



**North Carolina**  
**Division of Services for the Blind**

**COMPREHENSIVE STATEWIDE NEEDS ASSESSMENT**

---

**Eniko Rak**  
**Taylor Houchens**  
**Zach Merz**  
**Lauren Spencer**

Department of Allied Health Sciences  
Division of Rehabilitation Counseling  
& Psychology

4101 Bondurant Hall, CB# 7205  
Chapel Hill, NC 27599-7205



**THE UNIVERSITY**  
*of* **NORTH CAROLINA**  
*at* **CHAPEL HILL**

North Carolina Division of Services for the Blind (NCDSB) dedicated to the success of individuals who are blind or visually impaired. Since 1935, its mission has been to provide services that enable people to reach their goals of independence and employment.



The NCDSB Comprehensive Statewide Needs Assessment is an inclusive needs assessment survey about the issues affecting North Carolinians with visual impairments.

Experiences of individuals with visual impairments were explored, to ensure that their needs will be reflected in programs, services, and policies implemented by DSB.

Designed and edited by

Eniko Rak  
Taylor Houchens  
Zach Merz  
Lauren Spencer

## Table of Contents

List of Tables .....	5
List of Figures .....	7
Executive Summary .....	9
The NCDSB Statewide Needs Assessment Study: An Overview .....	17
Purpose of the Comprehensive Statewide Needs Assessment .....	17
Methodology .....	18
Part I: Archival Data Analysis .....	19
Part II: Stakeholder Input .....	20
Instruments and Procedure .....	22
Section I: North Carolina: An Overview .....	24
Population Characteristics.....	24
Demographic Profile.....	24
Population Projections and Economic Forecasts .....	26
Economy and Workforce .....	27
Health.....	31
Disability Statistics and Demographics .....	32
Visual Disabilities .....	34
Disability Population Estimates and Projections .....	36
Section II: Service Provision through DSB (RSA911 Data Analysis for FY 2009-FY 2012) .....	38
NC Consumers at a Glance.....	38
VR Process and Outcomes .....	40
Factors Related to Employment Outcomes .....	41
Closure Status and Service Patterns .....	44
2011-2012 Customer Satisfaction Survey Results.....	50
Section III: Stakeholder Input .....	52
DSB Consumers: Survey and Focus Group Results.....	52
DSB Staff: Survey Results .....	68

Eye Care Providers: Survey Results .....	77
Community Rehabilitation Providers: Survey Results.....	82
Workforce Development System Partners: Survey Results.....	87
Employers: Key Informant Interviews .....	89
Advocacy Groups: Key Informant Interviews.....	94
State Rehabilitation Council Members: Focus Group.....	97
Section IV: Discussion.....	100
Unserved and Underserved Groups .....	100
Unmet Needs and Gaps in Services.....	102
Employment and Community Participation.....	102
Health and Eye Care Needs.....	103
Other Needs.....	103
Adequacy of DSB Services and Gaps.....	103
Gaps identified by Consumers.....	103
Gaps identified by Other Stakeholders.....	105
Section V: Conclusions .....	107
Appendix .....	108
Instruments .....	108
References.....	145

## List of Tables

Table 1.1: North Carolina’s Population by Age in 2012 .....	24
Table 1.2: Metropolitan Areas: Local Area Unemployment Statistics .....	28
Table 1.3: Occupations for Civilians Employed Ages 16 and Over in NC for 2011 .....	29
Table 1.4: Employment Rate by Sector .....	30
Table 1.5: SSI Beneficiaries in North Carolina in 2011.....	31
Table 1.6: Disability Prevalence in North Carolina by Race/Ethnicity in 2011 ...	33
Table 1.7: Visual Impairments in North Carolinians 40 Years of Age and Older: Prevalence Rates in Males and Females .....	35
Table 1.8: Visual Impairments in Individuals 40 and Older: Prevalence Rates in Males and Females .....	36
Table 2.1: Demographic Information of NC Consumers Closed in FY 2009- 2012 .....	38
Table 2.2: NC Consumer Characteristics and VR Outcomes (FY 2012) .....	41
Table 2.3: Services Received .....	44
Table 2.4: Reason for Closure .....	45
Table 2.5: Vendor and Funding Sources for Services .....	46
Table 2.6: Number and Cost of Services .....	47
Table 2.7: Closure Status and Service Patterns .....	48
Table 2.8: Closure Status and Number/Cost of Services .....	49
Table 2.9: Closure Status and Length of Time in the DSB System .....	50
Table 3.1: Age Distribution.....	52
Table 3.2: Type of Impairment.....	53
Table 3.3: Household Income.....	53
Table 3.4: Vision Problems.....	54
Table 3.5: Age at Onset of Vision Problem.....	54
Table 3.6: Employment status.....	55
Table 3.7: Employment Status by Age Category.....	55
Table 3.8: Employment Status by Racial/Ethnic Category.....	55

Table 3.9: Unemployed Consumers' Intent to Have a Job.....	56
Table 3.10: Number of times the person received services before from DSB....	56
Table 3.11: Consumers' Ratings of their Community Participation.....	63
Table 3.12: Average Scores for Barriers.....	64
Table 3.13: Districts.....	68
Table 3.14: Caseload Size.....	69
Table 3.15: Changes in Consumer Groups.....	71
Table 3.16: Changes in Consumer Needs.....	72
Table 3.17: Barriers to Employment.....	73
Table 3.18: Demographic Characteristics of the Sample.....	77
Table 3.19: Patients in Need of Low Vision Rehabilitation.....	78
Table 3.20: Unmet Needs of Eye-Care Provider Consumers.....	80
Table 3.21: Changes in the CRP caseloads.....	83
Table 2.22: Changes in Need for Specific Service of Consumers.....	84
Table 3.23: Barriers to Employment ranked by CRPs.....	85
Table 3.24: Business Size.....	89
Table 3.25: Number of Persons with Visual Impairments Hired by Businesses..	89
Table 3.26: Factors that Influence Hiring Decisions.....	91
Table 3.27: Concerns of Employers about hiring Persons with Visual Impairments.....	92

## List of Figures

Figure 1.1: Demographic Changes in North Carolina: Age .....	26
Figure 1.2: North Carolina Unemployment Rate 2003-2013 .....	27
Figure 1.3: Unemployment Rate by County .....	28
Figure 1.4: North Carolina Employment Statistics .....	30
Figure 1.5: Educational Achievement by Disability Type .....	33
Figure 1.6: Visual Impairments in North Carolina .....	35
Figure 2.1: Vocational Rehabilitation Process and Outcomes .....	40
Figure 3.1: Satisfaction with Services.....	57
Figure 3.2: Needs Met.....	58
Figure 3.3: Ratings for Services provided by DSB.....	61
Figure 3.4: Prevalent Visual Impairments in Caseloads.....	69
Figure 3.5: Referrals.....	70
Figure 3.6: Services Requested from CRPs.....	75
Figure 3.7: Referrals from DSB.....	79
Figure 3.8: Overall Experience working with DSB.....	90
Figure 3.9: DSB Services Ranked by Employers.....	93
Figure 4.1: Underserved Groups .....	101
Figure 4.2: Gaps in Services Noted by DSB Consumers .....	104

## Appendices

Appendix A: Consumer Survey.....	108
Appendix B: Consumer Focus Group.....	115
Appendix C: Division of Services for the Blind (DSB) Staff Survey.....	117
Appendix D: State Rehabilitation Council Focus Group.....	124
Appendix E: Eye Care Provider Survey.....	126
Appendix F: Community Rehabilitation Program Representative Survey.....	130
Appendix G: Advocacy Group Representative Key Informant Interview.....	136
Appendix H: Employer Key Informant Interview.....	138
Appendix I: Workforce Development System Partner Survey.....	142

## Executive Summary

This study examined vocational rehabilitation needs of individuals with blindness and visual impairments in North Carolina. The study combined archival data with stakeholder input. Current and former DSB consumers, DSB staff, eye care providers, Community Rehabilitation Program representatives, and Workforce Development System partners, the State Rehabilitation Council, employers and advocacy group representatives participated. These groups provided multiple perspectives in relation to the vocational rehabilitation needs of persons with blindness and visual impairment and suggestions for addressing these needs. This summary presents conclusions and recommendations based on information provided by these groups.

## Research Questions

The assessment examined the following questions:

1. Unserved and underserved groups (including minorities)
  - Who are the unserved and underserved groups of individuals that are blind or visually impaired in North Carolina who do not receive the services they need from DSB? What are the major reasons for not being served?
  - What are the vocational rehabilitation service needs of minorities with visual disabilities?
2. Unmet need and gaps in vocational rehabilitation services (including supported employment services)
  - What are the rehabilitation needs of individuals with visual disabilities, particularly the vocational rehabilitation services needs of individuals with the most significant visual disabilities, including their need for supported employment services?
  - What are the vocational rehabilitation service needs of individuals with visual disabilities served through other components of the statewide workforce investment system?
3. Needs to establish, develop or improve CRPs
  - What is the need to establish, develop or improve community rehabilitation programs within the state?

## Methodology

The project utilized multiple information strategies identified in the VR Needs Assessment Guide (Shell, 2010). To answer the research questions, the project combined existing information (archival data) with new information (stakeholder input).

### Part I: Archival Data Analysis

Review of relevant literature: For this study, a comprehensive review of the 2012 DSB Annual Report, DSB's 2011 federal fiscal year State Plan, the Customer Satisfaction Survey Results, and the most recent CSNA reports from DSB and the general agency were examined. In addition, reports from Kentucky and Virginia were reviewed.

Review of major data sources: National and state level data was examined to describe demographic trends in the state, including disability demographics, and information on the prevalence and types of visual disabilities, economic and workforce status and trends within the state, employment rate and types of jobs held by individuals with blindness, deaf-blindness, and other visual disabilities served by DSB and by other components of the statewide workforce investment system.

### Part II: Stakeholder Input

Several data collection methods were employed. This included (a) surveys with five distinct groups of stakeholders (current and former DSB consumers, DSB staff, eye care providers, CRP representatives, and Workforce Development System partners); (b) focus groups with two categories of stakeholders (one group meeting with SRC members, and two focus groups with current and former consumers of DSB), and (c) approximately 30 key informant interviews with two groups (employers and advocacy group representatives).

## Findings

### Unserved and Underserved Groups

This study did not identify any groups with blindness and visual impairments that are not served currently by DSB. However, there are specific groups that are underserved by the agency.

- More females than males have vision problems such as cataracts, glaucoma, low vision, age-related macular degeneration, or blindness yet still DSB serves equal number of males and females annually. This may suggest that women are underserved by DSB.
- Low income individuals and individuals living in rural areas are also underserved by DSB.
- Consumers of Hispanics/Latino, Black/African-American, and American Indians/Alaska Native racial/ethnic background are underserved as well.
- One out of three DSB consumers is African American, meaning this group does access and receive services from DSB but overall is less successful in securing employment than the non-Hispanic White group.
- Older adults and transition-age-youth/adolescents also seem to be underserved by DSB.
- Persons who are deaf-blind or have other multiple disabilities were also noted to be underserved.

