OFFICE OF COMMUNICATIONS AND PUBLIC LIAISON

PDQ XML Specification Document

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1. INTRODUCTION

The National Cancer Institute is distributing the PDQ® (Physician Data Query) information in XML format since October 2002. *Table 1* summarizes the files that are currently provided to distribution partners.

Sample records for all the XML file types are listed in the appendix.

Table 1: PDQ XML Directory Names		
PDQ XML Directory	Data Description	
DrugInfoSummary	Contains cancer drug information summaries from NCI. The summaries provide consumer-friendly information about cancer drugs and drug combinations.	
GlossaryTerm	Contains terms that are part of NCI's Dictionary of Cancer Terms or NCI's Dictionary of Genetics Terms and includes definitions, and may include images and pronunciation audio	
Multimedia	Contains files for graphics, illustrations, sound, etc.	
Summary	Contains cancer information summaries in the following categories: Treatment, Screening/Detection, Prevention, Supportive and Palliative Care, Genetics, and Complementary and Alternative Medicine (CAM). Most of these summaries (with the exception of Genetics summaries) are provided in two formats. The Health Professional format contains detailed, technical information, and includes links to relevant citations; the Patient format contains information obtained from the Health Professional version, but written at a less technical, lay level, and contains links to glossary terms. Both types of summaries include images and figures.	
Terminology	Contains the names, synonyms, and interrelationships of the terms used to index information in the PDQ system.	

Please note the following display guidelines:

1) Records in the Terminology files are included for linking to other documents, and do not need to be displayed.

2. DISTRIBUTION

The PDQ XML files are being distributed via SFTP over the Internet.

New dissimination partners will receive an account and authenticate using an ssh-key setup in coordination with the National Cancer Institute (NCI). One user account will be provided for each organization. There will be a primary contact responsible for setting up and maintaining this account.

The data will be available on the NCI SFTP server with the address *CANCERINFO.NCI.NIH.GOV*. The documents are located under the directory /pub/pdq/full. This directory will contain one directory for each document type listed in *Table 1*. Each of these directories will contain a number of files, each representing the document type indicated by the directory name. The files will be named according to their internal document ID number and each will be a valid XML document according to the DTD provided. The document ID numbers across all the directories will be unique.

For example:

The *GlossaryTerm* directory may contain the following files: CDR111.xml, CDR115.xml, CDR119.xml, CDR293.xml, ...

while the Terminology directory contains the files: CDR112.xml, CDR114.xml, CDR120.xml, CDR189.xml, ...

and the Summary directory contains the files: CDR113.xml, CDR116.xml, CDR117.xml, CDR118.xml, CDR121.xml, ...

Content partners will be able to download these files individually (compressed or uncompressed), download some of these files (uncompressed), or copy the entire contents of a directory as a compressed TAR file.

Please note that the multimedia files provided will be stored as binary files with a *.mp3, *.gif or *.jpg extension instead of being provided as a valid XML document.

In addition to the data directories and the TAR files we're providing a few auxiliary files which can help identifying changes to the set of documents. The *changes*-files (i.e. Summary.YYYWW with YYYYWW indicating the year and week that the data had been created) identifies all modified documents for a given document type since the last update. The content of the files lists the document name and the identifier of the change (added, modified, or removed). As an example, you might see the content of a *changes-file* like:

. . .

111.xml:added

115.xml:added

119.xml:modified

293.xml:modified 323.xml:removed

...

We're also providing the two files *Summary.en* and *Summary.es*. These two files indicate which of the summary files are written in Englisch (EN) or Spanish (ES). The file named *YYYYWW.changes* contains a count of all changes/additions/deletions for the current update cycle.

3. GENERAL DATA FORMAT

PDQ data is distributed in XML (Extensible Markup Language) format. Wikipedia defines XML (Extensible Markup Language) as "a set of rules for encoding documents in a format that is both human-readable and machine-readable. The W3C's XML 1.0 Specification and several other related specifications—all of them free open standards—define XML." XML is a document description language that describes the structure of documents. PDQ data is accompanied by a Document Type Definition (DTD), a formal definition, of all elements in a document type (file). DTDs are used to validate each document, assuring data integrity and accurate record structure.

XML describes document structures with markup language. An XML document can either be well-formed or well-formed and valid. Valid XML documents must conform to XML specifications and an associated DTD. NCI will be distributing valid XML documents and a DTD for each document type (file).

XML documents include several components:

An XML processing instruction that identifies the version of XML being used, the way it is encoded, and whether it references other files:

```
<?xml version='1.0' encoding='UTF-8'?>
```

A document type declaration typically contains the formal markup declarations in its internal subset, or references an external file containing the relevant markup declarations (DTD). The specification of a (internal or external) DTD is optional. However, the name specified in the DOCTYPE declaration must match the root element of the document:

```
<!DOCTYPE Country>
```

As an example, a fully-tagged (country) document, including a root element and all other markup nested within the root element could look like this:

For more information on XML, please review the World Wide Web Consortium (W3C) specification for XML:

Extensible Markup Language (XML) 1.0 (Fifth Edition) W3C Recommendation 26 November 2008.

http://www.w3.org/TR/2008/REC-xml-20081126/

4. COMMON ELEMENTS

PDQ XML documents may contain common elements, defined at the beginning of the DTD. These elements describe common data structures such as a paragraph, a person, or organization location. *Table 2* summarizes the common top-level elements. *Table 3* summarizes inline paragraph markup.

Table 2: Common Data Elements		
PDQ XML DTD	Comments	
Section		
Title	Defined by %TitleData entity	
AltTitle	Defined by %TitleData entity	
KeyPoint	Defined by %ParaElements entity	
Para	Defined by %ParaElements entity	
LiteralLayout	Defined by %ParaElements entity	
Table		
Title	Defined by %TitleData entity	
TitleAbbrev	Defined by %TitleData entity	
Tgroup	See DTD	
ItemizedList		
ListTitle	Defined by %TitleData entity	
ListItem	Defined by %TextElements entity	
OrderedList		
ListTitle	Defined by %TitleData entity	
ListItem	Defined by %TextElements entity	
QandASet		
MarkedUpTitle	Defined by %TitleData entity	
QandADiv	See DTD	
QandAEntry	See DTD	
Contact		
ContactName	PCDATA	
ContactDetail	Defined by %Location entity	
Section	See above	
Diagnosis		
SpecificDiagnosis	PCDATA	
DiagnosisParent	PCDATA	
PostalAddress		
Street	PCDATA	
City	PCDATA	
CitySuffix	PCDATA	
PoliticalSubUnitName	PCDATA	
CountryName	PCDATA	
PostalCode_ZIP	PCDATA	
PostalCodePosition	PCDATA	
Phone	PCDATA	
TollFreePhone	PCDATA	
Email	PCDATA	
WebSite	PCDATA	

Table 2: Common Data Elements	
PDQ XML DTD	Comments
MainTopics	
TermRef	PCDATA
SecondaryTopics	
TermRef	PCDATA
ReferenceSection	
Citation	Defined by %ParaElements entity
DateLastModified	PCDATA
DateFirstPublished	PCDATA
ProfessionalDisclaimer	Defined by %TextSectionElement entity
MediaLink	Defined by %TextSectionElement entity
Caption	Defined by %TextSectionElement entity
MediaRef	PCDATA

Table 3: Recommended Display of Inline Markup in CDR Documents		
Tag	Rendering	
Emphasis	Italics	
Strong	Bold	
Superscript	T ¹	
Subscript	T_2	
TT	Fixed space font with preserved	
	linebreaks	
GeneName	Italics	
ScientificName	Italics	
DrugName	No special formatting	
ForeignWord	Italics	
Reference	Underlined and linked to the References	
	<u>section</u> (e.g. [1])	
SummaryRef	<u>Underline</u>	
ProtocolRef	<u>Underline</u>	
GlossaryTermRef	<u>Underline</u>	
LOERef	<u>Underline</u>	
ExternalRef	<u>Underline</u>	
DrugRef	<u>Underline</u>	
Contact (in text)	Indented as follows:	
	National Cancer Institute	
	Office of Communications	
	31 Center Drive, MSC 2580	
Henry and the	Bethesda, MD 20892-2580	
ItemizedList	Display depends on the attribute values:	
Compact = No	If Compact=No exists, include an	
Otala simonla	additional line break between list items	
Style = simple	No visual character/graphic before each	
	ListItem	

Table 3: Recommended Display of Inline Markup in CDR Documents		
Tag	Rendering	
Style = bullet	Bullets before each ListItem:	
	• XYZ	
Style = dash	Dashes before each ListItem:	
	- ABC	
	- EFG	
ListTitle	Italics	
OrderedList	Display depends on the attribute values:	
Compact = No	If Compact=No exists, include an	
	additional line break between list items	
Style = Arabic	1. xxx	
	2. yyy	
Style = Ualpha	A. This is a test	
	B. This is not a test	
Style = Lalpha	a. John Doe	
	b. Joe Smith	
Style = Uroman	I. Albert Einstein	
	II. Galileo Galilei	
Style = Lroman	i. James Bond	
	ii. Austin Power	
ListTitle	Italics	

5. GUIDE FOR PDQ XML ELEMENTS BY DOCUMENT TYPE

Summary

The PDQ cancer information summaries are peer-reviewed, evidence-based summaries on topics including adult and pediatric cancer treatment, supportive and palliative care, screening, prevention, genetics, and complementary and alternative medicine. Most of the summaries are available in two different formats:

- Health Professional versions provide detailed information written in technical language and are fully referenced with links to PubMed abstracts.
- Patient versions are written in lay language and include links to the NCI Dictionary of Cancer Terms. Many patient summaries also include illustrations.

