



Policies

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This section contains LinkOut policies on the evaluation, management, assignment, and display of links included in or considered for inclusion in LinkOut.

Guidelines for Evaluation of Resources

Although participation in LinkOut is open to various types of online resource providers, resources from professional societies, government agencies, educational institutions, or individuals and organizations that have received grants from major funding organizations are preferred. All resources considered for inclusion in LinkOut must meet the following evaluation criteria for both Quality and Relevance outlined in this document.

Resource providers should review the guidelines below before submitting online resources for inclusion in LinkOut. Providers with a commercial interest in using LinkOut must also carefully review the section Additional Information for Commercial Interests.

NCBI LinkOut staff will determine whether potential resources satisfy these guidelines and are eligible for participation in LinkOut.

Quality

LinkOut resources and the information therein must be of sufficiently high quality that NCBI database users will not be hindered, interrupted, or unnecessarily frustrated in their research. In evaluating the resource for inclusion in LinkOut, both the quality of the resource and the quality of the information will be considered as detailed below.

- a. **Information quality:** The information provided by LinkOut resources must not, through typographical or factual errors, omissions, fraud, duplication or other flaws or inconsistencies, mislead, hinder, or otherwise frustrate the research efforts of NCBI database users.
- b. **Resource quality:** Both technical and usability aspects will be considered. LinkOut resources must not impede or disrupt the work of NCBI database users through such problems as abnormally slow response times, sporadic availability, frequent systems errors, or poor interface design.
Resource providers should also consider the overall usability of their resources for NCBI database users. Generally, usability is concerned with factors such as interface design, navigability, layout, intelligibility, consistency, intuitiveness, and any other characteristics impacting people's ability to use a resource. Resources suffering from technical or usability problems severe enough to hinder NCBI database users' research will not be included in LinkOut.
- c. **Privacy policy:** LinkOut encourages resource providers to respect the privacy of LinkOut users and to adopt privacy policies that express this respect. Providers should review the [NLM Copyright and Privacy Notice](#) and the [NCBI Copyright and Disclaimers page](#). LinkOut also encourages resource providers to make any privacy policies or statements readily accessible to LinkOut users.

Relevance

The foremost requirement of LinkOut resources is that they be of potential use to NCBI database users. Useful LinkOut resources will extend, clarify, relate to, expand upon, or supplement information found in NCBI databases.

- a. **Level of linking:** Links from NCBI database records to LinkOut resources should deliver the relevant information to NCBI database users with few or no intermediary steps. Users should not be required to perform further searching to retrieve the relevant information. For example, links to online full text should lead directly to the relevant full text, not to a journal homepage or table of contents. Links to database records should lead directly to the record; not to an intermediate search screen.
- b. **Specialization:** LinkOut resources should be directly relevant to the specific subjects of the NCBI database records to which they will be linked. They must also be sufficiently specialized to be of value to NCBI database users' research and to not unnecessarily overburden NCBI's resources. For example, LinkOut would not offer links from all NCBI database records to an online English language dictionary. Such a resource would be too general in content and too broad in application to be supported by LinkOut. However, links might be offered from citations for articles that use new, highly technical or specialized vocabularies to a glossary defining those specialized terms. Likewise, a website providing diabetes treatment guidelines would not be linked from all NCBI database records concerned with metabolic diseases but only from those concerned specifically with treatment of diabetes.
- c. **Labeling of links:** The relevance of resources linked from NCBI database records should be readily apparent to users. If possible, the name of the resource or the button that serves as its link should convey something about the information that is being offered and its relevance. Providers should also make use of the Brief DTD element to describe themselves to NCBI database users.

Additional Information for Commercial Interests

LinkOut is a service of the National Library of Medicine, a Federal agency, and as such it is produced using Federal computer and network facilities. Because these types of public facilities cannot be used for private commercial advertisement, endorsement, or competition, special care must be taken by resource providers with a commercial interest in using LinkOut. Although LinkOut may provide links to highly relevant commercial products, resource providers should not attempt to use LinkOut as a form of advertising. Resource providers found willfully disregarding these guidelines may be barred from future participation in LinkOut.