Many DSB staff participants and CRP representatives reported an increase on their caseload in individuals who have visual impairments which is a positive finding, and aligns with demographic trends regarding changes in the prevalence of individuals with visual impairments. But this could not be generalized across all caseloads examined or across all agencies across the state.

CRP Representatives also noted an increase in individuals with multiple disabilities and individuals with criminal convictions/felonies on their caseload. Two of the five CRP representatives surveyed indicated an increase of visually impaired consumers and deaf-blind consumers on their caseload.

It is important to examine populations in which participants noted no change or a decrease, yet current data suggest an increase. Veterans<sup>1</sup>, individuals with substance abuse problems<sup>2 3</sup>, or individuals with limited or no English proficiency<sup>4 5</sup> could be studied in this aspect, as they may as well be underserved by DSB. Large numbers of DSB staff who participated for example said that they experienced no change in the prevalence of consumers who are transition age youth, deaf-blind, or individuals with substance abuse, or individuals with limited or no English proficiency, which may suggest that these groups could also be underserved in some districts.

## Unmet Needs and Gaps in Services

### Employment and Community Participation

Employment is a significant unmet need of persons with blindness and visual impairments. The employment rate of individuals with disabilities in North Carolina is 36.7% (American Community Survey, 2011). In this assessment, 39% of DSB consumers reported being unemployed. Unemployment is higher in some minority groups (e.g., individuals of African American race/ethnicity).

Of the unemployed group (n=119)

- 47% said they would like to find a job
- 37% said that they had been actively searching for a job
- 21% sought out vocational services in the past year (the majority through Division of Services for the Blind or the Division of Vocational Rehabilitation Services)

Approximately 43% (n=132) of all DSB consumers who participated explained that they would need more assistance to participate in the community as fully as they would like. Self-reported community participation rates were lower for women and individuals of African American race/ethnicity.

Barriers to employment identified by DSB consumers included the lack of jobs, lack of transportation, lack of state funds or budget restrictions, lack of information regarding disability resources, health concerns and the lack of qualified service providers.

---

<sup>1</sup> <http://www.schs.state.nc.us/schs/pdf/schs-133.pdf>

<sup>2</sup> <http://www.ncdhhs.gov/mhddsas/services/sa-services/index.htm>

<sup>3</sup> <http://www.ncmedicaljournal.com/wp-content/uploads/NCMJ/Jan-Feb-09/RunningNumbers.pdf>

<sup>4</sup> <http://www.pewhispanic.org/states/state/nc/>

<sup>5</sup> <http://quickfacts.census.gov/qfd/states/37000.html>

## Health and Eye Care Needs

Eye care providers reported that individuals with blindness and visual impairments in North Carolina struggle with unmet eye care needs that include routine eye exams/medical care, preventative care, assistive technology, aids, or other devices. Low vision rehabilitation and availability of ongoing care for chronic conditions were also prevalent needs described by eye care providers. DSB consumers also described health concerns as a major barrier for employment.

## Other Needs

Eye care providers reported that individuals with blindness and visual impairments in North Carolina have unmet needs in the area of mobility training, home care, transportation, family support and education.

## Adequacy of DSB Services and Gaps

### Gaps identified by Consumers

- Consumers think that many DSB services are of high quality (medical and low vision services, orientation and mobility, reader services, independent living training, assistive technology and training, personal and home management skills, vocational counseling, comprehensive vocational evaluation, vocational or academic training/tuition assistance, and support services such as transportation, rental assistance, etc).
- Benefits planning, community awareness and integration, work readiness skills, on-the-job training, work adjustment job coaching, job modification, school-to-work transition services (14-21 years old), job seeking skills training, job retention counseling, and job placement were rated of average quality.
- All consumers rated post-employment services, and supported employment to be below average, which indicates that these service areas are not adequate.
- When asked “What other services did you need to become employed and/or live independently that you did not receive?” Vocational services, assistive technology, transportation, medical services, services to improve independent living, and follow-up services were noted as needed but not provided by a subset of consumers. In regard to transportation, it is important to note that while it is an unmet need for many individuals with disabilities, it is outside of the scope of

DSB to provide transportation. In regard to vocational, independent living, follow-up services, these are provided by DSB. Certain consumers may have not requested them which could help explain the gap that is reflected in these findings.

- Consumers think that an increase in funding could address some of the reported issues. More transportation support, better vocational services (job training, job placement, and vocational counseling), and better support with assistive technology were also noted to be necessary.
- These findings suggest that consumers acknowledge the value of most DSB services (several services rated at or above average) and are pleased with the services when they receive them, but there are consumers who would need specific services and are not getting them.
- In sum, gaps in services identified by DSB consumers included the area of post-employment services, supported employment, vocational services, assistive technology, information and supports in accessing public transportation, medical services and services to improve independent living.
- An increase in transportation supports, vocational assistance services, and assistive technology were also suggestions that should be adopted by DSB. In relation to transportation, again it needs to be mentioned that while it is a major unmet need, it is outside the scope of DSB to provide it when it is unrelated to the client's vocational rehabilitation program.

### **Gaps identified by Other Stakeholders**

- More than half of DSB staff noted an increase in need toward assistive technology/equipment training, independent living training, personal/home management skills, and medical services.
- DSB staff also noted an increase toward low vision services, medical services, support services, independent living training, orientation and mobility services, vocational counseling services, personal/home management skills training, job seeking skills training, and job placement.
- Eye care providers mentioned the following as gaps in services for individuals with visual impairments: financial needs, routine eye exams/medical care,

preventative care, assistive technology, aids or other devices, mobility training, home care, education. It must be noted, that the Medical Eye Care program has been discontinued in 2013. Most eye care providers are not up to date with these changes. Unfortunately, these changes eliminated a significant portion of medical services provided to consumers in the past.

- Advocacy group representatives reported the need for additional assistive technology and independent living skills training. In addition, providing more vocational services, education, and transportation were also mentioned.
- The group of SRC members identified assistive technology and training in using the technology, and medical restoration (surgeries, medication, and treatment) as unmet needs. In addition, transition programs (access to assistive technology for high school students), orientation mobility training, job development and placement and independent living skills training and supports as needs of North Carolinians who have vision problems.

In sum, across all respondents the most pressing service gaps are in post-employment services, assistive technology, supported employment, medical services, vocational counseling and independent living skills training.

## Recommendations

### Outreach to Underserved and Underserved Groups

1. Expand efforts in identifying and recruiting consumers who are underserved.
2. Increase awareness of DSB services in the underserved communities. Plan and implement innovative outreach activities and events to educate these groups about DSB and the services available through DSB (women, transition age youth, minorities, older adults, individuals living in rural areas, individuals with low income).
3. Educate the public about the presence and role of DSB in the community. This could be done by distributing flyers, brochures about DSB in doctor's offices, schools, hospitals, and community agencies.

## **Strategic Activities to Address Employment Needs**

1. Improve the retention and rehabilitation rates for individuals who are underserved (women, transition age youth, minorities, older adults, individuals living in rural areas, and individuals with low income).
2. Focus more on the rehabilitation needs of individuals with blindness, and improve services by the provision of evidence-based practices for individuals with blindness (Crudden, Sansing, Butler, & McBroom, 2004; Crudden, Williams, McBroom, & Moore, 2002).
3. DSB staff should be instructed on evidence-based practices available to address the vocational rehabilitation needs of individuals who are underserved (women, transition age youth, minorities, older adults, individuals living in rural areas, and individuals with low income).
4. Counselors could increase their efforts in helping clients better understand the labor market and select suitable job goals, such as help consumers better understand labor market demands by training them to navigate websites that discuss current and future jobs that are locally available.

## **Specific Service Areas**

1. Services rated below average by DSB consumers were post-employment services and supported employment. Improve these service areas and ensure better access for consumers who could benefit from them.
2. Access to assistive technology and training in the use of technology devices are also in high demand. Educate consumers about advancements in technology, available free applications that could be of use, as well as assistive technology services and resources available through DSB. District offices must ensure that they stay current regarding new technologies and their application.
3. In regard to transportation DSB could provide advocacy to increase public transportation options within the community and compile resources with current transportation resources provided by communities to help consumers be more familiar with local transportation opportunities.

4. Develop an up-to-date catalogue of services available in the community. For example, educate consumers about computer classes at the local community college, medical consultation services, housing supports or other supports and services that would be beneficial but are not directly provided by the DSB.

### **Other Suggestions**

1. Improve collaboration between DSB and community partners. Improve the collaboration between DSB and Division of Vocational Rehabilitation Services to enhance services and permit easy access to those who need services from both agencies.
2. Continually upgrade staff members' skills to be proficient in advancements in rehabilitation research like evidence-based practices in vocational rehabilitation and assistive technology, and be able to recognize and fully understand emerging consumer needs and be able to address efficiently in a timely manner.

## The NCDSB Statewide Needs Assessment An Overview

The Rehabilitation Act of 1973, as amended, mandates that state vocational rehabilitation (VR) agencies and the State Rehabilitation Council (SRC) jointly conduct a Comprehensive Statewide Needs Assessment (CSNA) every three years. The Rehabilitation Act requires the CSNA to describe, at a minimum, the rehabilitation needs of individuals with disabilities residing within the State, particularly the vocational rehabilitation needs of:

- Individuals with the most significant disabilities, including their need for supported employment services
- Individuals with disabilities who are minorities
- Individuals with disabilities who have been unserved or underserved by the VR programs (“unserved” denotes working age individuals with disabilities in the state who are not receiving VR services, and “underserved” means that the proportion of those served by the state-federal VR agency is lower than their proportion in the general population)
- Individuals with disabilities served through other components of the statewide workforce investment system

In addition, the Act mandated that the CSNA will include an assessment of the need to:

- Establish Community Rehabilitation Programs (CRPs)
- Develop CRPs or
- Improve CRPs within the State.

### **Purpose of the Comprehensive Statewide Needs Assessment**

This assessment examined the VR service needs of individuals with significant visual disabilities (including their need for supported employment services), the VR needs of minorities, the needs of the unserved and underserved groups, and of individuals with visual disabilities served through other components of the statewide workforce investment system (One-stop-shops), and the needs of veterans and transition age youth with visual impairments. In addition, the project examined the need to establish, develop, or improve community rehabilitation programs for individuals with significant visual disabilities who live in North Carolina.

The study investigated the availability and affordability of services within the community for persons who are blind, deaf-blind or have other visual disabilities. Based on current findings, the study developed recommendations on how to develop new programs or improve existing programs.

The assessment examined the following questions:

1. Unserved and underserved groups (including minorities)
  - Who are the unserved and underserved groups of individuals who are blind or visually impaired in North Carolina who do not receive the services they need from DSB? What are the major reasons for not being served?
  - What are the vocational rehabilitation service needs of minorities with visual disabilities?
2. Unmet need and gaps in vocational rehabilitation services (Including supported employment services)
  - What are the rehabilitation needs of individuals with visual disabilities, particularly the vocational rehabilitation services needs of individuals with most significant visual disabilities, including their need for supported employment services?
  - What are the vocational rehabilitation service needs of individuals with visual disabilities served through other components of the statewide workforce investment system?
3. Needs to establish, develop or improve CRPs
  - What is the need to establish, develop or improve community rehabilitation programs within the state?

