Accessibility Evaluation Report:

American Association for Cancer Research Journals

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Conducted by: Accessiblü, LLC

For: Library Accessibility Alliance (LAA)

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Summary of Accessibility Findings

Accessiblü conducted a high-level accessibility evaluation of the American Association for Cancer Research (AACR) Journals platform to assess its usability for individuals with disabilities. The review was conducted using the JAWS and NVDA screen readers, keyboard-only navigation, and manual inspection for conformance to select WCAG 2.2 AA success criteria.

Key Findings

The AACR Journals platform demonstrates several accessibility strengths while presenting significant opportunities for improvement. The platform successfully implements basic keyboard navigation and includes appropriate bypass links, which are essential accessibility features. However, critical structural elements that screen reader users depend on are inconsistent or missing across the platform.

During testing, we identified several non-critical issues, these include improper heading hierarchies, missing landmark regions, inadequate alternative text for images, and inconsistent list structure announcements. While these barriers don't prevent basic navigation, they significantly impact the efficiency and user experience for people with disabilities accessing this important research platform.

Addressing these concerns would substantially improve the research accessibility experience for scholars and students with disabilities, ensuring equitable access to cancer research publications and supporting the AACR's mission of advancing cancer science for the benefit of humanity.

Top 3 Issues Identified

1. Missing Landmark Regions and Page Structure

- The platform lacks essential landmark regions such as main content areas and footer landmarks, with only navigation regions identified by screen readers.
- **Impact:** Screen reader users cannot efficiently navigate between major page sections, requiring them to tab through entire pages to locate content.
- **WCAG Success Criteria:** 1.3.1 Info and Relationships (A), 2.4.1 Bypass Blocks (A)

2. Inconsistent Heading Structure

- Pages begin with H2 headings instead of H1, and heading levels jump inconsistently without logical progression.
- **Impact:** Screen reader users cannot build a proper mental model of page structure or navigate efficiently using heading shortcuts.
- **WCAG Success Criteria:** 1.3.1 Info and Relationships (A), 2.4.6 Headings and Labels (AA)

3. Missing Alternative Text for Images

- Critical journal cover images and graphics lack meaningful alternative text, with some images producing confusing announcements like "missing image descriptions."
- **Impact:** Screen reader users cannot understand visual content that provides context about journal issues, research topics, and publication information.
- **WCAG Success Criteria:** 1.1.1 Non-text Content (A)

Disabilities Impacted

Blind and Low-Vision Users

- **Issues:** Missing landmark regions prevent efficient page navigation, inconsistent heading structures make content organization unclear, and missing alternative text for journal covers and graphics eliminate access to visual research context.
- **Impact:** Screen reader users must work significantly harder to navigate the platform and often miss important visual information about research publications, reducing their ability to efficiently access cancer research literature.

Users with Motor Disabilities

- **Issues:** While basic keyboard navigation functions, the lack of efficient bypass mechanisms requires excessive tabbing through interface elements to reach desired content.
- **Impact:** Keyboard-only users experience fatigue from repetitive navigation actions and may struggle to efficiently access specific research articles or platform features.

Neurodiverse Users

- **Issues:** Inconsistent heading hierarchies and unclear page structure make it difficult to develop predictable mental models of the platform organization.
- **Impact:** Users with cognitive disabilities may struggle to understand platform organization and efficiently locate relevant research materials, potentially limiting their access to important cancer research information.

Page-Specific Findings and Impact Analysis

The following section lists the accessibility findings by page and WCAG violations and describes their impact on users.

Blood Cancer Discovery Homepage

Issue	WCAG Success Criteria	Description	Example
Missing Alternative Text	**1.1.1 Non-text Content (A)**	Journal cover images lack descriptive alternative text, with screen reader announcing "missing image descriptions" for critical visual content.	Blood Cancer Discovery Volume 6, Issue 6 cover image lacks description of the scientific illustration shown.
Improper Heading Hierarchy	**1.3.1 Info and Relationships (A)**	Page structure begins with H2 instead of H1, and headings jump inconsistently between levels without logical progression.	"About the Journal" appears as H2, followed by "Editors-in-Chief" and "Impact Factor" as H3 headings without an H1 present.
Missing Landmark Regions	**1.3.1 Info and Relationships (A)**	Only navigation regions are identified by assistive technology, with main content areas and footer lacking proper landmark designation.	Screen reader users can only identify navigation regions when using region navigation commands, missing main content and footer areas.
Menu State	**4.1.2 Name, Role,**	AACR logo menu item announces as "closed" but doesn't properly communicate	AACR logo reads as "American Association for Cancer Research Logo Open Menu Link

Issue	WCAG Success Criteria	Description	Example
Communication	**Value (A)**	its expandable nature or current state to users.	Graphic" without clear state information.
Inconsistent Link Announcements	**4.1.2 Name, Role, Value (A)**	Some links are announced twice by screen readers, creating confusion about the actual number of interactive elements.	Footer links read as "Link link to the blood cancer discussion" instead of single, clear announcements.