Many of the summaries are also available in Spanish. For more information, please see http://www.cancer.gov/types.

Dissemination partners can categorize the summaries by type and by audience using the *SummaryType* and *SummaryAudience* data elements. For example, all treatment summaries will have a *SummaryType* value of *Treatment* and a *SummaryAudience* value of *Health professionals* or *Patient*. Each summary will also include links to terminology.

In addition, the *SummarySection* element identifies subsections of a summary. The *SectionMetaData* element provides information about the section, such as the types of information included in the section, e.g, prognosis; as well as the type of cancer.

Table 4 describes the data elements for the PDQ XML Summary in the DTD.

Table 4: Summary Data Elements		
PDQ XML DTD	Comments	
SummaryMetaData	Metadata about the summary to support search andretrieval, as well as categorization of summaries.	
SummaryType	Treatment, Supportive Care, Screening, Prevention, and Genetics, Complementary and alternative medicine.	
SummaryAudience	Patient summaries have a SummaryAudience value of Patients; Health Professional summaries have a SummaryAudience value of Health professionals. ¹	
SummaryLanguage	Values for the SummaryLanguage element are <i>English</i> and <i>Spanish</i> .	
SummaryDescription	This element is mainly NCI use on its Web site	
SummaryURL	This elementcontains the URL for the summary on NCI's Cancer.gov Web site. Partners may want to use this to link to the NCI Web site to ensure that their users always have access to the most current version of the summary	
MainTopics (L) ²	This element contains optional multiply occurring	

¹ At present, patient summaries are not available for Genetics

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² Elements followed by an (L) are linked elements. These elements will have an *id* Attribute that allows partners to obtain detailed information from linked source documents.

Table 4: Summary Data Elements		
PDQ XML DTD Comments		
	TermRef elements that describe the main topics of the summary	
TermRef	This element includes the ID and the term name from the PDQ Terminology records. For treatment summaries, the type of cancer term is included in this element.	
SecondaryTopics (L)	This element identifies any additional topics that the summary may be related to	
TermRef	This element includes the ID and the term name from the PDQ Terminology records.Like the Main Topic element, the text content is derived from the preferred name of the Term record	
SummaryAbstract	Short abstract with information about the content of the summary.	
SummaryKeyWords	Parent element for individual keyword elements.	
SummaryKeyWord	Keywords relevant for the current summary.	
SummaryTitle	Defined by %TitleData entity	
AltTitle	Alternate title with attributes <i>TitleType</i> and valid values <i>Short</i> and <i>Display</i> .	
SummarySection	Each summary can have many sections and subsections.	
SectionMetadata	Information about the section, such as the types of information included in the section, e.g, prognosis, as well as the type of cancer is included in this set of elements.	
SpecificDiagnosis (L)	The text content of this element names the specific cancer or cancer-related condition that is discussed in the section. For example, the Treatment for Stage I Breast cancer section of the Breast cancer treatment summary will contain the term "stage I breast cancer'. Metadata can be useful to enhance search and organization of content. The term used here is also from the PDQ terminology file and the Ref attribute can be used to obtain more information from the Terminology file.	
SectionType	The data in this element identifies the kind of information provided in the section. Treatment summaries consistently use SectionType metadata. Values for this element include "Treatment options by stage", "Treatment options for recurrent cancer", "Current clinical trials"	
Title	Section title	
AltTitle	Alternate title. New attribute <i>TitleType</i> with valid values of <i>Short</i> and <i>Display</i> .	
KeyPoint	Data element summarizing key points made in the	

Table 4: Summary Data Elements		
PDQ XML DTD	Comments	
	section. Preferably display in a key points box.	
SummarySection	Subsections may be recursively nested.	
ReferenceSection	This element contains one or more citations that are referenced in the text. Citations may be to records in the National Library of Medicine's PUBMED database or to records in the Protocol or CTGOV file, or to Web sites and Web pages. The citations are formatted using a standard style derived from the American Medical Association Style Guide. Citations are typically used in health professional summaries only. There is one ReferenceSection for each top-level SummarySection. Attributes include PMID (PubMed ID), MEDLINEID, and ProtocolID to facilitate linking to PubMed for abstracts, and to PDQ protocols for protocol abstracts.	
Citation		
TranslationOf	The element will link to the original version of the translated summary; used only for Spanish summaries	
ReplacementFor	The element, if present, links to the document ID of the document that had been replaced by earlier updates. Multiple occurrences of replacements will be concatenated and space separated. The element has been deprecated.	
PatientVersionOf	This element provides a link to the health professional version of the summary	
DateLastModified	Date the summary had editorial changes made	
DateFirstPublished		
ProfessionalDisclaimer	For health professional summaries only	

In addition to structured data elements, cancer information summaries will be progressively enhanced with semantic and formatting markup in text sections. This markup can be used to format display formatting and to enhance search and retrieval. See *Table 3* for inline markup recommendations. (These inline markup elements may be used in other CDR document types also)

SummaryRef and SummaryLink: Summaries may contain references to subsections within the summary or to other summaries, using the *SummaryRef* and *SummaryLink* elements. These need to be displayed as clickable links to the summaries in a Web display. The *href* and *ref* attributes can be used to create links between summaries. The *SummaryRef* element also contains an attribute named *url* that contains the path of a referenced summary on the National Cancer Institute's website which may also be used to create a link pointing to the document on the NCI website.

For example, given the following SummaryRef element

```
<SummaryRef href="CDR0000062687#_331"
url="/types/colorectal/hp/colon-treatment-pdq">Table
5</SummaryRef>
```

the following link pointing to the patient version of the NCI's adult brain tumors summary can be created.

https://www.cancer.gov/types/colorectal/hp/colon-treatment-pdg#link/_331

GlossaryRef: Summaries may also contain links to the GlossaryTerm file using *GlossaryRef* elements. It is recommended that these be shown as clickable links that provide the user with a definition of the term.

MediaLink and **MediaRef** elements should be replaced with the referred media document.

LOERef: The PDQ Editorial Boards that maintain the health professional summaries use a formal ranking system of levels of evidence to help the reader judge the strength of evidence linked to the results being discussed in the summary. These are represented in the text within the *LOERef* element. The Attribute on this element allows links to terms in the GlossaryTerm file. These terms have a definition with a "health professional" attribute and are not appropriate for inclusion in a dictionary for lay audiences.

Terminology

The XML Terminology file contains one logical record for each term. The file includes terms for drugs, drug combinations, diagnoses, cancer stages and cellular types, therapy modalities, and genetic conditions. This information is listed in the SemanticType element. Semantic types are defined for PDQ and are provided to dissimination partners. The component drugs are subsumed by the TermRelationship element, where the combination terms have the specific drugs in the *RelatedTermName* element with the *RelatedTermType* value of *Has component*.

For example, the record for *cyclophosphamide/doxorubicin/fluorouracil* will have *doxorubicin*, *cyclophosphamide*, and *fluorouracil* listed as related terms, with the RelatedTermType of "Has component".

A terminology record may also contain a *MenuInformation* element. This information could be used for dynamically generating menus and is intended to improve indexing and searching and retrieval. These menus will be used for NCI's Cancer.gov Website and dissimination partners may choose to use them for a similar purpose. Initially all the menu information will be related to search and retrieval of clinical trials.

Table 5 describes the data elements for the PDQ XML Term element in the DTD.