## **Methodology**

The project utilized multiple information strategies identified in Shell, J. (2010). *Developing a Model Comprehensive Statewide Needs Assessment With Corresponding Training Materials For State VR Agency Staff and SRC Members: The VR Needs Assessment Guide*. U.S. Department of Education. To answer the research questions, the project combined existing information (archival data) with new information (stakeholder input).

## Part I: Archival Data Analysis

Review of relevant literature: For this study, a comprehensive review of the 2012 DSB Annual Report, DSB's 2011 FFY State Plan, the Customer Satisfaction Survey Results, and the most recent CSNA reports from DSB and the general agency were examined. In addition, reports from Kentucky and Virginia were reviewed. These sources were used to lay the foundation and provide direction for the current study.

- North Carolina's Division Of Services For The Blind Annual Report 2012
- Division of Services for the Blind State Plan for Fiscal Year 2011 (submitted FY 2010)
- North Carolina Division of Services for the Blind (2010). Comprehensive Statewide Needs Assessment Report, prepared by Steven R. Sligar, Shirley A. Madison, and Min Kim
- North Carolina Division of Vocational Rehabilitation Services (2010). Comprehensive Statewide Assessment of Vocational Rehabilitation Needs of North Carolinians with Disabilities
- DSB Vocational Rehabilitation Program Satisfaction Survey Results State Fiscal Year 2011-2012
- Comprehensive Needs Assessment (CSNA) of Blind and Visually Impaired Kentucky Residents, prepared by Analytic Insight, Inc.
- Virginia Department for the Blind and Vision Impaired (2012). Comprehensive Statewide Needs Assessment, prepared by Brenda Cavanaugh, Ph.D. The National Research and Training Center on Blindness and Low Vision, Mississippi State University

### Participants

- Current and former DSB customers
- DSB staff members
- Eye care providers
- Community Rehabilitation Program representatives
- Workforce Development System partners
- Employers
- Advocacy group members
- State Rehabilitation Council members

Review of major data sources: national and state level data was examined to describe demographic trends in the state, including disability demographics, and information on the prevalence and types of visual disabilities, economic and workforce status and trends within the state, employment rate and types of jobs held by individuals with blindness, deaf-blindness, and other visual disabilities served by DSB (RSA 911) and by other components of the statewide workforce investment system

- American Community Survey
- Current Population Survey
- State Center for Health Statistics, NC Division of Public Health, NC Department of Health and Human Services
- Data from the Center for Disease Control
- Data from Prevent Blindness America
- U. S. Bureau of the Census Data for the State of North Carolina
- DSB agency data (RSA-911) or Case Service Report for FYs 2009-2012

## Part II: Stakeholder Input

Several data collection methods were employed. This included (a) surveys with five distinct groups of stakeholders (current and former DSB consumers, DSB staff, eye care providers, CRP representatives, and Workforce Development System partners); (b) focus groups with two categories of stakeholders (one group meeting with SRC members, and two focus groups with current and former consumers of DSB and their family members), and (c) approximately 30 key informant interviews with two groups of stakeholders (employers and advocacy group representatives).

### Surveys

- Current and former DSB consumers: 323 participants were recruited and completed the customer survey. The sample was drawn from a large pool of over 6000 individuals who were served by DSB during the last four federal fiscal years (all current and former DSB consumers who were closed after October 1<sup>st</sup>, 2009). These surveys were completed via the phone (N=285) and electronically (N=38). Approximately 40% of the sample included consumers closed unsuccessfully during federal fiscal years 2010, 2011 and 2012, 30% were individuals closed in status 26 during federal years 2010, 2011, 2012, and another 30% were selected from current consumers. A large number of individuals (n=2500) were contacted and a total of 309 usable surveys were analyzed.
- DSB staff members: N=172 DSB staff members received the link to the electronic survey. Sixty-three individuals completed the survey. A total of 57 surveys were used in data analysis.
- Eye care providers: Surveys were sent via regular mail to 200 eye care providers selected from the vendor list of DSB. A total of 29 eye care providers returned the completed survey.

- Community Rehabilitation Program representatives: The internet link to the survey was sent to seven CRP representatives. A total of five usable surveys were completed.
- Workforce Development System partners: The internet link to the survey was sent to five representatives of the Workforce Development System. A total of two usable surveys were completed.

### **Key Informant Interviews**

- Employers who hired individuals with visual impairments: A total of 70 employers were contacted over the phone and invited to participate in the key informant interviews. Twenty-one employers participated in the key informant interview.
- Advocacy group members: A total of 18 advocacy group representatives were contacted over the phone and invited to participate in the key informant interviews. Ten advocacy group members participated in the key informant interview.

### **Focus groups**

- Current and former DSB consumers: Two focus groups were held with current and former consumers of DSB. One group was held in Wilmington, and another one in Winston-Salem. Consumers were selected from current and closed cases (FYs 2009 and later) and those within close geographical proximity to the DSB agency were called and invited to participate. Several phone calls were made, and the response rate was low. Script specific focus groups questions were discussed during the meetings.
- SRC members: A focus group with SRC members was held at the Division of Services for the Blind State Office in the second half of September. Six SRC members attended. Focus group questions were discussed with these individuals.

<b>Participants</b>	<b>All</b>	<b>Target</b>	<b>Returned</b>	<b>Usable</b>
<b>Survey</b>				
<b>Consumers of DSB (phone, email)</b>	5,583	300	323	308
<b>DSB staff (electronic)</b>	270	135	63	58
<b>Eye care providers (mail)</b>	746	50	29	29
<b>CRP representatives (electronic)</b>	7	7	7	5
<b>Workforce Development System (electronic)</b>	4	4	2	2
<b>Key informant Interviews</b>				
<b>Employers (phone)</b>	51	20	21	21
<b>Advocacy group (phone)</b>	25	10	10	10
<b>Focus groups</b>				
<b>Consumers Winston-Salem (scheduled 18)</b>	5,583	10	1	1
<b>Consumers Wilmington (scheduled 17)</b>	5,583	10	4	4
<b>SRC members (1 group)</b>	11	11	6	6

## **Instruments and Procedure**

Several instruments were devised to collect the data. The appendix lists all the measures we have used, which includes:

- Customer survey (21 questions)
- DSB staff survey (21 questions)
- Eye care provider survey (15 questions)
- CRP representative survey (15 questions)
- Workforce Development System partners survey (16 questions)
- Employer key informant interview questions (14 questions)
- Advocacy group key informant interview questions (6 phone)
- Questions for the focus groups with consumers of DSB (4 questions)
- Questions for the focus groups with State Rehabilitation Council (SRC) members (8 questions)

After obtaining approval from Office of Human Research Ethics at the University of North Carolina in Chapel Hill to conduct the study, the research team initiated data collection. The electronic instruments were distributed to potential participants via email link (Customer survey, DSB staff survey, Workforce Development System partners,

CRP representative survey), through the phone (consumers), or via regular mail (Eye care providers). In addition, we called and scheduled key informant interviews with employers and advocacy group representatives. The focus groups were conducted in three locations: Division of Services for the Blind State Office (for SRC members), Wilmington (for consumers), and Winston-Salem (for consumers). Data entry was ongoing. A total of 466 participated. Data from 444 individuals was used in the analysis. Qualitative and quantitative data analysis procedures were pursued to summarize and extract meaning from the data.

## Section I: North Carolina: An overview

North Carolina is a South Atlantic State that shares borders with South Carolina and Georgia to the South, Tennessee to the West, Virginia to the North, and the Atlantic Ocean to the East. It is the 28<sup>th</sup> largest and tenth most populous state in the United States. Also known as the *Tar Heel State*, North Carolina is the home for 9,752,073 people (American Community Survey, 2012). Recently, employment in North Carolina has gained industry sectors in science, technology, energy, and mathematics. These sectors have grown approximately 20% since 2001, putting Raleigh fifth among 51 of the largest metro areas in the country where technology is rapidly growing. Forbes<sup>6</sup> ranked North Carolina the third best state for business and Business Week<sup>7</sup> ranked Raleigh as the best city to live in recently.

### Population Characteristics

#### Demographic Profile

In 2012, there were 9,752,073 residents in North Carolina (American Community Survey, 2012). North Carolina's population represents 3.1% of the country's population (313,914,040). There was a rapid population growth within the state in the last decade. Between 2000 and 2009 North Carolina's population experienced an increase of 16.7% (United States Census Bureau, 2010).

**Table 1.1: North Carolina's Population by Age in 2012**

Age	Frequency	Percent
< 18	2,281,985	23.4%
18 – 64	6,124,302	62.8%
>= 65	1,345,786	13.8%
All	9,752,073	100.0%

In North Carolina, 51.3% of the residents are females and 48.7% are males (American Community Survey, 2012). As detailed in Table 1.1, more than half of North Carolina's population belongs to the 18-64 age group. The racial/ethnic composition of the state is

---

<sup>6</sup> Badenhausen, K. (2012). The Best Places for Business and Careers. Forbes. Retrieved 25 August 2013 from <http://www.forbes.com/sites/kurtbadenhausen/2012/06/27/the-best-places-for-business/>

<sup>7</sup> Wong, V. (2011, September). Which is America's Best City? *Business Week*. Retrieved from <http://www.businessweek.com/lifestyle/which-is-americas-best-city-09202011.html>

64.7% non-Hispanic White, 22% Black/African/American, 8.7% Hispanic or Latino, 2.5% Asian, 1.5% American Indian and Alaska Native. 2.0% belong to two or more racial/ethnic groups.

The North Carolina Asian American population has grown rapidly, specifically those of Indian and Vietnamese origin. Since 1990 the state has also witnessed an increase in the number of Hispanics/Latinos. In communities such as Eastland in Charlotte, Mexican Americans have become the majority. Black/African-American communities reside mainly in rural counties in the south central and northeast, within the cities of Charlotte, Raleigh, Durham, Greensboro, Fayetteville, Wilmington and Winston-Salem. The state has the highest American Indian population across the East Coast. North Carolina recognizes eight Native American tribal nations within its state borders (U.S. Census Bureau, 2010).

Historically North Carolina was considered a rural state and most of its population resided on farms or in small towns. There were major changes over the last 30 years, when the state had undergone rapid urbanization. Currently, the majority of residents live in urban and suburban areas. Specifically, the booming cities of Raleigh and Charlotte have become major urban centers with significant ethnic-cultural diversity. Immigrants from Latin America, India, and Southeast Asia have fueled most of this growth in diversity.

In spite of these major changes and in contrast to the whole nation, where 17% of the population lives in rural areas, 30% of the residents continue to live in rural areas in North Carolina. For these residents, access continues to be limited in reference to higher wages and adequate healthcare (United States Department of Agriculture, 2010).