Provider Responsibilities

Link providers are responsible for the following:

- **Maintaining the quality of resources and links:** Resource providers must ensure that the information LinkOut uses to generate URLs is correct, and that the links created will function correctly. They must also ensure that the resource itself is functioning properly and that sufficiently high quality is maintained to meet the evaluation criteria above.
- **Testing the Query and ObjId values in their files** to ensure that they select the correct NCBI database records to link to their resources before sending LinkOut files to NCBI.
- **Correcting broken, blind, or incorrect links.** Nonfunctional or mislabeled links must be corrected in a timely manner. NCBI reserves the right to remove or alter LinkOut files and related icons after they have been submitted.
- **As a part of the quality control process,** NCBI conducts periodic automatic checking of LinkOut resources. Providers should make their resource available and give appropriate access rights to the link checker. Providers should not block or reduce the blocking time for the link checker. Provider should inform NCBI

when there is a change in the response to a request for resources which are not available in provider's site, so that NCBI can adjust the checking logic accordingly.

- Maintaining LinkOut files, transferring any additions, changes, or deletions of links to NCBI: If a resource is redesigned or altered in any way that invalidates existing links from NCBI database records to that resource, the resource provider must update their LinkOut files to generate functioning links. For example, if the format of the URLs for a resource is changed, the provider must update the Base and Rule values used to generate the links to their resource.

If a resource is no longer available or changes are made to properties of the resource file, these changes must be updated promptly. This is particularly important if access restrictions to a LinkOut resource changes, or if a resource will no longer be available after a date, because LinkOut should not contain mislabeled or nonfunctional links.

- Informing LinkOut about the addition or discontinuation of links: Providers should inform LinkOut when adding links to a new resource or ceasing to supply links to an existing one. This is particularly important for providers of online full text. Publishers that submit links to online full text must inform LinkOut when ownership of a journal is transferred to a new publisher.
- Keeping LinkOut informed of continued participation: Providers should update LinkOut files at least once a year to verify continued participation in LinkOut.
- Updating Contact Information: Resource providers must designate someone who will serve as a reliable contact person for the resource. If there are problems with links, NCBI must be able to easily contact the provider responsible for those links. The contact person should be able to get in touch with and should be able to respond to inquiries or problem reports from NCBI in a timely fashion.
- Promoting their resource: NCBI provides the links in its databases and promotes the LinkOut feature. It is the provider's responsibility to promote their resource(s) to existing and potential users.

NCBI reserves the right to remove, correct, or otherwise alter LinkOut files and related icons after they have been submitted. This is usually done in situations where links are broken or incorrect and the provider has not replied to notifications sent by the LinkOut team. Occasionally, if a small error is identified, it will be corrected in the file and the provider will be notified. Icons may be altered if they do not adhere to the guidelines for icon design, i.e. they do not fit within the required size parameters or do not provide enough information to clearly identify the resource.

Participation in LinkOut and Use of Links

Participation in LinkOut is free and voluntary, and so may be discontinued at any time. Submission of links is at the provider's discretion; participants may choose not to submit links to certain portions of their resource. For online full text, this means that links may not be available for all journals, issues, or articles available on the provider's website.

Access to Content via LinkOut Links and Outside Tool

When a user accesses a LinkOut resource or a service implemented through Outside Tool, all access restrictions assigned by the resource provider or the institution sponsoring the service are retained. Access to restricted resources is based on pre-existing agreements with the resource provider or on access parameters set by the institution. For example, if access to a resource is limited by IP address, users will only have access from computers within the approved IP range. If access is password protected, users must still enter the password.

If access to a LinkOut resource is limited, providers **must** indicate this by including the appropriate attributes in their files. Services that are restricted must respond with an indication that the resource is restricted. Providers may not rely on an http "access denied" response to indicate that access is restricted.

LinkOut does not perform any user verification, including IP recognition.

Assignment of Accounts

Each provider will be given only one NCBI account. A single provider may submit links on behalf of multiple publishers; different icons may be used in PubMed to establish the identity for each journal.

Accounts will not be created for testing purposes. All links submitted to NCBI, including links to OpenURL-based services can be tested by constructing URLs to the resource.

For Library Outside Tool, one library account will be assigned to each unique Base URL. The Library Outside Tool service is not available for trial purposes.

Copyright Restrictions

When a user clicks on an icon or link to access a LinkOut resource, they leave PubMed and are directed to the resource at an external site. Users should review and adhere to copyright restrictions set forth on the provider's site when reproducing, redistributing, or making commercial use of the provider's resource(s).

LinkOut provides access to the URL of the resource as submitted to NCBI by the resource provider. NCBI does not hold ownership of the link or the linked resource.

For additional information about Copyright and NCBI databases, see NCBI's [Copyright and Disclaimers page](#).