Table 5: Terminology Data Elements		
PDQ XML DTD Comments		
PreferredName		
OtherName	Combines SNAM and SYN; provides additional semantic detail	
OtherTermName		
OtherNameType	Defines the type of OtherName. Valid values include Acronym, Synonym, Lexical variant, Abbreviation,	
	Common usage, Related string, Foreign brand name, US brand name, Obsolete name, Spanish, Subtype, Broader	
Definition		
DefinitionText		
DefinitionType		
TermTypeName	Indicates term usage in PDQ. Values include <i>Index term</i> (terms used to index data), <i>Header term, Protocol selection criteria, Semantic type, Obsolete term.</i>	
SemanticType	Some old values in Type have been remapped. Table 6 lists all the Semantic Types used in PDQ.	
TermRelationship	Wrapper for Parent and Related Terms (no child relationships)	
ParentTerm		
ParentTermName		
ParentType	ISA	
RelatedTerm		

Table 5: Terminology Data Elements		
PDQ XML DTD	Comments	
RelatedTermName		
RelationshipType	Data element with values including Has component, Associated gene, Associated genetic condition, Related protocol selection criteria	
RelatedWebsites		
MenuInformation	Optional element	
Menultem	Wrapper element for MenyType, MenuParent, DisplayName.	
MenuType	Values are one of Clinical Trials—CancerType, ClinicalTrials—Drug, or Cancer Information.	
MenuParent	Link information to Term Menu parent. This may not always be the same as the TermParent. Element will not exist for top level menus, e.g. cancer.	
DisplayName	Optional element. Use <i>PreferredName</i> for display if this element does not exist.	
DateFirstPublished		
DateLastModified		

Table 6: Semantic Types	
PDQ XML Semantic Types	
Disease/diagnosis	
Cancer diagnosis	
Cancer stage	
Cancer grade	
Genetic condition	
Secondary related condition	
Intervention/procedure	
Therapeutic intervention/procedure	
Cancer therapy modality	
Supportive care modality	
Diagnostic test/procedure	
Preventative test/procedure	
Drug/Agent category	
Drug/Agent Drug/Agent	
Drug/Agent combination	
Gene	

Glossary

The XML Glossary file makes the Cancer.gov glossary/dictionary available in its entirety to our partners. The glossary/dictionary file can be used as a standalone file and a support file for glossary links in Summary documents.

PDQ partners who wish to display a dictionary/glossary of cancer terms for lay audiences should only use those terms that do not have the attribute *Dictionary*="Exclude" and should not pick up TermDefinitions with an attribute of *Audience*="HealthProfessional".

Table 7 describes the data elements in the PDQ XML Glossary/Dictionary DTD.

Table 7: Glossary Data Elements		
PDQ XML DTD	Comments	
TermName		
TermPronunciation		
TermDefinition		
DefinitionText	Most glossary terms have definitions geared towards consumers (lay audiences). In addition, there may be some terms that have a definition for a health professional audience. Definitions with the attribute of "Audience = HealthProfessional" should not be displayed in a consumer-oriented dictionary.	
Dictionary		
Audience		
TermRef		
MediaLink	Defined by %TextSectionElement entity	
EmbeddedVideo		
SpanishTermName	Initially, this element will not be available. Data may be available in the future.	
SpanishTermDefinition	Initially, this element will not be available. Data may be available in the future.	
DefinitionText	Most glossary terms have definitions geared towards consumers (lay audiences). In addition, there may be some terms that have a definition for a health professional audience. Definitions with the attribute of "Audience = HealthProfessional" should not be displayed in a consumer-oriented dictionary.	
Dictionary		
Audience		
DateFirstPublished		
DateLastModified		
RelatedInformation	Wrapper element for links to related information	
RelatedExternalRef	Link to an external Internet resource. The <i>UseWith</i> attribute specifies the language of the glossary term	

Table 7: Glossary Data Elements		
PDQ XML DTD	Comments	
	entry with which the resource is to be used. For example a link to a Web page in English may have <i>UseWith='en'</i> as an attribute value and the link would be presented with the English term definition.	
RelatedSummaryRef	Link to an internal PDQ summary. The <i>UseWith</i> attribute specifies the language of the glossary term entry with which the summary is to be used. For example a link to a summary in English may have <i>UseWith='en'</i> as an attribute value and the link would be presented with the English term definition.	
RelatedDrugSummaryRef	<u> </u>	
RelatedGlossaryTermRef		

Multimedia

PDQ[®] is enhancing its content with multimedia (graphics, illustrations, audio etc). PDQ[®] documents, specifically summaries and glossary terms, include images such as anatomic illustrations, pictures of diagnostic and therapeutic procedures, diagrams, photographs, Xray photos, etc. and audio for the pronunciation of glossary terms. Eventually, PDQ may also include other types of multimedia such as video.

Three types of information will be published:

- Media image files
 Images will be published as GIF or JPEG/JFIF encoded files.
- Media audio (pronunciation) files
 Audio files will be published as MP3 encoded files.
- Links from XML to media files.
 Some documents will contain XML elements that refer to the Media file images.

These are described below.

Media Files

or

Images and audio are published as free standing binary files, in GIF, JPEG/JFIF, or MP3 encoded format.

Each media file is named with a unique file name consisting of a CDR document ID and a file type extension. The format of the name is:

CDRnnnnnnnnnn.jpg or CDRnnnnnnnnnn.gif

CDRnnnnnnnnnn.mp3

where "nnnnnnnnn" is a 10-digit number, zero filled on the left, for example:

CDR0000012345.jpg CDR0000386420.gif CDR0000645789.mp3

New images produced for use in PDQ publications will often be produced in files with relatively large, high quality formats – the best quality JPEG or GIF format. The pixel dimensions of these images may be too large for inclusion in a Web page, and the file sizes may be too large for fast retrieval by users with slow connections to the Web.

These images are produced and distributed to licencees in these large, high-quality formats so that they may be used for other purposes besides Web display, and may be

easily re-used to make derivations. For example, the NCI Web site, where PDQ[®] information is presented to users will down-size (reduce the width and height), down-sample (reduce the number of pixels per inch), and compress (reduce the number of bytes required to encode the image) the images for display on our Web site.

Our partners can use any number of commercial or open source software applications to perform resizing/sampling/compression – either with individual images or in batches. It is expected that partners will not make other modifications to these images if they are being used in PDQ[®] content.

XML Links to Images

Links from an XML document to an image are made using a *MediaLink* element. MediaLink is a "*TextElement*", defined in the common data elements included in all document types. It can appear anywhere that a TextElement can appear, in any document type. Currently, MediaLinks are included in Summary and GlossaryTerm document types. There are no plans at this time to include them in other document types, but our document type definition permits them to appear anywhere and it is possible that some other existing document types, or future document types, may include them.

The media element structures are described in the following table.

Table 8: Media Data Elements		
PDQ XML DTD	Comments	
MediaLink	Link to a media file.	
ref attribute	Required reference to the image object. The reference is a CDR ID, without a trailing ".jpg", ".gif", or ".mp3" extension. Example: ref="CDR0000387201"	
type attribute	Optional mime type of the document content. Values are "audio/mpeg", "image/jpeg", or "image/gif".	
alt attribute	Required alternative text, used in constructing HTML alt attributes.	
inline attribute	Optional indication that an image is to be displayed as inline text. Might be used in some very exceptional case where a symbol must be inserted into text as if it were a character, but no Unicode character is available for it. Values are "Yes" or "No", with a default of "No" if no "inline" attribute is present.	
language attribute	"inline" attribute is present. Optional attribute indicating the spoken language of and audio file or the language of any text that appears superimposed on (embedded in) the image. Valid values are ISO 2 or 3 letter language codes,	

	such as "en", "es", "fr", etc. If there is more than one language in an image, multiple codes may be specified with space separators. The default language for an image if no language attribute is present is the language of the XML document in which the MediaLink appears. In an English document, the default language for images is "en". In a Spanish document, the default is "es". A non-default may be used if the CDR author believes it is important to indicate that the language in an image is different from the language of the
id attribute	document. This should rarely occur, if ever. Optional target identifier for internal hyperlinks from elsewhere in the document via a <i>MediaRef</i> element. An id attribute must always be unique within a document. There is no default id.
Caption subelement	Optional caption describing an image. The caption is intended for display with, e.g., below, the image. It is a TextElement that may contain other TextElements. For example, a Caption may contain a GeneName, a GlossaryTermLink, a DrugName, a superscript, etc. Captions will be present on most, if not all images, but are not required and may not be needed in some circumstances.
language attribute	Optional language of the Caption. It is like the language attribute for the MediaLink. The default value is like that of MediaLink, i.e., the language of the enclosing document.
MediaRef element	A reference from inside a document to a MediaLink element in the same document. This would typically be used if text in the document refers to an image, for example: "See <mediaref href="F3">Figure 3</mediaref> " MediaRef is a TextElement that may appear anywhere in a document.
href attribute	Required reference to the "id" attribute of a MediaLink element in the same document.

DrugInformationSummary

The PDQ Drug Information Summaries provide consumer-friendly information about cancer drugs and drug combinations.

Summaries for individual cancer drugs cover the uses of these drugs, research results, possible side effects, approval information, and ongoing clinical trials. The list includes brand and generic names for the drugs.

Summaries for cancer drug combinations are listed by abbreviation or common name and are shown in capital letters. Each summary gives a list of the drugs that make up the combination and explains what the combination is used for. It also has links to summaries for individual drugs in the combination.

Table 9 describes the data elements in the PDQ XML Terminology DTD.