As of 2012-2013 North Carolina had more than 2,500 public schools (pre-K through grade 12). More than 1.4 million students are currently enrolled in the state's public schools. In addition, North Carolina offers excellent opportunities for higher education. More than 300,000 students every year receive education through 16 public universities, 36 private colleges and universities and 58 community and technical colleges available in the state (North Carolina, Department Of Commerce, 2014).

Educational attainment statistics reflects that slightly more than one in four of North Carolinian adults have at least a Bachelor's degree. Of adults 25 or older, 84.1% graduated at least high school and 26.5% had bachelor's degree or higher based on a 5-year estimate, 2007-2011<sup>8</sup> (U. S. Census Bureau, 2012).

---

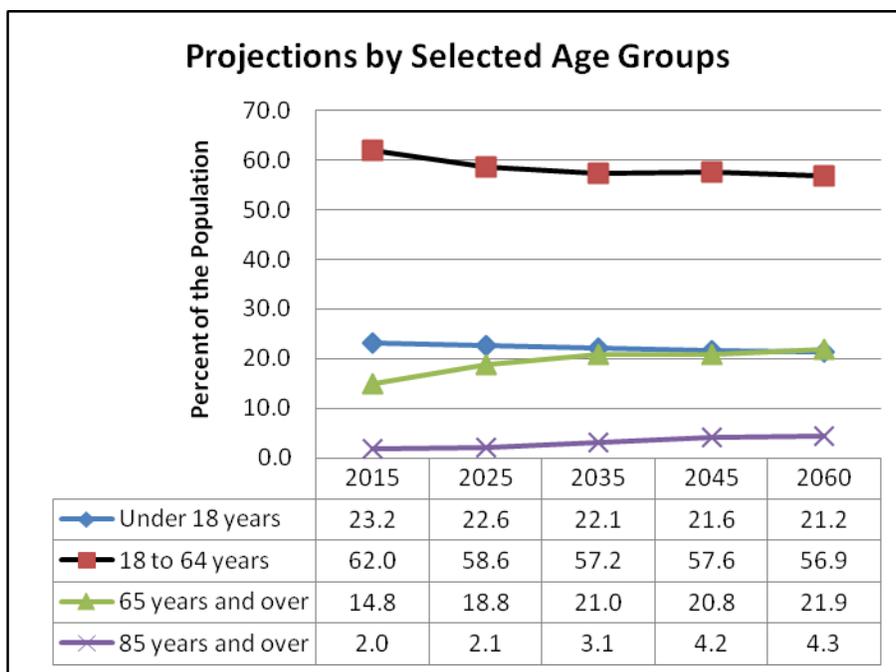
<sup>8</sup> [http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_11\\_5YR\\_DP02](http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_5YR_DP02)

## Population Projections and Economic Forecasts

The nation's total population is projected to cross the 400 million mark in 2051, and will likely reach 420.3 million by 2060. The proportion of the USA's population younger than 18 is expected to slightly decrease between 2012 and 2060 period, from 23.5% to 21.2%. In 2056, for the first time, the older population, age 65 and over, is projected to outnumber those younger than 18. The working-age population (18 to 64) is expected to increase by 42 million between 2012 and 2060, from 197 million to 239 million, while its share of the total population will decline from 62.7% to 56.9%.

In North Carolina, trends will be similar (Figure 1.1). The proportion of individuals age 64 and younger will decline and the proportion of those older than 65 will increase. Slightly more than 20% of the population will be 65 or older by 2030, and between 2015 and 2060 the percentage of individuals 85 years of age or older will double.

**Figure 1.1: Demographic Changes in North Carolina: Age**



Between 2012 and 2060 major demographic changes are projected for the USA for race/ethnicity as well. The size of Hispanic/Latino population will experience an increase from 53.3 million to 128.8 million. By 2060 nearly one in three U.S. residents will be Hispanic, which is a significant increase from the current rates. The Black/African American population is also expected to increase, from 41.2 million to 61.8 million. Its share of the total population would rise slightly, from 13.1% in 2012 to 14.7% in 2060. The Asian population will double, from 15.9 million to 34.4 million. With its share of

nation's total population increasing from 5.1% to 8.2% in the same period. The size of the American Indians and Alaska Native population will also increase, from 3.9 million to 6.3 million. Their share of the total population would end up at 1.5% from 1.2%. In sum, minorities will represent 57% of the total US population in 2060 (U.S. Census Bureau, 2011 American Community Survey). These projections highlight major demographic changes in terms of race/ethnicity and age in the coming decades. Minorities will become the majority and the older age group will increase significantly.

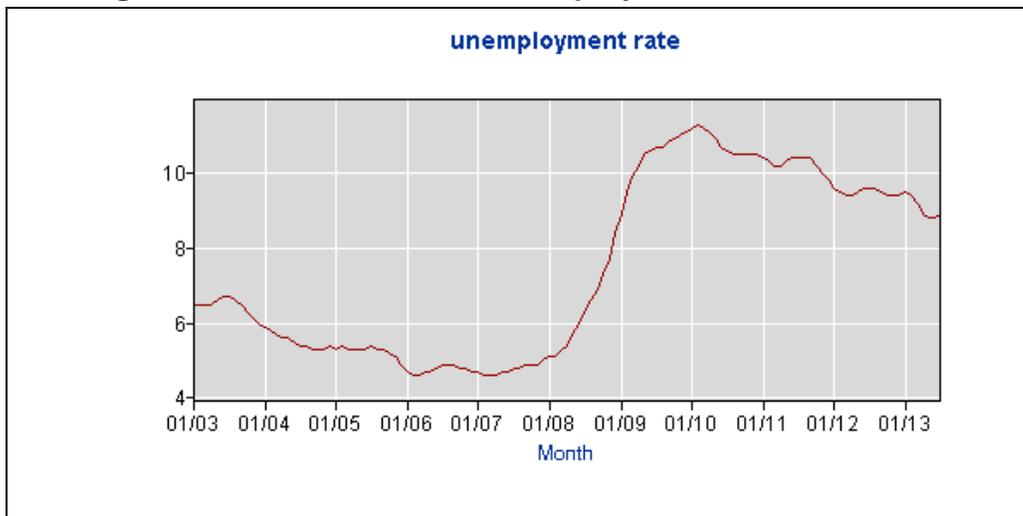
## Economy and Workforce

North Carolina has 15 metropolitan areas<sup>9</sup> which include Asheville, Charlotte-Gastonia, Durham-Chapel Hill, and Raleigh-Cary. Metropolitan area denotes a large population nucleus, together with adjacent communities having a high degree of social and economic integration with that core (United States Census Bureau, n.d.).

The total gross product of the state was \$424.9 billion in 2010, placing it as the ninth wealthiest state in regards to gross domestic product.

The seasonally adjusted unemployment rate for North Carolina was 8.9% in July 2013. This is a significant improvement from February 2010 when the unemployment rate of the state was 11.3% (Figure 1.2). After a spike to above 10% unemployment rate, improvements were noticed in the next years and unemployment dropped more than with more than 2%.

**Figure 1.2: North Carolina Unemployment Rate 2003-2013**



The Y Axis Denotes Percentage of Unemployment

<sup>9</sup> [Economy at a Glance](#). For North Carolina. U.S. Bureau of Labor Statistics. 2011.

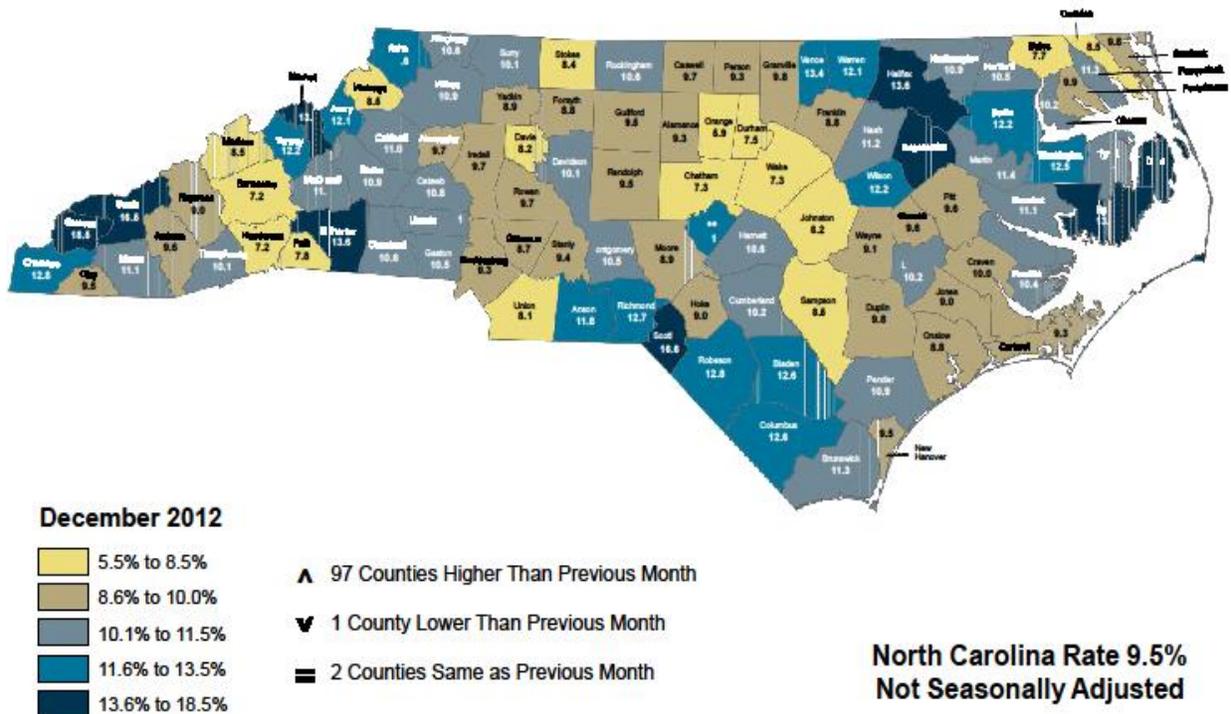
Recent unemployment statistics in different metropolitan areas (U.S. Bureau of Labor Statistics, 2012) shows variability within the state. Unemployment rates were lowest in Durham-Chapel Hill (7.4%), Asheville (7.7%) and Raleigh-Cary (7.7%) and highest in Rocky Mount (13.0%), Hickory-Lenoir-Morganton (11.0%), and Fayetteville (10.2%) metropolitan areas (Table 1.2).