Default Icons

Three types of icons appear by default in PubMed's Abstract display:

1. **PubMed Central icons:** PubMed Central (PMC) icons appear on all citations for which full text is available from PMC.
2. **Publisher icons:** When a publisher submits electronic citation or full text data to NCBI for a journal currently indexed for MEDLINE or a PubMed Central full participation journal, before submitting full-text links to LinkOut, the publisher's icon will appear by default in PubMed's Abstract display. Should a publisher decide to submit full-text links without submitting PubMed citations electronically, the publisher's links will appear in PubMed under "LinkOut- more resources" only.
The default icon is assigned to the provider who submitted citation or full text data at the time of publication. If a link to the original provider is no longer working, the link and icon will be removed. The copyright holder of a journal may request that NCBI display the default icon for a specific provider on all PubMed citations for the journal.
3. **Free full text:** Icons linking to free full text will be displayed by default. In situations where the full text is not free on the publisher's site, but it is freely available at another provider's site, PubMed will display two default icons, one for the publisher's site and one for the free full text.

Duplicate Links

Providers should not send duplicate links to the same resource for any NCBI database record. Links are considered as duplicates when they lead to the same target content. For example, a publisher or data provider supplies a link to a portal page which lists the article full text on multiple platforms; this link would be considered a duplicate if the same provider supplies a separate link to the article full text on any of the platforms already listed in the portal page.

If duplicate URLs are submitted for the same NCBI database record, link assignment will be handled as follows:

1. If identical URLs are submitted for a record, only one link to that URL will be applied to the record.

- If duplicate URLs are submitted for a record but the SubjectType and/or Attributes assigned to the URL are different, LinkOut's internal de-duping schema will determine which link is displayed, unless the attribute "preference" is used to indicate which link should be applied. If "preference" is not used, links will be applied according to the following priority: free resource, full-text online, full-text PDF, full-text PostScript, author manuscript. If link descriptions do not fall into this priority, links will be randomly assigned.

In the following example, multiple <Link> elements are submitted with <Query> elements that may retrieve some duplicate citations. The same URL is included in <ObjectUrl>, but different <Attributes> have been applied. In this case, LinkOut's internal de-duping schema will determine which link is displayed.

```
<Link>
  <LinkId>1</LinkId>
  <ProviderId>8888</ProviderId>
  <IconUrl>https://www.goodpublisher.com/pubmed/smith.gif</IconUrl>
  <ObjectSelector>
    <Database>PubMed</Database>
    <ObjectList>
      <Query> "J Mol Dis" [ta] AND Smith J [auth]</Query>
    </ObjectList>
  </ObjectSelector>
  <ObjectUrl>
    <Base>&base.url;</Base>
    <Rule>&lo.issn;/&lo.vol;/&lo.page;</Rule>
    <Attribute>full-text PDF</Attribute>
  </ObjectUrl>
</Link>
```

```
<Link>
  <LinkId>2</LinkId>
  <ProviderId>8888</ProviderId>
  <IconUrl>&icon.url;</IconUrl>
  <ObjectSelector>
    <Database>PubMed</Database>
    <ObjectList>
      <Query> "J Mol Dis" [ta] AND 1997:2010 [pdat]</Query>
    </ObjectList>
  </ObjectSelector>
  <ObjectUrl>
    <Base>&base.url;</Base>
    <Rule>&lo.issn;/&lo.vol;/&lo.page;</Rule>
    <Attribute>full-text online</Attribute>
    <Attribute>subscription/membership/fee required</Attribute>
  </ObjectUrl>
</Link>
```

By adding <Attribute>preference</Attribute> to LinkId 1, as shown below, the link provider can instruct LinkOut to apply the URL with the Attributes described in LinkId 1 and to ignore the duplicate citations retrieved in LinkId 2.

```
<Link>
  <LinkId>1</LinkId>
  <ProviderId>8888</ProviderId>
  <IconUrl>https://www.goodpublisher.com/pubmed/smith.gif</IconUrl>
  <ObjectSelector>
    <Database>PubMed</Database>
    <ObjectList>
```

```

        <Query> "J Mol Dis" [ta] AND Smith J [auth]</Query>
    </ObjectList>
</ObjectSelector>
<ObjectUrl>
    <Base>&base.url;</Base>
    <Rule>&lo.issn;/&lo.vol;/&lo.page;</Rule>
    <Attribute>full-text PDF</Attribute>
    <Attribute>preference</Attribute>
</ObjectUrl>
</Link>

<Link>
    <LinkId>2</LinkId>
    <ProviderId>8888</ProviderId>
    <IconUrl>&icon.url;</IconUrl>
    <ObjectSelector>
        <Database>PubMed</Database>
        <ObjectList>
            <Query> "J Mol Dis" [ta] AND 1997:2010 [pdat]</Query>
        </ObjectList>
    </ObjectSelector>
    <ObjectUrl>
        <Base>&base.url;</Base>
        <Rule>&lo.issn;/&lo.vol;/&lo.page;</Rule>
        <Attribute>full-text online</Attribute>
        <Attribute>subscription/membership/fee required</Attribute>
    </ObjectUrl>
</Link>