Table 9: DrugInformationSummary Data Elements		
PDQ XML DTD	Comments	
DrugInfoMetaData	Contains elements and attributes that describe data about the drug info summaries	
DrugInfoType	Valid values: Brief, Detailed Note: Currently, there do not exist any 'Detailed' drug information summaries.	
	Combination attribute 'Yes' to indicate a drug combination summary	
DrugInfoAudience	Valid values: Patients, Health professionals The element describes the intended audience for drug information summaries. At this time, we only have summaries with a value of 'Patients'.	
DrugInfoDescription	Text element for describing the purpose of the drug information summary. Sample text: This page contains brief information about bevacizumab and a collection of links to more information about the use of this drug, research results, and ongoing clinical trials.	
DrugInfoURL	Element that contains the link title for the url for use on the Cancer.gov Web site, with the url as an attribute.	
Manufacturers		
Manufacturer	Optional element to list manufacturer of drug. This element links to an organization. The element is currently not used.	
FDAApproved	Element for indicating FDA approval status of a drug or a drug combination. Valid values: Yes, No, Combination approved, Individual drugs approved	

Table 9: DrugInformationSummary Data Elements		
PDQ XML DTD	Comments	
TerminologyLink	Link to the drug record in the terminology file.	
GlossaryLink	Link to the drug record in the glossary file.	
USBrandNames		
USBrandName	Element listing US Brand Names for drug.	
	This element is currently not used.	
Synonyms		
Synonym	This element is currently not used.	
PronunciationInfo		
TermPronunciation	Pronunciation text	
MediaLink	Pronunciation audio	
FDAExternalRef		
DrugInfoTitle	Title of the DIS.	
Section		
DrugInfoDisclaimer	Section elements	
	Note telling user that the information is educational	
	only and should be used in consultation with a health	
	care professional.	
DateFirstPublished	Date the DIS is first published to Cancer.gov Web	
	site. This date is system generated.	
DateLastModified	Date the DIS has changes made to it. This is a	
	manually entered date.	

6. SUPPORT INFORMATION

For questions on the administrative aspects of the PDQ XML data change, please contact the NCI Content Dissemination Services by e-mail at:

ncicontentdissemination@nih.gov

If you have technical questions about the conversion process to XML, or questions related to accessing the data, please contact our technical staff at:

NCIPDQoperator@mail.nih.gov

Responses to all inquiries will generally be provided within 48 hours.

This document, along with PDQ XML sample data and the PDQ DTD file are available on the SFTP server:

cancerinfo.nci.nih.gov

under the directory /pub/pdq/docs

APPENDICES

Appendix A – Sample Document Transformation

The documentation directory /pub/pdq/docs on the FTP server contains a sample PDQ summary along with a sample XSLT stylesheet along with the expected HTML output.

To run the example, you would want an XSL processor - a software component that implements the XSL standard. The stylesheet (*PDQ-summary.xsl*) is applied using your processor to convert the sample summary (*PDQ-summary.xml*) into the HTML document (*PDQ-summary.html*).

The provided stylesheet can be used to display the entire PDQ document, which is the default behavior, or just a single top-level section. You can apply the stylesheet by passing the argument *section=** for the entire document or *section=3*, for instance, to view the 3rd section only.

Alternatively, a web browser will be able to automatically apply the XSL transformation to the provided XML document on display because the following instruction have been added to the XML document:

<?xml-stylesheet href="PDQ-summary.xsl" type="text/xsl" ?>
Open the file in your browser – after copying both, the XML and the XSLT file to your computer – with the following URL:

file:///c:/<path-to-file>/PDQ-summary.xml

You will need to remove the above line from the XML document which is pointing to the stylesheet in order to see the unprocessed, raw XML input file.

Appendix B – Table Output Rendering Recommendations

The following recommendations are for all tables in all doctypes in all XSLT outputs.

This document has been modified to correct and amplify the description of how display of gridlines and frames for tables in PDQ documents should be handled. The specific changes include:

- Dropping of references to the presence of the ColSep attribute in the Row element (the ColSep attribute is not allowed for this element)
- Inclusion of instructions for handling ColSep and RowSep attributes in the ColSpec element
- Expansion of the documentation to describe in more explicit detail how the Frame, ColSep, and RowSep attributes interact with each other and how conflicting values of these attributes are resolved on elements at different levels of the table hierarchy.

Style Defaults

The following defaults should be used for outputs when no relevant attribute values are present.

Table Font

The font-size in a <Table> (all elements except the <Table><Title>) should be in a relatively smaller size (minus 1 or 2 points) than the font-size used for the text of the <Para> immediately preceding the <Table> (or used in the parent <SummarySection>element in a Summary document). Default to the same font-family as the preceding <Para> or the parent <SummarySection>.

Tfoot

Render in italics.

Vertical alignment should default to "Top"; overridden by the presence of the attribute, <Tfoot><Row><entry Valign= >.

Horizontal alignment should default to "Left"; overridden by the presence of the attribute, <Tfoot><Row><entry Align= >.

Thead

Render in boldface.

Vertical alignment should default to "Middle"; overridden by the presence of the attribute, <Thead><Row><entry Valign= >.

Horizontal alignment should default to "Center"; overridden by the presence of the attribute, <Thead><Row><entry Align=>.

Citation Links

Continue to number references in the sequence established within the parent <SummarySection> in a Summary document.

Glossary Links

Text should be underlined.

Title

Render in boldface. Font-size should be the same as the preceding <Para> or the parent <SummarySection> in a Summary document.

Table

Include one blank line after a table and before the next paragraph level element.

Tbody

Vertical alignment should default to "Top"; overridden by the presence of the attribute, <Tbody><Row><entry Valign=>.

Horizontal alignment should default to "Left"; overridden by the presence of the attribute, <Tbody><Row><entry Align= >.

Left-justified text should be indented 5 pts. From the left gridline.

Other Formatting Considerations

Frame

All tables should be framed in a 1-point line; overridden by the <Table Frame= > attribute.

Gridlines

All entries should be bordered with 1-point gridlines; superceded by the Frame attribute; overridden by the ColSep and RowSep attributes as described below.

For all outer edges of a table, the decision whether to display the bordering gridline is determined by the value of the Frame attribute of the <Table> element. The possible values for Frame are:

- All [the default]
- Bottom
- Sides
- Top

- TopBot
- None

For each entry which is not at the rightmost edge of the table, the decision whether to display the gridline at the right edge of the entry's cell is determined as follows.

- If the <entry> element itself has an explicit (non-empty) ColSep attribute, then the
 gridline is suppressed if the value of the attribute is zero ('0'), and displayed if the
 value is one ('1').
- Otherwise, if the <ColSpec> element corresponding to the rightmost column of the entry has an explicit ColSep attribute, then the gridline is suppressed if the value of the attribute is zero, and displayed if the value is one.
- Otherwise, if the enclosing <Tgroup> element has an explicit ColSep attribute, then the gridline is suppressed if the value of the attribute is zero, and displayed if the value is one.
- Otherwise, if the enclosing <Table> element has an explicit ColSep attribute, then the gridline is suppressed if the value of the attribute is zero, and displayed if the value is one.
- If none of these elements has an explicit ColSep attribute, then the gridline is displayed.

For each entry which is not at the bottom edge of the table, the decision whether to display the gridline at the bottom edge of the entry's cell is determined as follows.

- o If the <entry> element itself has an explicit (non-empty) RowSep attribute, then the gridline is suppressed if the value of the attribute is zero ('0'), and displayed if the value is one ('1').
- o Otherwise, if the <Row> element corresponding to the lowest row of the entry has an explicit RowSep attribute, then the gridline is suppressed if the value of the attribute is zero, and displayed if the value is one.
- o Otherwise, if the <ColSpec> element corresponding to the rightmost column of the entry has an explicit RowSep attribute, then the gridline is suppressed if the value of the attribute is zero, and displayed if the value is one.
- Otherwise, if the enclosing <Tgroup> element has an explicit RowSep attribute, then the gridline is suppressed if the value of the attribute is zero, and displayed if the value is one.
- Otherwise, if the enclosing <Table> element has an explicit RowSep attribute, then the gridline is suppressed if the value of the attribute is zero, and displayed if the value is one.
- o If none of these elements has an explicit RowSep attribute, then the gridline is displayed.

Column Spanning

An <entry> can span multiple columns. Use the NameSt= attribute to determine the leftmost column in the spanned columns; use the NameEnd= attribute to determine the rightmost column in the span. Spanned columns do not have internal gridlines.

Row Merging

An <entry> can be merged with other rows. Use MoreRows= attribute to determine how many more rows, in addition to the current row, this entry should occupy. Merged rows do not have internal gridlines.

Column Width

Use the <ColSpec ColWidth=> attribute to size columns appropriately. Typically, we will be using proportional sizing.

For example:

```
<ColSpec ColNum="1" ColName="col1" ColWidth="1*"/> <ColSpec ColNum="2" ColName="col2" ColWidth="2*"/>
```

Column #2 is twice the width of Column #1.

For example:

```
<ColSpec ColNum="1" ColName="col1" ColWidth="1*"/> <ColSpec ColNum="2" ColName="col2" ColWidth="3*"/> <ColSpec ColNum="3" ColName="col3" ColWidth="2*"/>
```

Column #3 is twice as wide as Column #1; Column #2 is three times as wide as Column #1.

