Introduction

The Research-Based Web Design and Usability Guidelines (*Guidelines*) were developed by the Communication Technologies Branch (CTB) of the National Cancer Institute (NCI) in the U.S. Department of Health and Human Services. The *Guidelines* were developed to assist those involved in the creation of websites base their decisions on the current and best available evidence. The *Guidelines* are particularly relevant to the design of information-oriented sites, but can be applied across the wide spectrum of websites.

Who Are the *Guidelines* for?

The primary audiences for the *Guidelines* are website designers, managers, and others involved in the creation or maintenance of websites. A secondary audience is researchers who investigate Web design issues. This resource will help them determine what research has been conducted and where none exists. To learn more about how these audiences may benefit from the *Guidelines*, see page xvii.

Why Did NCI Create the *Guidelines*?

NCI created this set of guidelines for several reasons:

1) To create better and more usable cancer information websites. NCI is mandated to provide clear information in an efficient and effective manner to cancer patients, health professionals, researchers, and the public. Translating the latest Web design research into a practical, easy-to-use format is essential to the effective design of NCI's numerous websites. The approach taken to produce the *Guidelines* is consistent with NCI's overall cancer information dissemination model—rapidly collect, organize, and distribute information in a usable format to those who need it.

2) To provide quantified, peer-reviewed website design guidelines. This resource does not exist anywhere else. Most Web design guidelines are lacking key information needed to be effective. For example, many guideline sets:

   • Are based on the personal opinions of a few experts;
   • Do not provide references to support them;
   • Do not provide any indication as to whether a particular guideline represents a consensus of researchers, or if it has been derived from a one-time, non-replicated study; and
   • Do not give any information about the relative importance of individual guidelines.

By addressing these issues, the *Guidelines* will help enable NCI and other organizations to make more effective design decisions.

Each guideline in this book shows a rating of its "Relative Importance" to the success of a website, and a rating of the "Strength of Evidence" supporting the guideline. Carefully selected panels of professional Web designers, usability specialists, and academic researchers contributed to these ratings. The ratings allow the user to quickly ascertain which guidelines have the greatest impact on the success of a website, and to determine the nature and quality of the supporting evidence. The "Relative Importance" and "Strength of Evidence" ratings are unique to the NCI *Guidelines*.

3) To stimulate research into areas that will have the greatest influence on the creation of usable websites. There are numerous Web design questions for which a research-based answer cannot be given. While there are more than 1,000 papers published each year related to Web design and usability, much of this research is not based on the most important (or most common) questions being asked by Web designers. By providing an extensive list of sources and "Strength of Evidence" ratings in the *Guidelines*, NCI hopes to highlight issues for which the research is conclusive and attract researchers' attention to the issues most in need of answers.

How to Contribute Additional References?
The authors of the *Guidelines* attempted to locate as many references and source documents as possible. However, some important guidelines may not have been created, and some applicable references may have been missed. Readers who are aware of an original reference pertaining to an existing guideline, or who have a suggestion for a new research-based guideline, should submit an email to: webguidelines@mail.nih.gov.

Please include the following information in an email:

- Reference information—author, title, publication date, source, etc. (Remember, books are usually not original references.);
- The guideline to which the reference applies;
- If suggesting a new guideline, a draft of the guideline; and
- A copy of the source (or a link to it), if available.

This information will help NCI maintain the *Guidelines* as a current and accurate resource.