Homepage Impact Summary:

The Blood Cancer Discovery homepage presents significant navigation challenges for screen reader users. The missing alternative text for journal covers eliminates access to visual research information, while improper heading structure prevents efficient content navigation. The lack of landmark regions forces users to tab through the entire page to locate specific content areas, substantially increasing the effort required to access cancer research publications.

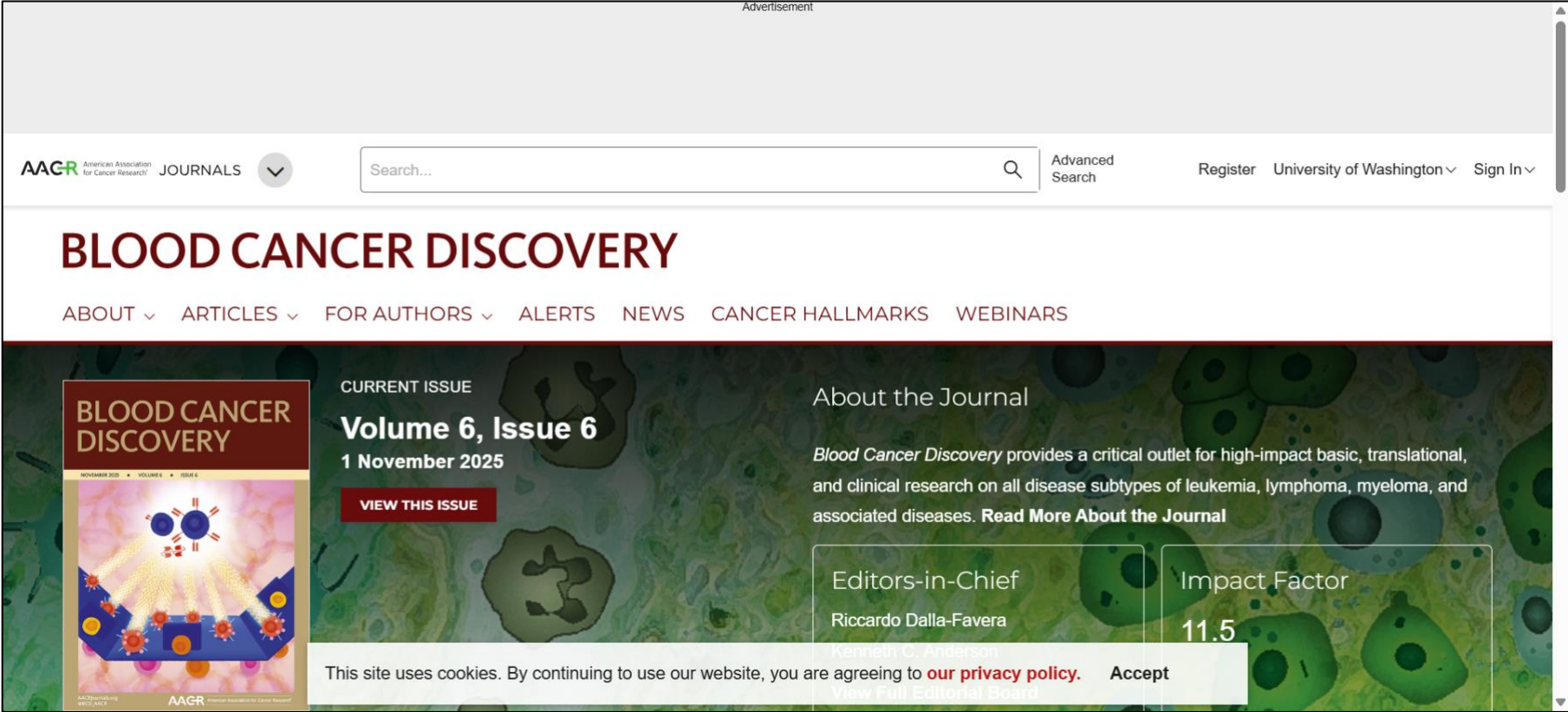**Blood Cancer Discovery Homepage Screenshot**

Figure 1. The Blood Cancer Discovery journal homepage featuring the current issue cover image, about the journal section with editors and impact factor information, and featured articles section.