For example:

```
<ColSpec ColNum="1" ColName="col1" ColWidth="*"/> <ColSpec ColNum="2" ColName="col2" ColWidth="2*"/> <ColSpec ColNum="3" ColName="col3" ColWidth="*"/>
```

Column #2 is twice as wide as either Column #1 or Column #3.

Occasionally, you may find an absolute column width in points, inches, centimeters, millimeters, or picas. For example:

```
<ColSpec ColNum="1" ColName="col1" ColWidth="2.5in"/> <ColSpec ColNum="2" ColName="col2" ColWidth="*"/> <ColSpec ColNum="3" ColName="col3" ColWidth="*"/>
```

Column #1 is 2.5 inches wide. Columns #2 and #3 occupy the remaining space, split equally between the two columns.

Summary

Element	Attribute	Default Value
entry	NameSt	
entry	NameEnd	
entry	MoreRows	0
ColSpec	ColWidth	*
Tbody/Row/entry	Align	Left
Tbody/Row/entry	Valign	Тор
Tfoot/Row/entry	Align	Left
Tfoot/Row/entry	Valign	Тор
Thead/Row/entry	Align	Center
Thead/Row/entry	Valign	Middle
Table	Frame	All
Table	ColSep	1
Tgroup		
ColSpec		
Entry		
Table	RowSep	1
Tgroup		
ColSpec		
Row		
entry		

Component	Style	Default
CitationLink	Numbering	Number within
		<summarysection></summarysection>
		sequence
GlossaryTermLink	Typeface	Underlined
Table	font-family	Preceding Para font
Table	font-size	Smaller than preceding
		Para font size (-1 or 2 pts)
Table	Spacing	1 blank line after a table
Table/Title	font-family	Same as preceding Para font
Table/Title	font-size	Same as preceding Para
		font size
Table/Title	typeface	Bold
Tfoot	typeface	Italics
Thead	typeface	Bold
Tbody/Row/entry	indent if Align=Left	5 pts.

Appendix C - XML Sample Records

Summary

```
<?xml version="1.0" encoding="UTF-8" ?>
 <!DOCTYPE Summary (View Source for full doctype...)>
- <Summary id="CDR0000062955">
  SummaryMetaData>
     <SummaryType>Treatment</SummaryType>
     <SummarvAudience>Patients/SummarvAudience>
     <SummaryLanguage>English</SummaryLanguage>
     <Summary Description > Expert-reviewed information summary about the treatment of
        breast cancer.</SummaryDescription>
     <SummarvURL
        xref="http://cancer.gov/cancertopics/pdq/treatment/breastCancer/HealthProf
        essional">Breast Cancer</SummaryURL>
    - <MainTopics>
       <TermRef ref="CDR0000038832">breast cancer</TermRef>
     </MainTopics>
   </SummaryMetaData>
   <SummaryTitle>Breast Cancer</SummaryTitle>
  - <SummarySection id=" 125">
     <Title>General Information About Breast Cancer</Title>
    - <SummarySection id="_126">
      SectMetaData>
         <SectionType>Cancer description</SectionType>
         <SectionType>Organ description</SectionType>
       </SectMetaData>
       <KeyPoint id="_127">Breast cancer is a disease in which malignant (cancer) cells
          form in the tissues of the breast.</KeyPoint>
      - <MediaLink ref="CDR0000999999" alt="breast anatomy drawing" inline="No"</p>
          thumb="No">
         <Caption>Breast Anatomy Drawing</Caption>
       </MediaLink>
      - <Para id="_128">
         The breast is made up of
         <GlossaryTermRef href="CDR0000046188">lobes</GlossaryTermRef>
         <GlossaryTermRef href="CDR0000046441">ducts</GlossaryTermRef>
         . Each breast has 15 to 20 sections called lobes, which have many smaller
          sections called
         <GlossaryTermRef href="CDR0000046308">lobules</GlossaryTermRef>
         . Lobules end in dozens of tiny bulbs that can produce milk. The lobes, lobules,
          and bulbs are linked by thin tubes called ducts.
       </Para>
      - <Para id=" 129">
         Each breast also has
         <GlossaryTermRef href="CDR0000045020">blood vessels</GlossaryTermRef>
         and
         <GlossaryTermRef href="CDR0000269462">lymph vessels</GlossaryTermRef>
         . The lymph vessels carry an almost colorless fluid called
```

```
<GlossaryTermRef href="CDR0000046305">lymph</GlossaryTermRef>
     . Lymph vessels lead to
     <GlossaryTermRef href="CDR0000257523">organs</GlossaryTermRef>
     called
     <GlossaryTermRef href="CDR0000045762">lymph nodes</GlossaryTermRef>
     . Lymph nodes are small bean-shaped structures that are found throughout the
      body. They filter substances in lymph and help fight
     <GlossarvTermRef href="CDR0000045364">infection</GlossarvTermRef>
     and disease. Clusters of lymph nodes are found near the breast in the
     <GlossaryTermRef href="CDR0000046510">axilla</GlossaryTermRef>
     (under the arm), above the collarbone, and in the chest.
   </Para>
  - <Para id="_130">
     The most common type of breast
     <GlossaryTermRef href="CDR0000045333">cancer</GlossaryTermRef>
     is
     <GlossaryTermRef href="CDR0000045085">ductal carcinoma</GlossaryTermRef>
     , which begins in the
     <GlossaryTermRef href="CDR0000046476">cells</GlossaryTermRef>
     of the ducts. Cancer that begins in the lobes or lobules is called lobular
      carcinoma and is more often found in both breasts than are other types of
      breast cancer.
     <GlossaryTermRef href="CDR0000045313">Inflammatory breast
        cancer</GlossaryTermRef>
     is an uncommon type of breast cancer in which the breast is warm, red, and
      swollen.
   </Para>
 </SummarySection>
- <SummarySection id=" 140">
  - <SectMetaData>
     <SectionType>Diagnostic tests</SectionType>
   </SectMetaData>
   <KeyPoint id="_141">Tests that examine the breasts are used to detect (find) and
      diagnose breast cancer.</KeyPoint>
   <Para id=" 142">A doctor should be seen if changes in the breast are noticed.
      The following tests and procedures may be used:</Para>
  - <ItemizedList id="_143" Style="bullet">
    - <ListItem>
       <GlossaryTermRef href="CDR0000045775">Mammogram</GlossaryTermRef>
       <GlossaryTermRef href="CDR0000045944">x-ray</GlossaryTermRef>
       of the breast.
      - <MediaLink ref="CDR00009999998" alt="photo of mammography" inline="No"</p>
          thumb="No">
         <Caption>Photo of Mammography</Caption>
       </MediaLink>
     </ListItem>
    <ListItem>
       <GlossaryTermRef href="CDR0000045164">Biopsy</GlossaryTermRef>
       : The removal of cells or tissues so they can be viewed under a microscope to
        check for signs of cancer. If a lump in the breast is found, the doctor may
        need to cut out a small piece of the lump. A
       <GlossaryTermRef href="CDR0000046244">pathologist</GlossaryTermRef>
```

```
views the tissue under a microscope to look for cancer cells. Four types of
  biopsies are as follows:
- <ItemizedList id="_144" Style="dash">
  <ListItem>
      <GlossaryTermRef href="CDR0000046411">Excisional
         biopsy</GlossaryTermRef>
      : The removal of an entire lump or suspicious tissue.
    </ListItem>
  - <ListItem>
      <GlossaryTermRef href="CDR0000046698">Incisional
         biopsy</GlossaryTermRef>
      : The removal of part of a lump or suspicious tissue.
    </ListItem>
  - <ListItem>
      <GlossaryTermRef href="CDR0000045657">Core biopsy</GlossaryTermRef>
      : The removal of part of a lump or suspicious tissue using a wide needle.
    </ListItem>
  <ListItem>
      <GlossaryTermRef href="CDR0000045798">Needle
        biopsy</GlossaryTermRef>
      or
      <GlossaryTermRef href="CDR0000045691">fine-needle aspiration
        biopsy</GlossaryTermRef>
      : The removal of part of a lump, suspicious tissue, or fluid, using a thin
      needle.
    </ListItem>
  </ItemizedList>
</ListItem>
  <GlossaryTermRef href="CDR0000044668">Estrogen</GlossaryTermRef>
 and
 <GlossaryTermRef href="CDR0000044713">progesterone receptor
    test</GlossaryTermRef>
 : A test to measure the amount of
 <GlossaryTermRef href="CDR0000046076">estrogen</GlossaryTermRef>
 <GlossaryTermRef href="CDR0000045158">progesterone</GlossaryTermRef>
 (
  <GlossaryTermRef href="CDR0000045713">hormones</GlossaryTermRef>
 ) receptors in cancer tissue. If cancer is found in the breast, tissue from the
 <GlossaryTermRef href="CDR0000046634">tumor</GlossaryTermRef>
```

```
<KeyPoint id="_272">Certain factors affect prognosis (chance of recovery) and
        treatment options.</KeyPoint>
    - <Para id="_273">
       The
       <GlossaryTermRef href="CDR0000045849">prognosis</GlossaryTermRef>
       (chance of recovery) and treatment options depend on the following:
     </Para>
    - <ItemizedList id="_274" Style="bullet">
      - <ListItem>
         The
         <GlossaryTermRef href="CDR0000045885">stage</GlossaryTermRef>
         of the cancer (whether it is in the breast only or has spread to lymph nodes
          or other places in the body).
       </ListItem>
       <ListItem>The type of breast cancer.</ListItem>
       <ListItem>Estrogen-receptor and progesterone-receptor levels in the tumor
          tissue.</ListItem>
      - <ListItem>
         A woman's age, general health, and
         <GlossaryTermRef href="CDR0000046296">menopausal</GlossaryTermRef>
         status (whether a woman is still having
         <GlossaryTermRef href="CDR0000045784">menstrual
            periods</GlossaryTermRef>
         ).
       </ListItem>
      <ListItem>
         Whether the cancer has just been
         <GlossaryTermRef href="CDR0000046450">diagnosed</GlossaryTermRef>
         <GlossaryTermRef href="CDR0000045862">recurred</GlossaryTermRef>
         (come back).
       </ListItem>
     </ItemizedList>
   </SummarySection>
 </SummarySection>
- <SummarySection id=" 148">
   <Title>Stages of Breast Cancer</Title>
 - <SummarySection id="_149">
    - <SectMetaData>
       <SectionType>Diagnostic tests/SectionType>
     </SectMetaData>
     <KeyPoint id="_150">After breast cancer has been diagnosed, tests are done to
        find out if cancer cells have spread within the breast or to other parts of the
        body.</KeyPoint>
    - <Para id="_151">
       The process used to find out whether the
       <GlossaryTermRef href="CDR0000045333">cancer</GlossaryTermRef>
       has spread within the breast or to other parts of the body is called
       <GlossaryTermRef href="CDR0000046597">staging</GlossaryTermRef>
       . The information gathered from the staging process determines the
       <GlossaryTermRef href="CDR0000045885">stage</GlossaryTermRef>
       of the disease. It is important to know the stage in order to plan treatment.
     </Para>
```

```
</SummarySection>
- <SummarySection id=" 253">
  - <SectMetaData>
     <SectionType>Classification by stage</SectionType>
   </SectMetaData>
   <KeyPoint id=" 153">The following stages are used for breast cancer:</KeyPoint>
  - <MediaLink ref="CDR0000999997" alt="Tumor Size FINAL" inline="No"</p>
      thumb="No">
     <Caption>Tumor Size FINAL</Caption>
   </MediaLink>
  - <SummarySection id=" 154">
     <KeyPoint id="_155">Stage 0 (carcinoma in situ)</KeyPoint>
    - <Para id=" 156">
       There are 2 types of breast
       <GlossaryTermRef href="CDR0000046488">carcinoma in
          situ</GlossaryTermRef>
     </Para>
    - <ItemizedList id="_157" Style="bullet">
      - <ListItem>
         <GlossaryTermRef href="CDR0000045674">Ductal carcinoma in
            situ</GlossaryTermRef>
         (DCIS) is a noninvasive,
         <GlossaryTermRef href="CDR0000046220">precancerous</GlossaryTermRef>
         condition in which
         <GlossaryTermRef href="CDR0000044636">abnormal</GlossaryTermRef>
         <GlossaryTermRef href="CDR0000046476">cells</GlossaryTermRef>
         are found in the lining of a breast
         <GlossaryTermRef href="CDR0000046441">duct</GlossaryTermRef>
         . The abnormal cells have not spread outside the duct to other
         <GlossaryTermRef href="CDR0000046683">tissues</GlossaryTermRef>
         in the breast. In some cases, DCIS may become
         <GlossaryTermRef href="CDR0000045741">invasive
            cancer</GlossaryTermRef>
         and spread to other tissues, although it is not known at this time how to
          predict which
         <GlossaryTermRef href="CDR0000046324">lesions</GlossaryTermRef>
         will become invasive.
       </ListItem>
      - <ListItem>
         <GlossaryTermRef href="CDR0000046315">Lobular carcinoma in
            situ</GlossaryTermRef>
         (LCIS) is a condition in which abnormal cells are found in the
         <GlossaryTermRef href="CDR0000046308">lobules</GlossaryTermRef>
         of the breast. This condition seldom becomes invasive cancer; however,
          having lobular carcinoma in situ in one breast increases the risk of
          developing breast cancer in either breast.
       </ListItem>
     </ItemizedList>
   </SummarySection>
  - <SummarySection id="_158">
     <KeyPoint id="_159">Stage I</KeyPoint>
    - <Para id="_160">
```

```
In
          <GlossaryTermRef href="CDR0000045142">stage I</GlossaryTermRef>
          <GlossaryTermRef href="CDR0000046634">tumor</GlossaryTermRef>
          <GlossaryTermRef href="CDR0000354457">centimeters</GlossaryTermRef>
          or smaller and has not spread outside the breast.
        </Para>
      </SummarySection>
    - <SummarySection id="_161">
        <KeyPoint id="_162">Stage IIA</KeyPoint>
      - <Para id="_163">
          In
          <GlossaryTermRef href="CDR0000045146">stage IIA</GlossaryTermRef>
        </Para>
      - <ItemizedList id="_164" Style="bullet">
        - <ListItem>
            no tumor is found in the breast, but cancer is found in the
            <GlossaryTermRef href="CDR0000045607">axillary lymph
               nodes</GlossaryTermRef>
            <GlossaryTermRef href="CDR0000045762">lymph nodes</GlossaryTermRef>
            under the arm); or
          </ListItem>
        - <ListItem>
            the tumor is 2
            <GlossaryTermRef href="CDR0000354457">centimeters</GlossaryTermRef>
            or smaller and has spread to the axillary lymph nodes; or
          </ListItem>
          <ListItem>the tumor is between 2 and 5 centimeters but has not spread to
            the axillary lymph nodes.</ListItem>
        </ItemizedList>
      </SummarySection>
    </SummarySection>
  </SummarySection>
- <SummarySection id="_249">
  SectMetaData>
      <SectionType>Changes to summary</SectionType>
    </SectMetaData>
    <Title>Changes to This Summary (05/20/2004)</Title>
   <Para id="_250">The PDQ cancer information summaries are reviewed regularly
      and updated as new information becomes available. This section describes the
      latest changes made to this summary as of the date above. </Para>
    <Para id="_251">Editorial changes were made to this summary.</Para>
  </SummarySection>
  <PatientVersionOf ref="CDR0000062787" />
  <DateLastModified>2004-05-20/DateLastModified>
</Summary>
```