**Table 1.2: Metropolitan areas: Local Area Unemployment Statistics**

	2010	2011	2012
North Carolina - Statewide	10.8	10.2	9.5
Durham-Chapel Hill	8.1	7.8	7.4
Raleigh-Cary	8.8	8.5	7.7
Asheville	8.8	8.4	7.7
Jacksonville	8.4	8.8	8.7
Winston-Salem	10.1	9.8	8.9
Goldsboro	9.3	9.2	8.9
Greenville	10.4	10.2	9.3
Burlington	11.6	10.3	9.4
Charlotte-Gastonia-Rock Hill, NC-SC	11.7	10.8	9.5
Wilmington	10.5	10.5	9.8
Greensboro-High Point	11.4	10.7	9.9
Fayetteville	9.5	10.0	10.2
Hickory-Lenoir-Morganton	13.8	12.3	11.0
Rocky Mount	13.8	13.8	13.0

Source: U.S. Bureau of Labor Statistics

**Figure 1.3: Unemployment Rate by County**



Some counties suffer significantly (Figure 1.3). Data from 2012 indicates that unemployment rates were highest for Scotland (16.9%), Graham (16.8%), Edgecombe (14.7%), Swain (13.8%), Rutherford (13.3%) and lowest in Orange (6.2%) county, followed by Currituck (6.9%), Chatham (7.4%), Gates (7.3%) and Henderson (7.3%) counties.

At approximately one-third of the working population 16 and over, management, business, science, and arts occupations lead the workforce with nearly 1,500,000 employees. North Carolina continues to rank first in its production of tobacco with an approximate 2011 annual farm income of \$416 million dollars. The number of individuals employed in the tobacco industry is 662,400 in the United States of which 255,000 is in North Carolina. The state's tobacco economic impact is over \$7.0 billion dollars (North Carolina Department of Agriculture and Consumer Services, 2013).

Occupations for civilians employed ages 16 years and over in NC for 2011 were distributed among five sectors (Table 1.3). Approximately 78% of the people employed were private wage and salary workers, 16% were federal, state, or local government

workers, and 6% were self-employed in their own (not incorporated) business. The American Community Survey groups occupations into five categories (Table 1.3).

**Table 1.3: Occupations for Civilians Employed Ages 16 and Over in NC for 2011**

	Frequency	Percent
Management, business, science, and arts	1,494,625	35.6%
Service occupations	740,408	17.6%
Sales and office	992,115	23.6%
Natural resources, construction, and maintenance	399,488	9.5%
Production, transportation, and material moving	569,172	13.6%
Total	4,195,808	100%

**Figure 1.4: North Carolina Employment Statistics**



The Y Axis Denotes the Number of Employed Individuals

Employment statistics over a 10 year period are illustrated in Figure 1.4. Three-quarter of those working or 78.3% are private wage and salary workers (Table 1.4). The median household income was \$46,291 in North Carolina. In spite of recent changes in its economy and job opportunities, 16.1% of the population lives below the poverty line (<\$15,000). About 6% of the state working population has an income over \$150,000 (American Community Survey, 2011). About 77% of households received earnings and 18% received retirement income other than Social Security. About one in three, or 33% of the households received Social Security benefits. The average annual income from Social Security was \$16,695.

**Table 1.4: Employment Rate by Sector**

	Frequency	Percent
Private wage and salary workers	3,287,121	78.3%
Federal, state, or local government workers	656,085	15.6%
Self-employed workers in own business	246,080	5.9%

Source: American Community Survey 2011

North Carolina's success with knowledge-based enterprises such as biotechnology, pharmaceuticals, and life sciences has caused a shift away from tobacco, furniture and textiles. Forbes magazine ranked the state third best for business in 2010. Major agricultural products include tobacco, corn, cotton, hay, peanuts, and vegetable crops. North Carolina is the country's leading producer of mica and lithium<sup>10</sup> (Infoplease, 2013).

### **Social Security Beneficiaries**

In 2012 a total of 230,698 North Carolinians received SSI benefits<sup>11</sup>. The table below presents the distribution of this group by Eligibility and Age Category. Nine out of ten (91.5%) of SSI beneficiaries received benefits because they were “Blind and Disabled.”

A breakdown by county reflects that of these 230,698 people 7.3% live in Mecklenburg, 5.2% in Wake, 4.7% in Guilford and 4.2% in Cumberland counties. These are the counties with highest rates of SSI beneficiaries.

**Table 1.5: SSI Beneficiaries in North Carolina in 2012**

	N	%
<b>Total</b>	230,698	100
<b>Eligibility Category</b>		
Aged	19,681	8.5
Blind and disabled	211,017	91.5
<b>By Age Category</b>		
Under 18	43,917	19.0
18–64	142,827	61.9
65 or older	43,954	19.1

<sup>10</sup> <http://www.infoplease.com/encyclopedia/us/north-carolina-economy.html>

<sup>11</sup> [http://www.socialsecurity.gov/policy/docs/statcomps/ssi\\_sc/2012/nc.html](http://www.socialsecurity.gov/policy/docs/statcomps/ssi_sc/2012/nc.html)

In 2010, 350,580 North Carolinians were considered to be disabled and received Social Security Disability Insurance benefits. Statistics reflecting only those with visual impairments and/or blindness were not available<sup>12</sup>.

## Health

A recent report, *Health Profile of North Carolinians: 2011 Update* (State Center for Health Statistics, NC Division of Public Health, NC Department of Health and Human Services, 2011), provides an update of the current health profile of North Carolinian residents. Certain chronic conditions, mental health and substance abuse problems, problems are prevalent in North Carolina. In addition, there are health disparities among individuals of different racial-ethnic background.

More than half of deaths in this state are due to a chronic illness. The leading causes of death in NC are cancer, heart disease, stroke, and chronic lung disease (State Center for Health Statistics, NC Division of Public Health, NC Department of Health and Human Services, 2011). The rate of diabetes and obesity dramatically increased in recent decades – the report found that 35% of North Carolinian adults are overweight and another 30 % are obese. Complications of diabetes include microvascular disease affecting the eye which is a major risk factor for visual impairments.

Racial/ethnic disparities in health and access to healthcare are reflected in this report. North Carolina's American Indian and African American population have higher death rates from diabetes, kidney and heart disease, compared to European Americans. Higher rates of minorities have no health insurance, and access to health care. High rates of American Indians live in poverty.

Data collected via the Behavioral Risk Factor Surveillance System (BRFSS) survey reflects that only 21% of North Carolina adults report consuming five or more servings of fruits and vegetables daily. In addition, more than half of adults (54%) do not have adequate physical activity to maintain good health.

## Disability Statistics and Demographics

Approximately 20.2 % of North Carolina adults ages 18 and over reported having activity limitations due to physical, mental, or emotional health problems (2009 North Carolina BRFSS survey). This positions North Carolinians above the 18.7% national rate.

---

<sup>12</sup> [http://www.socialsecurity.gov/policy/docs/statcomps/di\\_asr/2010/index.html](http://www.socialsecurity.gov/policy/docs/statcomps/di_asr/2010/index.html)

Data collected by the U.S. Census Bureau reflects that 13.3% North Carolinians have a disability (American Community Survey, 2011). The American Community Survey identifies 6 types of disabilities: visual, hearing, ambulatory, cognitive, self-care, and independent-living disabilities. The 13.3% prevalence rate places North Carolina above the national rate (10.5%). The likelihood of having a disability is strongly correlated with age: 6.4% in individuals 16 to 20 years of age, 11.9% of people 21 to 64 years old, 27.2% of those 65-74 years of age and 53.2% in those 75 and over have a disability.

Disability prevalence was roughly the same in males and females (13.1% versus 13.4%). Disparities are prevalent for different racial/ethnic groups. For example disability prevalence in the 21 – 64 age group was highest in Native Americans at 19.5%, followed by African Americans at 15.2% and lowest in Asians, 3.9% (Table 1.5).

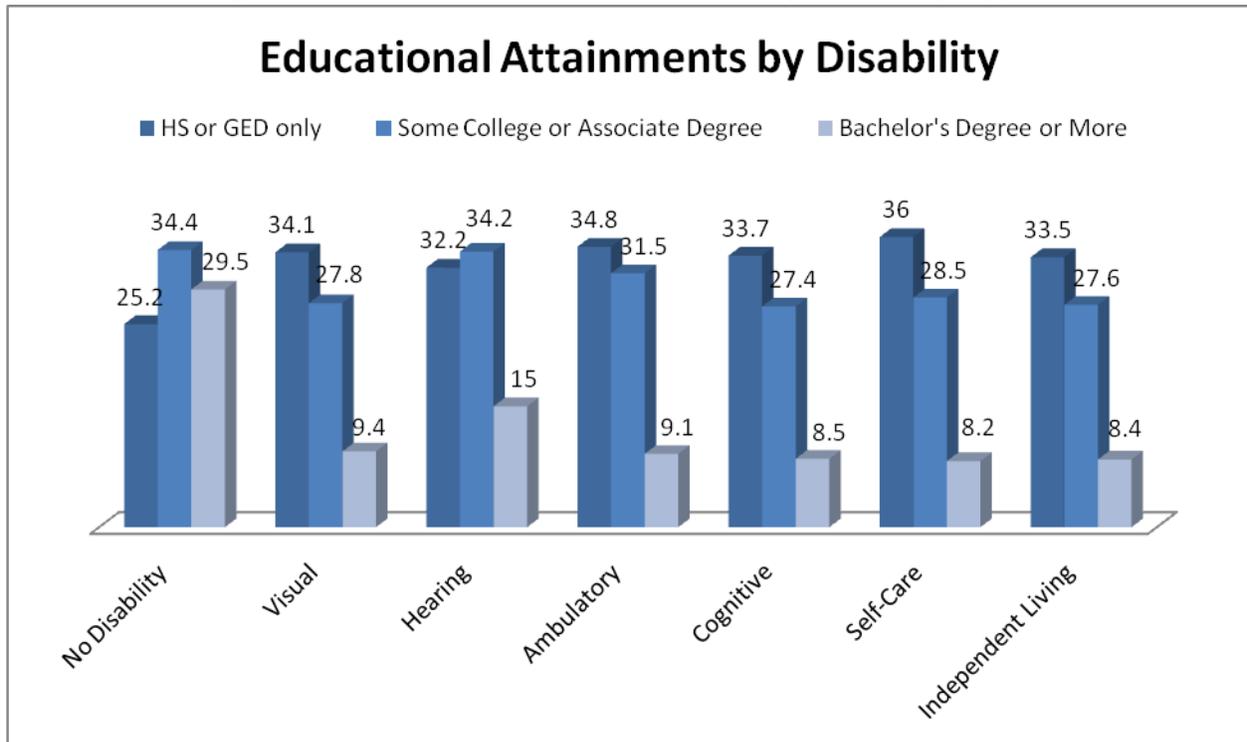
**Table 1.6: Disability Prevalence in North Carolina by Race/Ethnicity in 2011**

	Size	% within race
White	447,000	11.2%
Black/African-American	180,100	15.2%
Hispanic	45,500	5.5%
Asian	5,200	3.9%
Native American	12,500	19.5%
Other	19,600	8.8%

Source: American Community Survey, 2011

Educational attainments differ in disability groups (Figure 1.5). Eighty one percent of those with hearing difficulties completed at least high school, but only 71.3% of those with vision problems acquired the same level of education. Advanced degrees are significantly lower in individuals with disabilities than in individuals without disabilities.

