like to record the monitor used in the usability test and your voice in order to help with note taking, but your image would not be videotaped. Is that OK with you or would you prefer not to be recorded?

Your participation is voluntary, and if you choose not to participate it will not affect your relationship with the National Cancer Institute. You may ask questions at any time. You are also free to stop the interview at any time without penalty and without any questions being asked of you. Do you have any questions about the process?

If you agree to participate, you are saying that you understand what I’ve told you and that any questions you have were satisfactorily answered. You are also saying that you are at least 18 years old, and that you voluntarily agree to participate. Do you agree to participate?

Round 1 Facilitator's Guide

[Note: The purpose of this document is to guide the moderator. The questions and tasks contained herein may not be asked as written. The facilitator often draws on participant comments and the natural flow of the testing process to determine the flow of the session. While the facilitator will try to follow the order of the guide, many times tasks will come up ahead of time or in different order. The facilitator may allow the order of the tasks to change in order to let the process flow naturally.]

Pre-Test

[Administer the informed consent and video release form.]

Introduction

Thank you for agreeing to participate in this study. Do you have any questions for me before we get started?

You signed a video release so you know I'll be recording everything that shows up on the computer monitor. We're going to be looking at a web site today that was created for the National Cancer Institute. I'm going to ask you to try to explore the web site and then to try to do some tasks with the site. Then I'd like to get your opinion about it. You and I will work on this together. Additional observers in another room may watch your monitor screen to assist me in taking notes.

We have invited individuals who have and have not experienced the NExT website. So we can understand the point of view that you are bringing to the testing, I'd like for you to tell me a little bit about your previous experience with or knowledge about the NExT website.

- Where do you work? (What have you worked previously?)
- What type of work do you do? (What have you done previously?)
- Have you ever visited and used the NExT website? How much have you used it in the last month? In the last year?

[Participant talks....]

Today we are going to be talking about

There are two important things you should keep in mind while you work with this web site:

- First, I did not design it so you can't hurt my feelings. If there are problems with the design I would like to discuss them with you to see if we can find a way to make the web site better.
- Second, we are evaluating the web site and not you, so you cannot make any mistakes. The web site is supposed to be intuitive and easy to use. If it isn't, that's a problem with the web site – not with you.

Any comments you have, either positive or negative, will help make the product better so feel free to tell me whatever is on your mind. After you're done working, I'll ask you a few questions and then give you some time to ask me anything you'd like. Do you have any questions for me before we get started?

Initial Impression

[Open the browser to <http://next.cancer.gov/>]

Before we get started, I'd like to let you know that as you're using the site, if you have questions as we go along, feel free to ask. I may not answer your questions right away in order to see how well you can figure out things for yourself, but it is valuable to know if you do have questions about the site.

[Facilitator should ask about specific pages and sections as they are encountered. If users explore areas listed as a task below, the facilitator should get the feedback during their exploration. Areas of the site that seem to be of interest and then are dropped should be asked about.]

Tasks

All Participants

1. How would you get to the NExT program site from the NCI website?
2. How would you get to it from the DCTD website?

[Ask participant if they have used the site before]

IF YES: Previous users of the site

1. Could you explain to me your understanding of what NExT is.
 - a. Did you learn this from using the website or from some other source?
 - b. Which parts of the site helped contribute to your understanding of what NExT is?
2. When was the last time you visited the site, and what did you use it for? [Ask user to take a look at it now]
 - a. Which sections of the site did you use?
 - b. Were you able to accomplish what you wanted to successfully?
 - c. Did you run into any problems? If so, what?

IF NO: New users of the site

1. First, I'm going to let you explore the web site by yourself. I want to see what you can find that might be helpful or interesting to you. I'd like you to tell me about what you see and whether it does or does not relate to finding information useful to you.
 - a. [Observe the participants and note what they find on their own. Keep track of any relevant comments.]
 - b. [If not offered, prompt for participant's impression of the main page.]
 - c. [If not already covered, ask what prompted them to explore the sections they visited.]
2. [If not already discussed] Find out what NExT is, what they offer, and whether or not the program would be useful for you specifically.

All participants

1. You've had a chance to look at the site now and have a feel for what NExT is. How would you find out what specific services they have to offer?
2. Let's say you have decided to apply to the program. What information do you need to submit?
 - a. Follow-up question: How would you submit that information?
3. If you have applied to the program and your application was rejected, what further options do you have?
4. If your project is accepted, who will be involved in deciding what resources are available to you?
5. If your project is accepted, what milestones are you expected to meet as your project progresses?
6. [For sections the participant has not explored]. Let's take a look at the [section] section and tell me what you think about it.

Post Test Interview Questions

Now, I'd like to collect a bit of information from you using some standard tools before we discuss your experience.

[Administer the System Usability Scale (SUS) and Modified Cooper Harper questionnaires.]

Next, there are a few specific questions about your experience with the website.

1. What is your overall impression of the site?
2. What are the three things you liked most about the way the site looks and works?
3. What three things did you like least about the way the site looks and works?
4. Was the site comprehensive enough to allow you to determine if the program fits your needs?
5. Were the application process and the details easy to find?
6. Do you feel that the site is logically designed so as to allow you to get details without overwhelming you?
7. What about the site surprised you the most?
8. Is there any information or other content you would have expected to find, but didn't?

Wrap up

OK, we're done. Are there any questions you would like to ask me about the site or about today's experience that I did not ask you about? Thanks again for your participation.

[If this is an in-person test, pay stipend and obtain signature. For remote testing, arrangements to send checks will be arranged before this.]