Search Results Page

Issue	WCAG Success Criteria	Description	Example
Clear Search Results Communication	3.3.2 Labels or Instructions (A)	Search results page clearly communicates the number of results and search terms, providing important context for users.	"1-12 of 12 Search Results for iron" clearly indicates result scope and search parameters.
Functional Sort Controls	4.1.2 Name, Role, Value (A)	Sort dropdown functionality is accessible and provides clear options for organizing search results by relevancy.	"Sort by Relevancy" dropdown allows users to organize results according to their preferences.
Missing Landmark Regions	1.3.1 Info and Relationships (A)	Search results page maintains the site-wide issue of missing main content and footer landmark regions.	Only navigation regions are identified when using assistive technology region navigation commands.
Research Article Accessibility	2.4.4 Link Purpose (A)	Individual research article links provide sufficient context for users to understand the destination and content type.	"Mis-splicing of Mitotic Regulators Sensitizes SF3B1-Mutated Human HSCs to CHK1 Inhibition" clearly describes the research focus.
Filter Interface Issues	4.1.2 Name, Role, Value (A)	Filter controls may not clearly communicate their current state or available options to assistive technology users.	"Filter All" dropdown may not adequately describe available filtering criteria or current selections.

Impact Summary:

The Search Results page demonstrates several accessibility strengths, including clear communication of search parameters and result

counts, functional sort controls, and descriptive article links that help users understand research topics. These positive features support effective research discovery for users with disabilities. The persistent issue of missing landmark regions remains the primary barrier to efficient navigation.

Search Results Page Screenshot

Figure 2. The search results for "iron" displaying 1-12 of 12 results with article titles, authors, publication details, and sorting options by relevancy. The interface includes filtering options and clear result organization.

Advanced Search Page

Issue	WCAG Success Criteria	Description	Example
Proper Heading Structure	**1.3.1 Info and Relationships (A)**	Advanced Search page demonstrates proper heading hierarchy with H1 followed by logical H2 and H3 progressions.	"Advanced Search" appears as H1, followed by "Author Search" as H2, maintaining logical document structure.
Incorrect List Count	**4.1.2 Name, Role, Value (A)**	Screen reader announces incorrect number of items in radio button groups, stating "list of 4 items" when only 3 radio buttons are present.	Search options radio button group announces 4 items but contains only "Any," "All," and "Exact Phrase" options.
Missing Landmark Regions	**1.3.1 Info and Relationships (A)**	Consistent with other pages, only navigation regions are properly identified, lacking main content and footer landmarks.	Region navigation reveals only navigation areas, missing main content region for search functionality.
Functional Button Labels	**4.1.2 Name, Role, Value (A)**	Search functionality buttons have clear, descriptive labels that communicate their purpose effectively to screen readers.	"Advanced Search by Term button," "Advanced Search by Author button" provide clear functional descriptions.
Double Link Announcements	**4.1.2 Name, Role, Value (A)**	Navigation menu links are announced twice by screen readers, creating confusion about the actual interface elements.	Menu items read as "Link collapsed AACR Journals Open Menu" and "Link collapsed For Authors Open Menu."

Impact Summary:

The Advanced Search page shows both strengths and areas for improvement in accessibility. The proper heading hierarchy represents a positive example that should be implemented site-wide, and functional button labels provide clear navigation cues. However, the inconsistent list announcements and missing landmark regions continue to present challenges for efficient screen reader navigation.
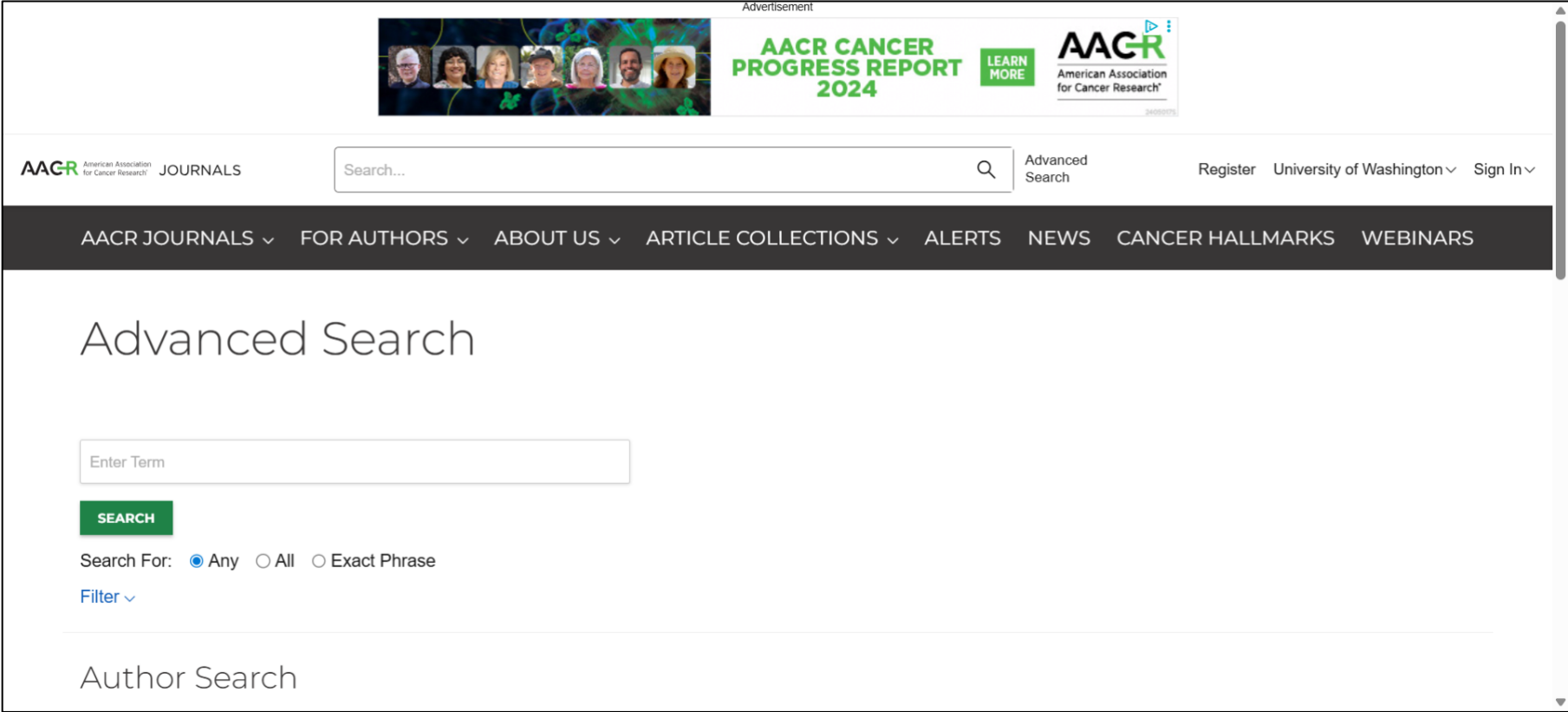
Advanced Search Page Screenshot

Figure 3. The Advanced Search interface with search term input field, radio button options for Any/All/Exact Phrase, Filter dropdown, and additional search functionality sections for Author Search and article-specific searches.]

Code Snippets

The following code examples demonstrate current accessibility issues and provide recommended solutions for key WCAG success criteria violations.

Missing Landmark Regions (1.3.1 Info and Relationships)
Current problematic implementation:

```
<div class="main-content"> <div class="journal-info"> <!-- Main content without landmark --> </div> </div>

<div class="footer-content"> <!-- Footer content without landmark --> </div>
```

Recommended fix:

```
<main role="main" class="main-content"> <div class="journal-info"> <!-- Main content with proper landmark -->
</div> </main>

<footer role="contentinfo" class="footer-content"> <!-- Footer content with proper landmark --> </footer>
```

Missing Alternative Text (1.1.1 Non-text Content)
Current problematic implementation:

```
<img src="blood-cancer-discovery-cover.jpg" class="journal-cover">
```

Recommended fix:

```
<img src="blood-cancer-discovery-cover.jpg" alt="Blood Cancer Discovery Volume 6, Issue 6 cover featuring
scientific illustration of cellular research with molecular structures" class="journal-cover">
```

