Most commonly experienced error was the lack of an alternative text (ALT) for images and non text element: about the 90% of the uncompliant homepages doesn’t survey (61% vs. 60%). We can notice, instead, the increase of Libraries to which can be assigned the conformance level “AA” or “AAA”. 

Two years later, under the recent Italian provisions of law (Law n. 4, January 8, 2004, Decree of the President of the Republic n. 75, March 1, 2005) we decided to discuss again such a delicate subject, increasing the sample under evaluation and considering a wider range of accessibility issues in order to assess its compliance to accessibility standards and guidelines.

A sample of Italian Biomedical Libraries Homepages, consisting of 51 sites, was selected, carefully examined and evaluated many times during the current year and once again for the last time from May 16th to May 31st 2005. Libraries websites have been chosen from those located at the URL http://medicina.unica.it/biblio/catalog.htm. The studied set includes Libraries with a long tradition of presence on the Web and according to our experience represents a significative sample of the Italian Biomedical Libraries. Gathered data refer to 49 Libraries as two sites haven’t been available during the last evaluation period.

The methodology of our study has been based essentially on the use of different validation software (Fig.2) to evaluate the conformance level reached by the sample, the accuracy of HTML, the use of Cascading Style Sheet, the foreground and background colour combination. An expert human review was required too to analyze problems (validation of some checkpoints) that couldn’t be automatically verified. Some others aspects were considered: the presence of frames, last update indication, other language version.

We have then considered the aspects related to the colour used in webpages in order to estimate their accessibility by persons with colour perception deficit. The difference between background brightness, and foreground brightness (CB) should be greater than 125 and the difference between background colour and foreground colour (CD) should be greater than 500 (according to W3C formulas). We found values greater than 125 in the 57% of the cases with regard to CB (Fig. 4) and values greater than 500 in the 70% of CD instances (Fig. 5). A little number of pages was only partly compliant (OPC) in both cases.

The accuracy of HTML syntax has been tested using the WDG HTML Validator; only 10 out 49 homepages seemed to be correct (Fig. 6). Once again the most frequent error was the absence of a valid alternative text to images (“ALT”).

These data are in accordance with the ones relating to conformance level. According to HTML standards, every HTML page requires a document type declaration: in our sample it was indicated correctly in 32 cases out of 49. Finally only 24% of the pages were validated using an automatic software tool for an accessibility check (T.A.W. means “Test de accesibilidad web”. It is a Spanish validation software developed by WebAIM (Web Accessibility in Mind)) in order to estimate their compliance to accessibility standards and guidelines.

To estimate the level of conformity to the WCAG guidelines, we used three different tools experimenting a very good concordance among them. Findings (Fig. 3) show the percentage of homepages that doesn’t comply with the standards. The percentage has not changed significatively if compared with the results in 2003 survey (61% vs. 60%). We can notice, instead, the increase of Libraries to which can be assigned the conformance level “AA” or “AAA”.

We have then evaluated the primary goal is to provide access to knowledge and learning, offering services to all, regardless of any distinction. For this reason Library web sites should be designed to be accessible to all people (Design for All, Universal Design, Inclusive Design, etc.).

In 2003, “The European Year of People with Disabilities”, our Library joined the CABI Accessibili Project (Campaign for Accessibility of Libraries on the Web http://marciana.venezia.sbn.it/CABI/) and becoming, more sensitive to the accessibility problems, tried to develop its webpages according to international standards (W3C, WAI, etc.). In the same year we conducted a preliminary study (http://www.ab.it/ab/sezioni/arduenga/cabi.htm, unpublished data) on a small number (n=21) of Italian Biomedical Libraries Homepages using the software Bobby Watchfire (http://www.bobby.watchfire.com/bobby/html/en/index.jsp). Fig.1 illustrates the results. Data show that in the 61% of examined web sites there was any compliance with the W3C standards. The WCAG 1.0 (Web Content Accessibility Guidelines) recommendations draws up a list of checkpoints and defines for each of them three priority levels and corresponding conformance levels:

- **Priority 1** = checkpoint must be satisfied
- **Priority 2** = checkpoint should be satisfied
- **Priority 3** = satisfying this checkpoint will improve access

**Conformance Level “A”**: all Priority 1 checkpoints are satisfied
**Conformance Level “AA”**: all Priority 1, 2 and 3 checkpoints are satisfied

We have then considered the aspects related to the colour used in webpages in order to estimate their accessibility by persons with colour perception deficit. The difference between background brightness, and foreground brightness (CB) should be greater than 125 and the difference between background colour and foreground colour (CD) should be greater than 500 (according to W3C formulas). We found values greater than 125 in the 57% of the cases with regard to CB (Fig. 4) and values greater than 500 in the 70% of CD instances (Fig. 5). A little number of pages was only partly compliant (OPC) in both cases.