**Figure 1.5: Educational Achievement by Disability Type**



In 2011, the employment rate of individuals 21 - 64 years of age with disabilities was 30.7% in North Carolina. There is a major gap between employment rates of individuals with and without disabilities (the employment rate of individuals without disabilities in 74.9%). As a result, 28.4 % of those 21-64 olds with disabilities live in poverty.

In terms of types of disabilities, people with a hearing disability had the highest employment rate (46.2%), followed by individuals with visual disabilities (36.7%). Employment for people with cognitive (22.0%), ambulatory (21.0%) and self-care impairments (15.9%) and independent living difficulties (14.9%) were significantly lower (Erickson, Lee, & von Schrader, 2012).

The median annual earnings of non-institutionalized North Carolinian adults (ages 21 to 64) who work full-time/full-year for 2011 ranged between \$27,500 and \$39,700 among different disability groups. The medial value for people with visual difficulties was \$37,600 dollars a year (Erickson, Lee, & von Schrader, 2012). In the working age group, 15.9% of those with visual difficulties received SSI benefits.

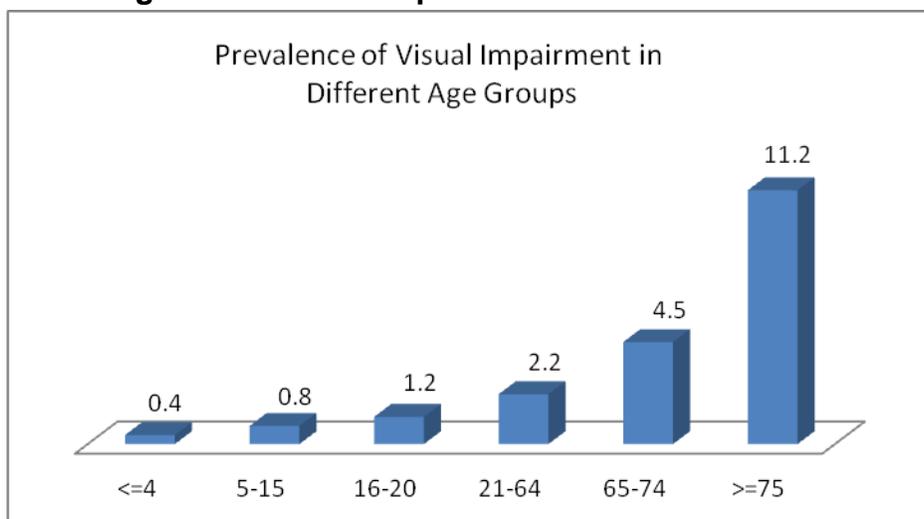
The poverty rate of non-institutionalized adults (ages 21 to 64) by disability status in North Carolina in 2011 was 28.4% and 14.0% for people without disabilities (Erickson, Lee, & von Schrader, 2012). This rate was the highest for people with cognitive

difficulties (35.2%) and lowest for those with a hearing disability (21.7%). One in three, of 31.1% of North Carolinians with visual problems lived in poverty in 2011 (Erickson, Lee, & von Schrader, 2012).

### Visual Disabilities

The American Community Survey question on visual disability is asked of all ages “Is this person blind or does he/she have serious difficulty seeing even when wearing glasses?” According to most recent data, the prevalence of visual impairments across all age groups is 2.5% (American Community Survey, 2011). The prevalence rates of visual impairments differ by demographic background. Figure 1.6 underscores the association of age and visual disability. While only 2.2% of individuals 21-64 have a visual impairment, in the older age group 65 – 74 this rate doubles, and becomes really elevated in the 75 years of age and older category.

**Figure 1.6: Visual Impairments in North Carolina**



Prevent Blindness America is a reliable source to provide current prevalence rates for vision problems in the United States. Prevent Blindness America defines visual impairments (excluding blindness) as having 20/40 or worse vision in the better eye even with eyeglasses, excluding blindness.

Table 1.6 below presents the prevalence of different types of vision impairments in individuals with ages 40 or 50 and above, and the prevalence rates in males and females in North Carolina. Myopia, cataracts, and hyperopia, followed by diabetic retinopathy are the most often occurring vision problems in the state. Females have higher prevalence rates for each condition described.

**Table 1.7: Visual Impairments in North Carolinians 40 Years of Age and Older:  
Prevalence Rates in Males and Females**

	Total		Females		Males	
	N	Freq	%	Freq	%	
Myopia age 40+	1,048,568	572,334	54.6	476,234	45.4	
Cataract age 40+	735,812	452,430	61.5	283,381	38.5	
Hyperopia age 40+	428,636	261,318	61.0	167,318	39.0	
Diabetic retinopathy age 40+	227,001	118,010	52.0	108,992	48.0	
Glaucoma age 40+	87,568	52,762	60.3	34,805	39.7	
Low vision age 40+	79,222	50,706	64.0	28,516	36.0	
AMD age 50+	58,726	38,308	65.2	20,418	34.8	
Blindness age 40+	37,481	24,842	66.3	12,639	33.7	

Note: AMD = Age-Related Macular Degeneration

The racial ethnic distribution of the state’s population is 64.7% White, 22.0% African American, 8.7% Hispanic/Latino and 4.6% of other race/ethnicity. An examination of the Table 1.7 below indicates that disproportionately higher rates of North Carolinians of White race/ethnicity are affected by all these visual impairments discussed. For example, in all individuals who have AMD and are 50 years of age or older, 88.8% are White. Refractive errors (hyperopia, myopia, and AMD) tend to be highly prevalent in the White American group. In individuals of African/American race/ethnicity, glaucoma is disproportionately high (33.7%), while the other impairments are lower. Vision impairments in Hispanics are lower than their prevalence rate in the population.

**Table 1.8: Visual Impairments in Individuals 40 and Older:  
Prevalence Rates in Males and Females**

Visual Impairment (age)	ALL	White		Black/African-American		Hispanic		Other	
	N	N	%	N	%	N	%	N	%
Myopia (40+)	1,048,568	863,696	82.4	122,225	11.7	30,582	2.9	32,065	3.1
Cataract (40+)	735,812	592,645	80.5	112,711	15.3	12,733	1.7	17,723	2.4
Hyperopia (40+)	428,636	365,654	85.3	44,490	10.4	8,219	1.9	10,273	2.4
Diabetic Retinopathy (40+)	227,001	163,735	72.1	46,174	20.3	10,313	4.5	6,779	3.0
Glaucoma (40+)	87,567	53,491	61.1	29,480	33.7	1,623	1.9	2,973	3.4
Low Vision (40+)	79,221	64,904	81.9	10,868	13.7	1,660	2.1	1,789	2.3
AMD (40+)	58,725	52,124	88.8	5,258	9.0	551	0.9	792	1.3
Blindness (40+)	37,482	28,488	76.0	8,059	21.5	275	0.7	660	1.8

Note: AMD = Age-Related Macular Degeneration

A recent study of Vision Problems in North Carolina concluded the number of North Carolina residents with impaired vision, including blindness, could more than double over the next three decades (Prevent Blindness America, 2012).

### **Disability population estimates and projections**

A recent report, *The Next Four Decades the Older Population in the United States: 2010 to 2050: Population Estimates and Projections*, presents major demographic trend and changes in the US by 2050. Based on these trends, population size and disability rates are expected to increase in the years to come. According to Personal Assistance Services (PAS), a recognized provider of Employee Assistance Programs disability is expected to almost double from 2010 to 2030. Visual disability is one of the many types of disabilities listed by PAS. Disability among individuals 65 and older will most likely increase at a faster rate than in those of 18 to 64 age category, requiring more care for the elderly.

The World Health Organization's (WHO) demographic trends predict that the global population will increase from 5.8 billion in 1996 to 7.9 billion in 2020. By this time, the size of the elderly population, the most susceptible group to visual impairment, will almost double reaching 1.2 billion. By 2020, there will be approximately 54 million individuals in the world with blindness ages 60 and above (World Health Organization, PAScenter).

## Section II: Service Provision through DSB RSA 911 Data analysis FYs2009-2012

### NC Consumers at a Glance

Table 2.1 below displays demographic data on DSB's consumers closed during the last 4 federal fiscal years (FYs). Gender distribution of consumers was even across the years: the proportion of female consumers has remained fairly constant and slightly below 50%. There was some variation among the years in the racial/ethnic composition of the sample. In those exiting during FY2012 slightly over 60% were non-Hispanic white, which is a fairly significant increase from FY2009, when individuals of non-Hispanic White race/ethnicity represented 54.4% of those closed. African American consumers remained near 37% across the previous three years but dipped to only 31.6% in 2012. Prevalence of other minorities continued to average around 8% across all four years with FY2009 being the highest (9.2%).

Around 7% of DSB consumers were transition youth (ages 14 to 21). Another 1-2% were 65 or older at application. About 16% of consumers (21% in FY2009) reported blindness and another 72% (75% in FY2012) reported having other visual impairments. With regard to the highest level of education attained at application, 34% of consumers across the four FYs reported having a high-school diploma and 40% across the first three FYs (44% in FY2012) had received post-secondary education. About 51% (47% in 2010) of consumers were not working at application and about 16% each year (except 21% for FY2009) were receiving cash benefits from SSA (SSI or SSDI) at the time of application.

