

Table 1

## Usability Assessment Results with End Users and Evaluation of System Components

	<b>Initial Design</b>	<b>Barriers Identified and Addressed</b>
<b>User Issues Identified</b>		
<ul style="list-style-type: none"> <li>Search navigation</li> </ul>	Required several fields to be entered by front-end users to return clinic search results	Searches were too slow and returned inconsistent results
<ul style="list-style-type: none"> <li>Zip code search inconsistencies</li> </ul>	Searches returned no clinics when navigators knew they existed	Incorrect programming for the zip code search
<ul style="list-style-type: none"> <li>Outdated clinic services</li> </ul>	Clinic services must be updated by clinics, then validated by programming staff	Duplicated data entry and inefficient database procedures were leading to outdated data
<ul style="list-style-type: none"> <li>Additional software tools</li> </ul>	Required an ActiveX tool download that could only be used in Internet Explorer	Restricted use by requiring additional software; many firewalls and administrative protocols prevented download of the tool
<b>System Issues Identified</b>		
<ul style="list-style-type: none"> <li>Cumbersome fields</li> </ul>	429 unique fields	Caused maintenance issues and reporting errors
<ul style="list-style-type: none"> <li>Duplicated database structure</li> </ul>	Double data entry was required to update if clinics were listed on both the Breast Health Portal and Project Safety Net	Increased data entry time and possibility of data entry errors
<ul style="list-style-type: none"> <li>New databases created each year</li> </ul>	A new database was created annually to capture data updates	Resulted in a large number of databases that needed to be linked and queried in the system
<ul style="list-style-type: none"> <li>Discrete form for language</li> </ul>	A discrete form was used for each language, requiring double data entry	Duplicated programming efforts
<ul style="list-style-type: none"> <li>Validation and authorization from programming staff</li> </ul>	All data updates required validation and authorization prior to pushing live on the system	Led to delays in data updates
<ul style="list-style-type: none"> <li>Data storage</li> </ul>	Data was stored in a comma-delimited string format	Data was not database normalized