Round 2 Facilitator's Guide

[Note: The purpose of this document is to guide the moderator. The questions and tasks contained herein may not be asked as written. The facilitator often draws on participant comments and the natural flow of the testing process to determine the flow of the session. While the facilitator will try to follow the order of the guide, many times tasks will come up ahead of time or in different order. The facilitator may allow the order of the tasks to change in order to let the process flow naturally.]

OMB No.: 0925-0589-08

Expiry Date: 5/31/2011

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. **An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.** Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: NIH, Project Clearance Branch, 6705 Rockledge Drive, MSC 7974, Bethesda, MD 20892-7974, ATTN: PRA (0925-0589-08). Do not return the completed form to this address.

Pre-Test

[Administer the informed consent form.]

Introduction

Thank you for agreeing to participate in this study. Do you have any questions for me before we get started?

We're going to be looking at a website today that was created for the National Cancer Institute. I'm going to ask you to explore the website and do some tasks with the site. Then I'd like to get your opinion about it. You and I will work on this together for about 45 minutes. Additional observers may watch your monitor screen to assist me in taking notes.

There are two important things you should keep in mind while you work with this website:

- First, I did not design it so you can't hurt my feelings. If there are problems with the design I would like to discuss them with you to see if we can find a way to make the website better.
- Second, we are evaluating the website and not you, so you cannot make any mistakes. The website is supposed to be intuitive and easy to use. If it isn't, that's a problem with the website – not with you.

Any comments you have, either positive or negative, will help make the product better so feel free to tell me whatever is on your mind. As you're using the site, if you have questions as we go along, feel free to ask. I may not answer your questions right away in order to see how well you can figure out things for yourself, but it is valuable to know if you do have questions about the site.

After you're done working, I'll ask you a few questions and then give you some time to ask me anything you'd like. Do you have any questions for me before we get started?

I'd like to make sure I understand your background before we get started.

[Confirm previously submitted responses on following questions:]

- Where do you work? (Industry, Government, Academia, Other?)
- Are you involved in creating drugs for potential use in cancer?
 - If, no. What is your connection to NCI and potential anti-cancer agents?
 - If yes, What type of work do you do? (Discovery, Development)
- Have you ever visited the NExT website (NCI Experimental Therapeutics Program)?
 - [If yes] When was the last time you were there?
 - About how frequently would you say that you have used it?

Tasks

[Explain that we will use a mockup of a new design for the site. **Open one of the mockups 2 min** (order alternated to assure that both are used and assigned, if needed, to assure each type of user does not see the same design (e.g., that not all Industry representatives see Design A).]

1. Take a few minutes to look around this site, and tell me what your first impressions are.
 - a. Who do you think the site is intended for?
 - b. Briefly describe what the NExT program is.
2. From what you see here, can you tell me the purpose or goal of the NExT program.
 - a. [Answer should include something about moving drug discovery and development projects through the pipeline toward creation of new anti-cancer agents.]
3. From what is on the website, can you tell me what sorts of projects NExT support?
 - a. [Answer should include projects at both discovery and development stages.]
 - b. How could you determine whether one of your projects is a candidate for NExT?
4. From the website, what does NExT offer to researchers?
 - a. How does NExT differ from other programs offered by NCI, e.g., grants?
 - b. Does NExT provide funding for researchers? [No]
 - c. How do researchers benefit from becoming part of NExT? [List of resources]
5. How are NExT resources allocated to projects?
 - a. [Answer should include something about the NExT governance structure.]
 - b. How do projects proceed through the program, i.e., how do projects pass from one stage to another?
6. If you wanted to apply to the NExT program, where would you start?
 - a. What are the submission deadlines?
 - b. How long should the submission be?
 - c. What information do you need to submit?
 - d. If you applied to the program but your application was rejected, what further options do you have?
 - e. If your project is accepted, who will be involved in deciding what resources are available to you?
 - f. If your project is accepted, what milestones are you expected to meet as your project progresses?
7. Reflection on finding information on the website.
 - a. Which parts of the site contributed most to your understanding of what NExT is?
 - b. Do you think further elaboration is needed regarding how this program works?

- c. What is the role of the Principal Investigator in approved NExT projects?
 - i. If it's not clear, what is missing and where should the information go?

Post Test Interview Questions

Next, I have a few specific questions about your experience with the website.

- 9. What was your overall impression of the site?
- 10. Do you think that the homepage makes an appropriate “first impression” on visitors?
 - a. If not, what would you change on the home page to make it more accurate in representing the program?
- 11. What are your thoughts on how well the site allowed you to determine if the NExT program fits your needs?
 - a. Probe: --Was there enough detail? --Was there too much detail? --Was the language easy to understand?
- 12. Is there any information or other content you would have expected to find, but didn't?
- 13. What are the three things you liked most about the way the site looks and works?
- 14. What three things did you like least about the way the site looks and works?
- 15. What about the site surprised you the most?
- 16. What other suggestions do you have for improving the site?

Comparison

- 1. Take a look at the graphic on the homepage. (Earlier you said...)
 - a. Tell me in words what this is depicting.
 - b. Does this help you understand the NExT process?
 - i. Is there anything missing?
 - ii. How could it be improved?
 - c. Here is another graphic that we are considering. [Show alternative mockup.] Which of these do you think is more effective at conveying the NExT program?
- 2. [Show alternatives for stage gates] We have two ways of displaying the same information for NExT stage gates. Which do you prefer, and why? [In How Next Works]
- 3. [Show alternatives for landing pages] We have two ways of displaying information on these pages. Which do you prefer, and why?

[IF THERE'S TIME]

- d. How would you get to the NExT program website from <http://www.cancer.gov> ?
- e. How would you get to it from <http://dctd.cancer.gov> ?

Wrap up

OK, we're done. Do you have any questions about today's session? Thanks again for your participation. I'll be sending you an email asking for your mailing address so that we can send you your \$60 stipend.