**Table 2.1: Demographic Information of NC Consumers Closed in  
Federal Fiscal Years 2009-2012**

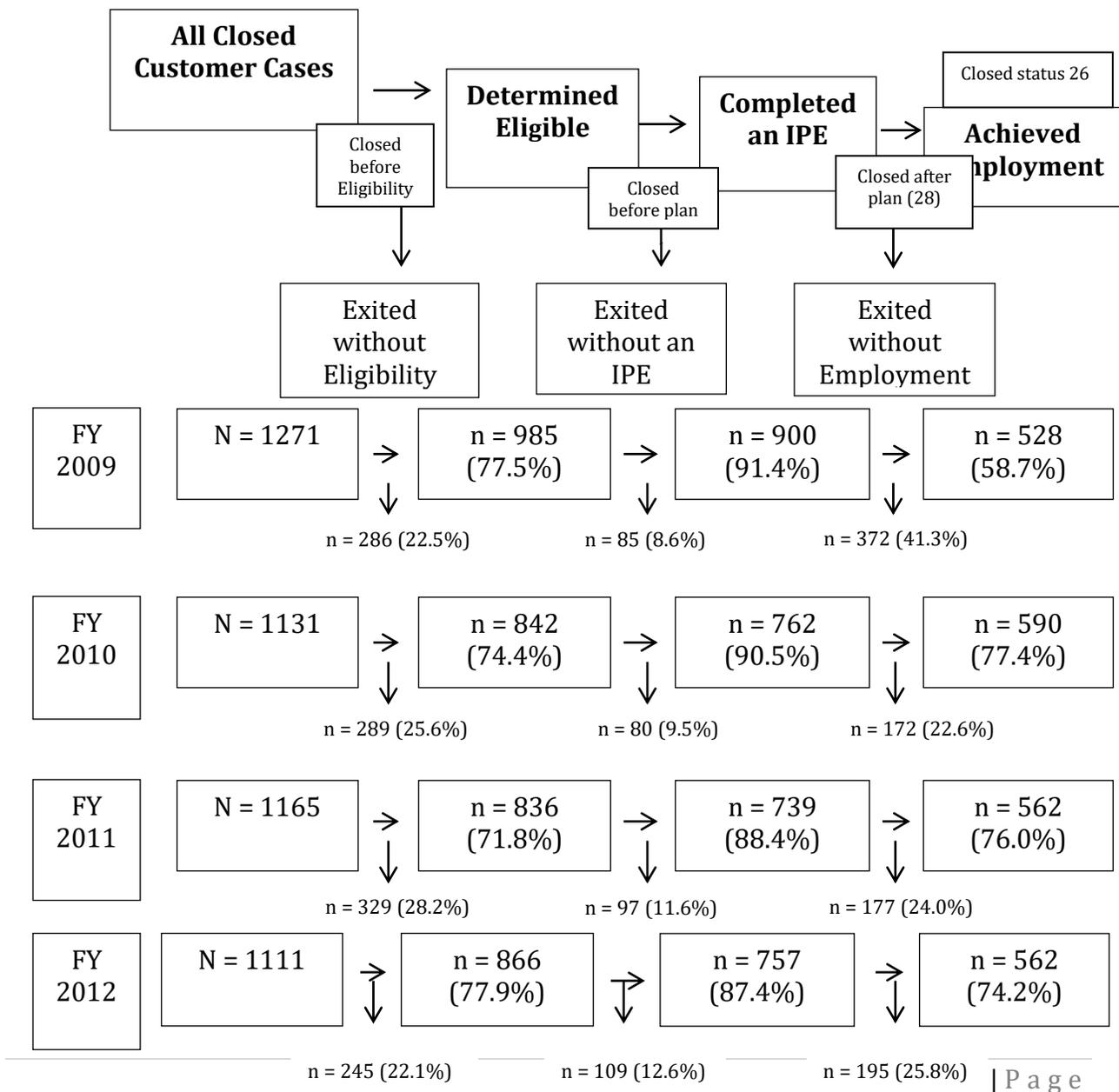
		2009		2010		2011		2012	
		N=1,271		N=1,131		N=1,165		N=1,111	
		N	%	N	%	N	%	N	%
Gender	Male	661	52.0	577	51.0	611	52.4	564	50.8
	Female	610	48.0	554	49.0	554	47.6	547	49.2
Race/ Ethnicity	non-Hispanic White	691	54.4	624	55.2	627	53.8	670	60.3
	African American	463	36.4	421	37.2	441	37.9	351	31.6
	Other	117	9.2	86	7.6	97	8.3	90	8.1

	Minorities								
Age	Transition Youth	98	7.7	73	6.5	81	7.0	71	6.4
	22 through 64	1,142	89.9	1,046	92.5	1,060	91.0	1,022	92.0
	>= 65	31	2.4	12	1.1	24	2.1	18	1.6
Type of Primary Impairment	Missing/No Impairments	90	7.1	96	8.5	147	12.6	92	8.3
	Blindness	269	21.2	184	16.3	179	15.4	178	16.0
	Other Visual Impairments	893	70.3	842	74.4	827	71.0	832	74.9
	Deaf-Blindness	17	1.3	6	0.5	11	0.9	8	0.7
	All Other Impairments	2	0.2	3	0.3	1	0.1	1	0.1
Significant Disability	No	264	20.8	324	28.6	346	29.7	334	30.1
	Yes	1,007	79.2	807	71.4	819	70.3	777	69.9
Highest Level of Education at Application	Missing/No Formal Schooling	4	0.3	3	0.3	3	0.3	2	0.2
	Less than 12 years	319	25.1	282	24.9	271	23.3	236	21.2
	Spec Ed Certificate Completers or Students	11	0.9	10	0.9	4	0.3	3	0.3
	High School Diploma	435	34.2	390	34.5	399	34.2	380	34.2
	Some College or More	502	39.5	446	39.4	488	41.9	490	44.1
Work Status at Application	Working Without Support	499	39.3	500	44.2	458	39.3	462	41.6
	Working-Others	104	8.2	103	9.1	111	9.5	81	7.3
	Not Working	668	52.6	528	46.7	596	51.2	568	51.1
SSI/DI	No	1004	79	945	83.6	979	84	922	83
	Yes	267	21	186	16.4	186	16	189	17

## VR Process and Outcomes

As illustrated below (Figure 2.1), of the 1,111 consumers who applied for services in NC in FY2012, 866 (78%) were determined eligible for services. Of eligible consumers (n=866), 87.4% developed an IPE. Of consumers who developed an IPE, 74.2% (n=562) achieved a successful employment outcome. The following figure presents the same information for FY2009 - FY2011. Looking at the trends over the past four years, rates of eligibility continued to decrease until spiking in FY2012. IPE completion has decreased slightly over the four years.

**Figure 2.1: Vocational Rehabilitation Process and Outcomes**



Rates of employment have continued to far exceed the rates in FY2009, but have been slightly decreasing each year since FY2010.

## Factors Related to Employment Outcomes

Table 2.2 displays proportions of NC consumers who reached each of the three VR milestones or outcomes. Possible associations between NC customer characteristics and outcomes were investigated. As illustrated, in FY2012, 81.2% of the 670 consumers of White racial background were determined eligible for NC services, and of those eligible consumers, 89.5% developed an IPE. Among white consumers with an IPE, 74.7% achieved an employment outcome. With regard to African American consumers in FY2012, the second largest racial group, all three process/outcome rates were significantly lower than those of White consumers (71.5%, 81.7%, and 71.7%, respectively). More detailed information on each variable is discussed in the Table 2.2 below.

**Table 2.2: NC Customer Characteristics and VR Outcomes (FY 2012)**

		N (1,111)	Eligibility (77.9%)	IPE (87.3%)	Employment (75.3%)
Gender	Male	564	79.6	86.0	71.5
	Female	547	76.2	88.7	77.3
Race/ Ethnicity	White	670	81.2	89.5	74.7
	African American	351	71.5	81.7	71.7
	Native American or Alaska Native	31	64.5	95.0	78.9
	Asian	7	85.7	83.3	100.0
	Native Hawaiian or Other Pacific Islander	0	0.0	0.0	0.0
	Hispanic or Latino	25	80.0	85.0	76.5
	Multiracial	27	92.6	92.0	78.3
Age	Transition Youth	71	80.3	84.2	50.0
	22 through 64	1,022	77.8	87.5	76.6
	>= 65	18	77.8	85.7	41.7
Type of Primary Disability	Missing/No Impairments	92	0.0	0.0	0.0
	Blindness	178	89.9	76.3	55.7
	Other Visual Impairment	832	83.9	89.7	78.6
	Deaf-Blindness	8	100.0	100.0	25.0
	All Other Impairments	1	0.0	0.0	0.0

Significant Disabilities	Not Significant	334	40.1	94.0	92.9
	Significant Disability	777	94.2	86.1	70.6
Level of Education At Application	Missing/No Formal Schooling	2	100.0	100.0	50.0
	Less than 12 years of Ed	236	78.8	85.5	71.1
	Spec Ed Certificate	3	100.0	100.0	33.3
	High School Diploma	380	77.6	88.5	74.7
	Some college or more	490	77.6	87.1	76.1
Employment Status at Application	Working without support	462	76.2	92.9	88.4
	Working-Others	81	95.1	97.4	85.3
	Not working	568	76.9	81.0	59.0
SSI/DI	No SSI/DI	922	76.4	91.9	78.1
	SSI/DI	189	85.7	67.9	51.8

## Gender

Though in 2012 NC serviced slightly more males than females (564 and 547 respectively), female consumers, despite being deemed eligible for services less often (76.2% vs. 79.6%), were more likely to create an IPE (88.7% vs. 86%) and have a successful employment outcome (77.3% vs. 71.5%) than their male counterparts.

## Race/Ethnicity

In FY2012, multiracial consumers were most likely to meet eligibility requirements (92.6%) followed by Asian Americans (85.7%) and White consumers (81.2%). The likelihood of individuals completing an IPE remained high for all races with African American individuals scoring the lowest at 81.7%. White individuals who developed an IPE achieved employment 74.7% of the time while African Americans achieved employment at a rate of 71.7%. The number of participants falling into the other minority group category is quite small. Therefore making an inference from those results would be difficult.

## Type of Primary Disabilities

In FY2012 the primary disability reported by 90% of DSB consumers was either blindness (n=178) or other visual impairment (n=832). Of these individuals, 84-90% were deemed eligible for services. Unfortunately, only about 56% on individuals reporting blindness who had an IPE created had a successful outcome. Additionally,

78.6% of individuals who reported other visual impairments who were deemed eligible and created an IPE had a successful employment outcome.

### **Significant Disabilities**

Seventy percent (n=777) of DSB consumers in FY2012 were significantly disabled. Of these individuals, 94.2% were deemed eligible for services, and 70.6% of those eligible individuals who created an IPE had a successful employment outcome.

### **Age at Application**

Transition youth (14-21) consumers were most likely to be determined eligible for services (80.3%) but achieved low employment outcome rates (50%) when compared to other age groups, such as the working age sample. The older population (age 65 and older) had worse employment outcome results than transition youth (41.7%). In the group of individuals of working age (22-64), 77.8% were deemed eligible, and 76.6% of those individuals who also created an IPE had a successful employment outcome.

### **Level of Education at Application**

In FY2012, having higher levels of education at application did not show significantly greater chances of eligibility (77.6% for those with high school diploma or above became eligible for services and 78.8% of those with less than high school degree). The likelihood to develop an IPE and attain a successful employment outcome was slightly higher for those with high school educational attainment or above, when compared to those with less than a high school level of education.

### **Social Security Beneficiaries**

In FY2012, those receiving SSI/SSDI benefits were more likely to be determined eligible (85.7% vs. 76.4%), but had significantly lower chances of developing an IPE (67.9% vs. 91.9%) and achieving employment (51.8% vs. 78.1%).

### **Work Status at Application**

Furthermore, those individuals who were not working had lower percentages of IPE development and employment when compared to individuals who were currently working, both with and without supports. Individuals who were not working at the time of application did have a slightly higher chance of being deemed eligible than those who were working without any form of support (76.9% vs. 76.2%).

## Summary

Several individual characteristics were related to lower VR outcome. In NC, transition youth, the older population, and African Americans were more likely to exit NC services before eligibility and less likely to achieve an employment outcome. Furthermore, those individuals who were receiving SSI/SSDI benefits at the time of application were presumed eligible, but far less likely to develop an IPE or achieve employment. Additionally, individuals with higher levels of education were slightly more likely to develop an IPE or achieve employment.

## Closure Status and Service Patterns

The primary goal of the state/federal vocational rehabilitation (VR) program is to assist people with disabilities to secure and maintain employment. The specific purposes of this section are: (1) to identify all service patterns related to process variables, and (2) to examine the impact of process variables on employment outcomes. Process variables include service-related variables, as well as time-related variables, such as length of time in the DSB system. Type, number, and cost of services are incorporated in the service-related variables.