Terminology

```
Terminology without MenuInformation
<?xml version="1.0" encoding="UTF-8" ?>
 <!DOCTYPE Term>
- <Term id="CDR0000039741" NCIThesaurusConceptID="C1234">
   <PreferredName>amifostine</PreferredName>
   <OtherName>
     <OtherTermName>WR-2721</OtherTermName>
     <OtherNameType>Abbreviation</OtherNameType>
  </OtherName>
   <OtherName>
     <OtherTermName>ethiofos</OtherTermName>
     <OtherNameType>Synonym</OtherNameType>
   </OtherName>
   <OtherName>
     <OtherTermName>ethyol</OtherTermName>
     <OtherNameType>Synonym</OtherNameType>
   </OtherName>
   <OtherName>
     <OtherTermName>gammaphos</OtherTermName>
     <OtherNameType>Synonym</OtherNameType>
   </OtherName>
   <SemanticType
   ref="CDR0000256166">Drug/agent</SemanticType>
   <RelatedWebsites xref="http://testwebsite.gov/</pre>
   amifostine">Amifostine</RelatedWebsites>
 </Term>
2) Terminology with MenuInformation
i) Parent Menu Record
 <?xml version="1.0" encoding="UTF-8" ?>
 <!DOCTYPE Term >
 <Term id="CDR000041060">
   <PreferredName>cancer</preferredName>
   <SemanticType ref="CDR0000256086">Cancer
     diagnosis</SemanticType>
  - <MenuInformation>
    - <MenuItem>
       <MenuType>Clinical Trials—CancerType</menuType>
     </MenuItem>
     <MenuItem>
       <MenuType>Cancer Information
     </MenuItem>
   </MenuInformation>
 </Term>
```

```
ii) Child Menu Record
  <?xml version="1.0" encoding="UTF-8" ?>
 <!DOCTYPE Term >
 <Term id="CDR0000291250">
   <PreferredName>myeloproliferative disorders</preferredName>
   <SemanticType
      ref="CDR0000256085">Disease/diagnosis</SemanticType>
  - <MenuInformation>
    - <MenuItem>
       <MenuType>Clinical Trials—CancerType</menuType>
       <MenuParent
          ref="CDR0000041060">cancer</MenuParent>
       <DisplayName>Myeloproliferative disorders (including)
          CML)</DisplayName>
     </MenuItem>
      <MenuItem>
       <MenuType>Cancer Information
       <MenuParent ref="CDR0000291249">hematologic
          cancers</MenuParent>
       <DisplayName>Myeloproliferative
          disorders</DisplayName>
     </MenuItem>
   </MenuInformation>
   <DateLastModified>2003-03/DateLastModified>
 </Term>
iii) Child Menu Record
 <?xml version="1.0" encoding="UTF-8" ?>
 <!DOCTYPE Term >
 <Term id="CDR0000039347">
   <PreferredName>chronic myeloproliferative
      disorders</PreferredName>
   <SemanticType ref="CDR0000256086">Cancer
      diagnosis</SemanticType>
  - <TermRelationship>
    - <ParentTerm>
       < Parent Term Name
          ref="CDR0000039800">hematopoietic/lymphoid
          cancer</ParentTermName>
       <ParentType>ISA</ParentType>
     </ParentTerm>
   </TermRelationship>
  - <MenuInformation>
    - <MenuItem>
       <MenuType>Clinical Trials—CancerType</MenuType>
          ref="CDR0000041060">cancer</MenuParent>
       <DisplayName>Chronic myeloproliferative disorders (incl.
          CML)</DisplayName>
```