```

Multiple Links

If an NCBI database record is retrieved by multiple queries in a provider's file(s), link assignment will be handled as follows:

1. If duplicate URLs are submitted for a record, links will be assigned as described above in Duplicate Links.
2. If multiple, unique URLs are submitted for a record, all links will be displayed in the LinkOut section of a database record. Note that each unique URL should point to a unique information resource.
3. In PubMed, regardless of how many links are assigned to a record, only one default icon will be assigned. If the attribute "preference" is assigned to a link, the default icon will link to that URL. If "preference" is not used, the link from the default icon will be assigned according to the following priority: free resource, full-text online, full-text PDF, full-text PostScript, author manuscript.

In the example below, the records in LinkId 1 may also be retrieved by the <Query> in LinkId 2. Unique URLs are provided in each Link. As the attribute "preference" has not been used, the default icon will always link to the full-text online link described in LinkId 2.

```

<Link>
    <LinkId>1</LinkId>
    <ProviderId>8888</ProviderId>
    <IconUrl>https://www.goodpublisher.com/pubmed/smith.gif</IconUrl>
    <ObjectSelector>
        <Database>PubMed</Database>
        <ObjectList>
            <Query> "J Mol Dis" [ta] AND Smith J [auth]</Query>
        </ObjectList>
    </ObjectSelector>
    <ObjectUrl>

```

```

    <Base>&base.url ;</Base>
    <Rule>&lo.auth ;/&lo.issn ;/&lo.page ;</Rule>
    <Attribute>full-text PDF</Attribute>
    <Attribute>subscription/membership/fee required</Attribute>
  </ObjectUrl>
</Link>

<Link>
  <LinkId>2</LinkId>
  <ProviderId>8888</ProviderId>
  <IconUrl>&icon.url ;</IconUrl>
  <ObjectSelector>
    <Database>PubMed</Database>
    <ObjectList>
      <Query> "J Mol Dis" [ta] AND 1997:2010 [pdat]</Query>
    </ObjectList>
  </ObjectSelector>
  <ObjectUrl>
    <Base>&base.url ;</Base>
    <Rule>&lo.issn ;/&lo.vol ;/&lo.page ;</Rule>
    <Attribute>full-text online</Attribute>
    <Attribute>subscription/membership/fee required</Attribute>
  </ObjectUrl>
</Link>

```

By adding <Attribute>preference</Attribute> to LinkId 1, as shown below, the link provider can tell LinkOut to apply the URL in LinkId 1 to the default icon, with the Attributes described in LinkId 1, overriding the LinkOut priority.

```

<Link>
  <LinkId>1</LinkId>
  <ProviderId>8888</ProviderId>
  <IconUrl>https://www.goodpublisher.com/pubmed/smith.gif</IconUrl>
  <ObjectSelector>
    <Database>PubMed</Database>
    <ObjectList>
      <Query> "J Mol Dis" [ta] AND Smith J [auth]</Query>
    </ObjectList>
  </ObjectSelector>
  <ObjectUrl>
    <Base>&base.url ;</Base>
    <Rule>&lo.auth ;/&lo.issn ;/&lo.page ;</Rule>
    <Attribute>full-text PDF</Attribute>
    <Attribute>subscription/membership/fee required</Attribute>
    <Attribute>preference</Attribute>
  </ObjectUrl>
</Link>

<Link>
  <LinkId>2</LinkId>
  <ProviderId>8888</ProviderId>
  <IconUrl>&icon.url ;</IconUrl>
  <ObjectSelector>
    <Database>PubMed</Database>
    <ObjectList>
      <Query> "J Mol Dis" [ta] AND 1997:2010 [pdat]</Query>
    </ObjectList>
  </ObjectSelector>
  <ObjectUrl>

```

```
<Base>&base.url;</Base>  
<Rule>&lo.issn;/&lo.vol;/&lo.page;</Rule>  
<Attribute>full-text online</Attribute>  
<Attribute>subscription/membership/fee required</Attribute>  
</ObjectUrl>  
</Link>
```

Contact LinkOut

Please send questions and comments to linkout@ncbi.nlm.nih.gov.