Improper Heading Structure (1.3.1 Info and Relationships)
Current problematic implementation:

```
<h2>About the Journal</h2> <h3>Editors-in-Chief</h3> <h3>Impact Factor</h3> <h2>Featured Articles</h2>
<h3>Article Title</h3>
```

Recommended fix:

```
<h1>Blood Cancer Discovery Journal</h1> <h2>About the Journal</h2> <h3>Editors-in-Chief</h3> <h3>Impact
Factor</h3> <h2>Featured Articles</h2> <h3>Article Title</h3>
```

Incorrect List Count (4.1.2 Name, Role, Value)
Current problematic implementation:

```
<ul> <li><input type="radio" name="search" value="any"> Any</li> <li><input type="radio" name="search"
value="all"> All</li> <li><input type="radio" name="search" value="exact"> Exact Phrase</li> <li class="hidden-
item"><!-- Hidden item causing count mismatch --></li> </ul>
```

Recommended fix:

```
<fieldset> <legend>Search for:</legend> <label><input type="radio" name="search" value="any" checked>
Any</label> <label><input type="radio" name="search" value="all"> All</label> <label><input type="radio"
name="search" value="exact"> Exact Phrase</label> </fieldset>
```

Double Link Announcements (4.1.2 Name, Role, Value)
Current problematic implementation:

```
<li> <a href="/journals"> <span><a href="/journals">AACR Journals</a></span> </a> </li>
```

Recommended fix:

```
<li> <a href="/journals"> <span>AACR Journals</span> </a> </li>
```

Final Thoughts and Recommendations

The AACR Journals platform demonstrates a solid foundation for accessibility with several positive features that support researchers with disabilities. The platform successfully maintains keyboard navigation throughout, provides meaningful bypass links, and includes functional search capabilities with clear result communication. The Advanced Search page particularly showcases proper heading hierarchy that could serve as a model for site-wide implementation.

However, significant opportunities exist to enhance the research experience for users with disabilities. The most critical areas for improvement involve implementing proper landmark regions for efficient page navigation, establishing consistent heading hierarchies across all pages, and providing meaningful alternative text for journal covers and research-related imagery. These improvements would substantially reduce the effort required for scholars with disabilities to access vital cancer research publications.

The platform's strong search functionality and clear research article presentation provide an excellent foundation for supporting academic accessibility. With focused attention on structural improvements and consistent implementation of accessibility best practices, the AACR Journals platform could become a leading example of inclusive academic publishing that truly serves all researchers in the cancer research community.

Recommended Fixes

- **Implement proper landmark regions:** Add main content areas, footer landmarks, and complementary regions to enable efficient screen reader navigation throughout the platform.
- **Establish consistent heading hierarchies:** Ensure all pages begin with H1 elements and follow logical progression through H2, H3, and subsequent levels to support screen reader navigation.
- **Provide meaningful alternative text:** Add descriptive alternative text to journal cover images, research graphics, and functional elements to ensure visual content is accessible to all users.
- **Resolve list structure inconsistencies:** Correct markup issues that cause screen readers to announce incorrect item counts in navigation menus and form controls.
- **Fix double link announcements:** Eliminate redundant link markup that causes screen readers to announce the same navigation element multiple times.
- **Enhance menu state communication:** Improve ARIA attributes and state announcements for expandable menu elements to clearly communicate their functionality and current status.

Disclaimer

Accessiblü prepared this report as a high-level accessibility evaluation of the American Association for Cancer Research (AACR) Journals platform. The evaluation utilized industry-standard testing methodologies, including screen reader testing (JAWS 2025), keyboard-only navigation, and manual inspection for select WCAG 2.2 AA success criteria.

This report does not represent a comprehensive WCAG compliance audit and should not be seen as a certification of accessibility compliance. While we have identified accessibility concerns and usability opportunities, this evaluation was limited in scope and may not encompass all accessibility issues on the platform.

No Legal Liability:

Accessiblü offers this report for informational purposes only. It assumes no legal responsibility for accessibility violations or compliance failures resulting from its use. Organizations seeking formal certification should conduct a comprehensive audit and user testing with individuals with disabilities.

Limitations of Testing:

This evaluation was conducted at a specific time, and platform updates may have occurred after testing was completed. Additionally, while automated tools and expert reviews were utilized, real-world users with disabilities determine the true measure of accessibility.