GlossaryTerm

```
<?xml version="1.0" encoding="utf-8" ?>
  <!DOCTYPE GlossaryTerm (View Source for full doctype...)>
- <GlossaryTerm id="CDR0000046063">
    <TermName>mutation</TermName>
    <TermPronunciation>(myoo-TAY-shun)</TermPronunciation>
  - <TermDefinition>
      <DefinitionText>Any change in the DNA of a cell. Mutations may be
         caused by mistakes during cell division, or they may be caused by
         exposure to DNA-damaging agents in the environment. Mutations can
         be harmful, beneficial, or have no effect. If they occur in cells that
         make eggs or sperm, they can be inherited; if mutations occur in
         other types of cells, they are not inherited. Certain mutations may
         lead to cancer or other diseases.</DefinitionText>
      <Dictionary>Cancer.gov
      <Audience>Patient</Audience>
    </TermDefinition>
 - <TermDefinition>
      <DefinitionText>A change in the usual DNA sequence at a particular gene
         locus. Mutations (including polymorphisms) can be harmful,
         beneficial, or neutral in their effect on cell function.</DefinitionText>
      <Dictionary>Genetics/Dictionary>
      <Audience>Health professional</Audience>
   </TermDefinition>
   <MediaLink ref="CDR0000708090" type="audio/mpeg" alt="Pronunciation of
    dictionary term "mutation" | language="en" id="_3" />
   <MediaLink ref="CDR0000708089" type="audio/mpeg" alt="Pronunciation of
    dictionary term "mutación" | language="es" | id="_4" />
   <SpanishTermName>mutación/SpanishTermName>
 - <SpanishTermDefinition>
      <DefinitionText>Cualquier cambio en el ADN de una célula. Las
      mutaciones pueden ser causadas por errores durante la multiplicación
      de las células o por la exposición a sustancias del ambiente que dañan
      el ADN. Las mutaciones pueden ser nocivas, beneficiosas o no tener
      ningún efecto. Si se presentan en las células que producen los óvulos o
      los espermatozoides, pueden heredarse; si las mutaciones se presentan
      en otros tipos de células, no se heredan. Ciertas mutaciones pueden
      llevar a padecer de cáncer u otras enfermedades. </DefinitionText>
      <Dictionary>Cancer.gov
      <Audience>Patient</Audience>
   </SpanishTermDefinition>
   <DateLastModified>2007-05-17/DateLastModified>
  </GlossaryTerm>
```

DrugInformationSummary

```
Drug Information Summary
   <?xml version="1.0" encoding="utf-8" ?>
   <!DOCTYPE DrugInformationSummary (View Source for full doctype...)>
- <DrugInformationSummary id="CDR0000669854">
- <DrugInfoMetaData>
 <DrugInfoType>Brief</DrugInfoType>
 <DrugInfoAudience>Patients/DrugInfoAudience>
 <DrugInfoDescription>This page contains brief information about denileukin
    diftitox and a collection of links to more information about the use of this
    drug, related news and research results, and ongoing clinical
    trials.</DrugInfoDescription>
 <DrugInfoURL</pre>
    xref="http://www.cancer.gov/cancertopics/druginfo/denileukindiftitox">D
    enileukin Diftitox</DrugInfoURL>
 <FDAApproved>Yes
 <TerminologyLink ref="CDR0000042325">denileukin diftitox</TerminologyLink>
 <GlossaryLink ref="CDR0000045454">denileukin diftitox</GlossaryLink>
- <USBrandNames>
 <USBrandName>ONTAK</USBrandName>
   </USBrandNames>
   </DrugInfoMetaData>
 <DrugInfoTitle>Denileukin Diftitox/DrugInfoTitle>
- <Section id=" 1">
- <Para id=" 2">
   Denileukin diftitox is approved by the
 <GlossaryTermRef href="CDR0000454785">Food and Drug Administration
    (FDA)</GlossaryTermRef>
   to treat a certain type of
 <GlossaryTermRef href="CDR0000046771">cutaneous T-cell
    lymphoma</GlossaryTermRef>
   . It is used in patients whose disease has not gotten better with other
    treatment or has
 <GlossaryTermRef href="CDR0000045862">recurred</GlossaryTermRef>
   (come back).
   </Para>
- <Para id="_3">
   Denileukin diftitox is also being studied in the treatment of other types of
 <GlossaryTermRef href="CDR0000045333">cancer</GlossaryTermRef>
   </Para>
   </Section>
- <Section id=" FDA">
 <Title>Information from the FDA</Title>
- <Para id="_FDA_16.12">
 <ExternalRef xref="http://www.cancer.gov/cancertopics/druginfo/fda-</pre>
    denileukindiftitox">FDA Approval for Denileukin Diftitox</ExternalRef>
```

```
- Information from the FDA about the approval of this drug and the clinical
    trials that led to the approval.
    </Para>
    </Section>
- <Section id="_NCI">
 <Title>Information from the NCI</Title>
- <Para id=" NCI 1">
 < External Ref
    xref="http://www.cancer.gov/Templates/drugdictionary.aspx?CdrID=4232
    5">Definition from the NCI Drug Dictionary</ExternalRef>
   - Detailed scientific definition and other names for this drug.
    </Para>
- <Para id="_NCI_10.15">
 <ExternalRef xref="http://www.cancer.gov/clinicaltrials/results/denileukin-</pre>
    diftitox-CTCL0310">Clinical Trial Results: Drug Slows Progression of
    Cutaneous T-Cell Lymphoma < /ExternalRef>
    - Important clinical trial results for this drug, background information, and
    how the trial was done.
    </Para>
- <Para id="_NCI_12.27">
 < External Ref
    xref="http://www.cancer.gov/cancertopics/factsheet/Therapy/targeted">T
    argeted Cancer Therapies</ExternalRef>
    - Information about the use of this drug to treat cancer.
    </Para>
    </Section>
- <Section id="_ClinicalTrial_1">
 <Title>Clinical Trials</Title>
- <Para id=" ClinicalTrial 2">
 < External Ref
    xref="http://www.cancer.gov/Search/ClinicalTrialsLink.aspx?id=42325&idt
    vpe=1">Clinical Trials for Denileukin Diftitox</ExternalRef>
    - Check for trials from NCI's PDQ Cancer Clinical Trials Registry now
    accepting patients.
    </Para>
    </Section>
- <DrugInfoDisclaimer>
- <Para id=" Disclaimer 4">
 <Strong>Important:</Strong>
   The drug information on this Web page is meant to be educational. It is not
    a substitute for medical advice. The information may not cover all possible
    uses, actions, interactions, or side effects of this drug, or precautions to be
    taken while using it. Please see your health care professional for more
    information about your specific medical condition and the use of this drug.
    </Para>
    </DrugInfoDisclaimer>
 <DateFirstPublished>2010-05-05/DateFirstPublished>
    </DrugInformationSummary>
```