The accuracy of HTML syntax has been tested using the WDG HTML Validator; only 10 out 49 homepages seemed to be correct (Fig. 6). Once again the most frequent error was the absence of a valid alternative text to images (“ALT”).

These data are in accordance with the ones relating to conformance level. According to HTML standards, every HTML page requires a document type declaration: in our sample it was indicated correctly in 32 cases out of 49. Finally only 24% of the pages were validated using an automatic software tool for an accessibility check (T.A.W. means “Test de accesibilidad web”. It is a Spanish validation software developed by WebAIM (Web Accessibility in Mind)) in order to estimate their compliance to accessibility standards and guidelines.

To estimate the level of conformity to the WCAG guidelines, we used three different tools experimenting a very good concordance among them. Findings (Fig. 3) show the percentage of homepages that doesn’t comply with the standards. The percentage has not changed significatively if compared with the results in 2003 survey (61% vs. 60%). We can notice, instead, the increase of Libraries to which can be assigned the conformance level “AA” or “AAA”.

We have then considered the aspects related to the colour used in webpages in order to estimate their accessibility by persons with colour perception deficit. The difference between background brightness, and foreground brightness (CB) should be greater than 125 and the difference between background colour and foreground colour (CD) should be greater than 500 (according to W3C formulas). We found values greater than 125 in the 57% of the cases with regard to CB (Fig. 4) and values greater than 500 in the 70% of CD instances (Fig. 5). A little number of pages was only partly compliant (OPC) in both cases.

The accuracy of HTML syntax has been tested using the WDG HTML Validator; only 10 out 49 homepages seemed to be correct (Fig. 6). Once again the most frequent error was the absence of a valid alternative text to images (“ALT”).

These data are in accordance with the ones relating to conformance level. According to HTML standards, every HTML page requires a document type declaration: in our sample it was indicated correctly in 32 cases out of 49. Finally only 24% of the pages were validated using an automatic software tool for an accessibility check (T.A.W. means “Test de accesibilidad web”. It is a Spanish validation software developed by WebAIM (Web Accessibility in Mind)) in order to estimate their compliance to accessibility standards and guidelines.

To estimate the level of conformity to the WCAG guidelines, we used three different tools experimenting a very good concordance among them. Findings (Fig. 3) show the percentage of homepages that doesn’t comply with the standards. The percentage has not changed significatively if compared with the results in 2003 survey (61% vs. 60%). We can notice, instead, the increase of Libraries to which can be assigned the conformance level “AA” or “AAA”.

We have then considered the aspects related to the colour used in webpages in order to estimate their accessibility by persons with colour perception deficit. The difference between background brightness, and foreground brightness (CB) should be greater than 125 and the difference between background colour and foreground colour (CD) should be greater than 500 (according to W3C formulas). We found values greater than 125 in the 57% of the cases with regard to CB (Fig. 4) and values greater than 500 in the 70% of CD instances (Fig. 5). A little number of pages was only partly compliant (OPC) in both cases.

The accuracy of HTML syntax has been tested using the WDG HTML Validator; only 10 out 49 homepages seemed to be correct (Fig. 6). Once again the most frequent error was the absence of a valid alternative text to images (“ALT”).

These data are in accordance with the ones relating to conformance level. According to HTML standards, every HTML page requires a document type declaration: in our sample it was indicated correctly in 32 cases out of 49. Finally only 24% of the pages were validated using an automatic software tool for an accessibility check (T.A.W. means “Test de accesibilidad web”. It is a Spanish validation software developed by WebAIM (Web Accessibility in Mind)) in order to estimate their compliance to accessibility standards and guidelines.

To estimate the level of conformity to the WCAG guidelines, we used three different tools experimenting a very good concordance among them. Findings (Fig. 3) show the percentage of homepages that doesn’t comply with the standards. The percentage has not changed significatively if compared with the results in 2003 survey (61% vs. 60%). We can notice, instead, the increase of Libraries to which can be assigned the conformance level “AA” or “AAA”.

We have then considered the aspects related to the colour used in webpages in order to estimate their accessibility by persons with colour perception deficit. The difference between background brightness, and foreground brightness (CB) should be greater than 125 and the difference between background colour and foreground colour (CD) should be greater than 500 (according to W3C formulas). We found values greater than 125 in the 57% of the cases with regard to CB (Fig. 4) and values greater than 500 in the 70% of CD instances (Fig. 5). A little number of pages was only partly compliant (OPC) in both cases.

The accuracy of HTML syntax has been tested using the WDG HTML Validator; only 10 out 49 homepages seemed to be correct (Fig. 6). Once again the most frequent error was the absence of a valid alternative text to images (“ALT”).