ii. Drug Combination Summary

```
<?xml version="1.0" encoding="utf-8" ?>
   <!DOCTYPE DrugInformationSummary (View Source for full doctype...)>
- <DrugInformationSummary id="CDR0000636197">
- <DrugInfoMetaData>
 <DrugInfoType Combination="Yes">Brief</DrugInfoType>
 <DrugInfoAudience>Patients/DrugInfoAudience>
 <DrugInfoDescription>This page contains brief information from the National
    Cancer Institute (NCI) about the drug combination called MOPP and lists the
    drugs included in the combination. Links to NCI's Drug Information
    Summaries about the individual drugs in the combination are included,
    when available.</DrugInfoDescription>
 <DrugInfoURL</pre>
    xref="http://www.cancer.gov/cancertopics/druginfo/MOPP">MOPP</DrugI
    nfoURL>
 <TerminologyLink ref="CDR0000041779">MOPP regimen</TerminologyLink>
 <GlossaryLink ref="CDR0000635892">MOPP regimen</GlossaryLink>
   </DrugInfoMetaData>
 <DrugInfoTitle>MOPP</DrugInfoTitle>
- <Section id="_1">
- <Table Frame="None" id="_3">
 <Title>Drugs included in the MOPP combination:</Title>
- <TGroup ColSep="1" Cols="2">
 <ColSpec Align="Right" ColName="col1" ColNum="1" ColWidth="1.00*" />
 <ColSpec Align="Left" ColName="col3" ColNum="2" ColWidth="8.47*" />
- <TBody>
- <Row>
- <entry Align="Right">
 <Strong>M</Strong>
   </entry>
 <entry Align="Left">= Mechlorethamine</entry>
   </Row>
- < Row >
- <entry Align="Right">
 <Strong>O</Strong>
   </entry>
- <entry Align="Left">
 < External Ref
    xref="http://www.cancer.gov/cancertopics/druginfo/vincristinesulfate">Vi
    ncristine Sulfate</ExternalRef> (Oncovin)
   </entry>
   </Row>
- < Row >
- <entry Align="Right">
 <Strong>P</Strong>
   </entry>
 <entry Align="Left">= Procarbazine/entry>
   </Row>
```

```
- < Row >
- <entry Align="Right">
 <Strong>P</Strong>
   </entry>
 <entry Align="Left">= Prednisone</entry>
   </Row>
   </TBody>
   </TGroup>
   </Table>
- <Para id=" 4">
   Each of the
 <GlossaryTermRef href="CDR0000348921">drugs</GlossaryTermRef>
 <GlossaryTermRef href="CDR0000045650">combination</GlossaryTermRef>
   is approved by the
 <GlossaryTermRef href="CDR0000454785">Food and Drug Administration
    (FDA)</GlossarvTermRef>
   to treat
 <GlossaryTermRef href="CDR0000045333">cancer</GlossaryTermRef>
   or conditions related to cancer.
   </Para>
- <Para id=" 5">
   MOPP is used to treat
 <GlossaryTermRef href="CDR0000270800">Hodgkin
    lymphoma</GlossaryTermRef>
   . This combination may also be used with other drugs or treatments or to
    treat other types of cancer.
   </Para>
   </Section>
- <Section id="_NCI">
 <Title>Information from the NCI</Title>
- <Para id=" NCI 1">
 < External Ref
    xref="http://www.cancer.gov/Templates/drugdictionary.aspx?CdrID=4177
    9">Definition from the NCI Drug Dictionary</ExternalRef>
   - Detailed scientific definition and other names for this drug.
   </Para>
   </Section>
- <DrugInfoDisclaimer>
- <Para id=" Disclaimer 4">
 <Strong>Important:</Strong>
   The drug information on this Web page is meant to be educational. It is not
    a substitute for medical advice. The information may not cover all possible
    uses, actions, interactions, or side effects of this drug, or precautions to be
    taken while using it. Please see your health care professional for more
    information about your specific medical condition and the use of this drug.
   </Para>
   </DrugInfoDisclaimer>
 <DateFirstPublished>2009-09-18/DateFirstPublished>
   </DrugInformationSummary>
```

Appendix D – PDQ Data Type Definition (DTD)

The latest PDQ DTD file (pdq.dtd) is located on the SFTP server in the directory /pub/pdq/docs.

Appendix E – Changes to Specification Document

Date	Sec	Change
Apr-03	1	Revised paragraph one and two.
•	2	Revised paragraph one of FTP Distribution section.
	3	Updated sample Country record.
	4	Added Compact=No attribute for OrderedList in Table 3.
	5	Summary: Added paragraph for optional ReplacementFor
		attribute.
	5	Organization: Added FormerName element in Table 6.
	5	Terminology: Added paragraph for <i>MenuInformation</i> .
	5	Terminology: Added MenuInformation element and child
		elements in Table 8.
	5	Glossary: Added optional <i>Dictionary=Exclude</i> attribute to
		GlossaryTerm element
	5	Glossary: Added optional Audience=HealthProfessional attribute
		to TermDefinition and SpanishTermDefinition.
	App B	Replaced summary sample record.
	App C	Replaced protocol sample record.
	App D	Replaced organization sample record.
	App E	Replaced person sample record.
	App F	Replaced terminology sample record.
	App F	Added terminology sample records including MenuInformation
		fragment.
	App G	Replaced glossary sample record.
	Арр Н	Replaced genetics professional sample record.
	App I	Replaced country sample record.
	App J	Replaced political subunit sample record.
	App K	DTD change: Added optional Compact attribute for OrderedList
		element
	App K	DTD change: Added optional FormerName element to
		OrganizationNameInformation element for Organization
		documents
	App K	DTD change: Added optional MenuInformation elements for
		Term documents
	App K	DTD change: Added optional ReplacementFor element for
		Summary documents
Sep-03	5	Glossary: Expanded TermDefinition in GlossaryTerm to include
		new elements for Audience and Dictionary
	App G	Replaced glossary sample record.
	App K	DTD change: Changes to GlossaryTerm TermDefinition and
		SpanishTermDefinition

Feb-04	5	CTGovProtocol: Added section for new CTGovProtocol
I CD-U-T	٦	document type
	Арр А	Updated Table Output Rendering Recommendations. Expended
	/ γρρ / γ	on rendering of grid lines.
	App L	Renamed Appendix L (Changes to Specification Document) to
	7,66 -	Appendix M
	App K	Renamed Appendix K (PDQ Data Type Definition) to Appendix L
	App K	Added Appendix K, CTGovProtocol Sample Record
	App L	DTD change: Added 'None' as a valid value for the Frame
		attribute of the Table element.
Oct-04	2	Added change in directory location for vendor files.
		Added information for multimedia files.
	5	Multimedia: Added section for new Multimedia document type.
	6	Added change in directory location for vendor files.
	App B	Replaced Summary Sample Record to include MediaLinks
	App L	DTD change: Included media elements.
Mar-05	5	Summary: Added new elements SummaryDescription and
	_	SummaryURL
	5	Terminology: Added new element RelatedWebsites and attribute
	A D	NCIThesaurusConceptID.
	App B	Modified Summary Sample Record to include new elements
C 05	App F	Modified Terminology Sample Record to include new elements.
Sep-05	App L	DTD change: Added optional QandAEntry attribute.
Nov-05	5	Removing references to former ELHILL data format.
	5	Protocol: Added description for new elements.
	App L	DTD change: Added several new elements with version 1.55;
		DateSubmittedtoPDQ, ClinicalTrialsGovID, DateLastVerified,
		RegistryInfo, StudyDesign, StartDate, Outcome, ExpectedEnrollment, RelatedPublications.
		Moved and renamed element ProtocolTitle to PDQProtocolTitle,
		created new element ProtocolTitle, added new <i>ref</i> attribute for
		OverallContactBackup, and removed attribute LegacyPDQID and
		element ReimbursementApproval.
Mar-07	5	Summary: Added AltTitle element to supplement SummaryTitle.
		New AltTitle attribute <i>TitleType</i> with values <i>Short</i> and <i>Display</i>
		added.
	5	Summary, Glossary: Added new SummaryRef attribute url.
	5	Protocol: Added new Gender element and changed element
		LeadOrgProtocolID to be optional.
	5	CTGovProtocol: The CTGovDisclaimer element has been
		changed from a text to a para element.
	5	Glossary: Added new wrapper element RelatedInformation with
		two child elements RelatedExternalRef and
	_	RelatedSummaryRef, added new element TermRef.
	5	Added element <i>DrugRef</i> to common text elements.
1	App L	Replaced DTD version 1.65 with version 1.67
Jan	5	Protocol: Added new CompletionDate element.
2008	E	Drotocoli Added nou Cofety attribute to Outcome claracit
	5	Protocol: Added new Safety attribute to Outcome element.
	၂၁	Summary: Made top-level AltTitle element mandatory.

	App L	Replaced DTD version 1.67 with version 1.71
Nov	1,2	Minor text correction regarding GeneticsProfessional files.
2008		
Sep	5	Removing reference to Person documents which are not
2010		distributed anymore
		Adding new document type DrugInformationSummary.
	App L	DTD change: Added DrugInformationSummary document type
	App L	DTD change: Removed Person document type.
Jan	2, 6	Updating contact information
2014		
Mar	1, 5,	Removing documentation for active and closed protocols.
2016	App C	
	App A	Added section on newly included sample transformation
	''	documents.
Apr	1	Replacing NCI logo
2018		Deleting documentation for removed document types
	2, 3, 4	Misc. updates and text changes
	5	Deleting documentation for removed document types
		Misc editorial changes
	App C	Deleting sample records for removed document types
	App D	Removing content of DTD which can be found in the docs
		directory.
Oct	5	Deleting documentation for removed
2022		GeneticsProfessionals.
	App C	Deleting sample record for removed GeneticsProfessionals.