## Services Received

A comprehensive list of all 22 services provided by the DSB is presented in the table below (Table 2.3).

**Table 2.3: Services Received**

<b>Services</b>	<b>FY2009</b>	<b>FY2010</b>	<b>FY2011</b>	<b>FY2012</b>
<b>N</b>	<b>N=1,271</b>	<b>N=1,131</b>	<b>N=1,165</b>	<b>N=1,111</b>
Assessment	1,130	1,004	1,028	969
Diagnosis and Treatment	696	644	631	648
Voc Rehab Counseling and Guidance	796	645	669	613
Job Search Assistance	239	176	179	170
Information and Referral	115	82	142	144
Rehabilitation Technology	185	150	120	120
Job Readiness Training	119	95	123	115
Transportation	175	131	132	107
Job Placement Assistance	138	107	105	89
Augmentative Skills Training	119	86	86	68
Other	59	48	69	64
Maintenance	99	65	71	59

College or University Training	52	45	54	52
On-the-Job Supports	34	33	29	21
On-the-Job Training	16	23	19	20
Miscellaneous Training	29	26	21	20
Occupational/Vocational Training	26	17	14	11
Reader	13	9	11	10
Technical Assistance	7	6	8	6
Interpreter	7	9	9	5
Personal Attendant	1	3	2	1
Basic Remedial or Literacy	0	3	3	0

### Reason for Closure

Table 2.4 illustrates employment outcomes and reasons for closure for DSB consumers over the past three years.

**Table 2.4: Reason for Closure**

	2010		2011		2012	
	Freq	%	Freq	%	Freq	%
Achieved Employment Outcome	590	52.0	562	48.0	562	51.0
Unable to Contact	56	5.0	67	5.8	92	8.3
Disability too Severe	20	1.8	19	1.6	17	1.5
Refused Services	153	14.0	138	12.0	156	14.0
Death	17	1.5	16	1.4	25	2.3
Individual in Institution	1	0.1	3	0.3	2	0.2
Transferred to Another Agency	6	0.5	5	0.4	7	0.6
Failure to Cooperate	44	3.9	79	6.8	37	3.3
No Disabling Condition	72	6.4	56	4.8	56	5.0
No Impediment to Employment	107	6.4	127	11.0	78	7.0
Transportation not Feasible or Available	0	0.0	0	0.0	1	0.1
Does not require VR services	37	3.3	64	5.5	47	4.2
Extended Services not Available	0	0.0	2	0.2	0	0.0
All Other Reasons	27	2.4	26	2.2	31	2.8
Extended Employment	1	0.1	1	0.1	0	0.0
Totals	1,131	100	1,165	100	1,111	100

As illustrated, for the most part, employment trends have remained relatively consistent for the last three years in a majority of the categories.

## Vending and Funding Sources of Services

RSA requires VR agencies to report not only the type of services each customer received, but also who provided the services (vendor) and for how the services were paid (the funding source). During FY2009, the DSB provided 4,055 services to 1,271 visually impaired consumers (Table 2.5). In FY2012, for example, the DSB provided 3,312 services to 1,111 visually impaired consumers, which was a decline in the number of services in comparison the FY2009. The proportion of services provided by private community rehabilitation programs also decreased in a similar fashion. The primary source for all clients was VR funds, averaging over 90% each of the four years.

**Table 2.5: Vendor and Funding Sources for Services**

		FY2009	FY2010	FY2011	FY2012
	N	N=1,271	N=1,131	N=1,165	N=1,111
	Total Numbers of Services Provided	4,055	3,407	3,525	3,312
Vendor	Provided directly by state VR agency	2,188	1,634	1,762	1,504
	Community Rehabilitation Programs Public	18	8	4	11
	Community Rehabilitation Programs Private	15	47	10	1
	One Stop/Training Center	1	0	2	0
	Other Public Sources	242	192	191	168
	Other Private Sources	1,591	1,526	1,556	1,628
	Totals	4,055	3,407	3,525	3,312
Funding Sources	VR Funds	3,730	3,129	3,268	3,141
	Non-VR Sources	133	114	129	107
	Combination of VR and Other Sources	192	164	128	64
	Totals	4,055	3,407	3,525	3,312

## Number and Cost of Services

As illustrated in the Table 2.6, on average, the DSB consumers received 2.98 different services in 2012 (SD=2.32). In 2012, the number of services ranged from zero to 14. Table 2.6 indicates that the average cost of purchased goods and services for all DSB consumers in 2012 (\$4,560.76) has significantly risen over the past four years (\$3,933.05 in 2009). The median and standard deviation has also significantly risen by \$951 and 2751.41 respectively since 2009.

**Table 2.6: Number and Cost of Services**

		FY2009	FY2010	FY2011	FY2012
N		N=1,271	N=1,131	N=1,165	N=1,111
# of Services Received	Mean	3.19	3.01	3.03	2.98
	SD	2.32	2.33	2.47	2.29
	Range	0-13	0-20	0-20	0-14
Cost of Goods and Services	Mean	3,933.05	3,830.56	4,087.43	4,560.76
	Median	708.00	1,299.00	1,070.00	1,659.00
	SD	9,719.06	10,057.34	11,743.27	12,470.47

## Closure Status and Services Received

In 2012, of the 1,111 consumers that were provided services by the DSB, 866 (77.9%) were deemed eligible for services (Table 2.7). Of those 866 individuals, 757 (87.4%) created an IPE and 562 (74.2%) of those that created an IPE had a successful employment outcome. The table below provides a comparison of service patterns over the last four years. In many cases, the percentages of those achieving an employment outcome and those who have initiated employment services equals 100% of those who received that specific form of aid. This result is encouraging as it shows that those who are receiving services have a high potential for a successful employment outcome.

**Table 2.7: Closure Status and Service Patterns**

Service	2009 (N = 1271)		2010 (N = 1131)		2011 (N = 1165)		2012 (N = 1111)	
	EO	SINE	EO	SINE	EO	SINE	EO	SINE
Assessment	506 /1130	345 /1130	546 /1004	158 /1004	530 /1028	166 /1028	525 /969	175 /969
Diagnosis and Treatment	448 /696	248 /696	520 /644	124 /644	498 /631	133 /631	501 /648	147 /648
VR Counseling and Guidance	486 /796	310 /796	512 /645	133 /645	519 /669	150 /669	466 /613	147 /613
College or University Training	28/52	24/52	33/45	12/45	37/54	17/54	28/52	24/52
Occupational/ Vocational Training	14/26	12/26	11/17	6/17	9/14	5/14	9/11	2/11
On-the-Job Training	7/16	9/16	20/23	3/23	13/19	6/19	15/20	5/20
Basic Remedial or Literacy	0/0	0/0	2/3	1/3	1/3	2/3	0/0	0/0
Job Readiness Training	67/119	52/119	66/95	29/95	84/123	39/123	82/115	33/115
Augmentative Skills Training	52/119	67/119	46/86	40/86	48/86	38/86	36/68	32/68
Miscellaneous Training	14/29	15/29	17/26	9/26	13/21	8/21	10/20	10/20
Job Search Assistance	120 /239	119/23 9	127 /176	49/176	119 /179	60/179	120 /170	50/170
Job Placement Assistance	83/138	55/138	87/107	20/107	80/105	25/105	69/89	20/89
On-the-Job Supports	23/34	11/34	28/33	5/33	24/29	5/29	14/21	7/21
Transportation	78/175	84/175	77/131	45/131	68/132	52/132	54/107	47/107
Maintenance	46/99	53/99	46/65	19/65	44/71	27/71	30/59	29/59
Rehabilitation Technology	108 /185	77/185	108 /150	42/150	88 /120	32/120	82 /120	38/120
Reader	6/13	7/13	6/9	3/9	5/11	6/11	5/10	5/10
Interpreter	3/7	3/7	6/9	1/9	1/9	4/9	2/5	2/5
Personal Attendant	1/1	0/1	3/3	0/3	1/2	1/2	0/1	1/1
Technical	7/7	0/7	5/6	1/6	7/8	1/8	5/6	1/6

Assistance								
Information and Referral	67/115	48/115	59/82	23/82	110/142	32/142	113/144	31/144
Other	46/59	13/59	41/48	7/48	57/69	11/69	50/64	14/64

Note: EO = Employment Outcome; SINE = Services Initiated but not employed

### Closure Status and Number/Cost of Services

The table below (Table 2.8) provides a comparison of the number of goods and services received and cost of services for consumers who closed with a successful employment outcome and those who closed with employment services being initiated.

**Table 2.8: Closure Status and Number/Cost of Services**

		FY2010		FY2011		FY2012	
		EO (N = 590)	SINE (N = 169)	EO (N = 562)	SINE (N = 176)	EO (N = 562)	SINE (N = 194)
Number of Services	M	4.01	4.32	4.19	4.66	3.94	4.23
	SD	2.08	2.29	2.07	2.75	1.93	2.41
Cost of Goods and Services	M	\$4,948	\$8,027	\$5,462	\$9,310	\$5,726	\$9,274
	Med	\$2,815	\$1,956	\$2,700	\$2,111	\$3,011	\$3,030

Note: EO = Employment Outcome; SINE = Services Initiated but Not Employed

The average number of services 3.94 for the successfully employed group differed slightly from the services initiated but not employed group 4.23 in 2012. The costs of goods and services provided to those in the successful employment group was significantly lower (\$5,725.87) than that of the services initiated but not employed group (\$9,274.21) in 2012 as well.

### Closure Status and Length of Time in DSB System

Table 2.9 presents statistical data regarding the mean, median, and standard deviation of the time consumers spent within the DSB system. Over the course of the past four years, the time it has taken from filing an application to being determined eligible has increased each year for those who ended up achieving employment. In fact, the time it has taken individuals to reach the benchmarks in the chart below is significantly higher

in 2012 than 2009. Unless corrected, this negative trend would be expected to continue into 2013.

**Table 2.9: Closure Status and Length of Time in the DSB System**

		FY2009		FY2010		FY2011		FY2012	
		EO (N=528)	SINE (N=370)	EO (N=590)	SINE (N=169)	EO (N=562)	SINE (N = 176)	EO (N = 562)	SINE (N = 194)
Days from Application to Eligibility	M	18.3	16.0	19.6	17.1	19.9	20.1	23.5	19.8
Days from Eligibility to Plan	M	26.7	48.6	23.5	57.7	32.7	50.9	23.3	79.8
Days from Plan to Closure	M	516.4	1,093.6	558.1	988.1	603.0	1,226.7	590.8	1,403.8
Days from Application to Closure	M	561.5	1,158.2	601.2	1,062.8	655.7	1,297.8	637.6	1,503.3

Note: M=average number of days; EO = Employment Outcome; SINE = Services Initiated but Not Employed

### 2011-2012 Customer Satisfaction Survey Results

The Customer Satisfaction Survey measures consumers' experience with services and programs offered by DSB. Participants are recruited from the pool of closed consumers who exited employed (status 26) or unemployed (status 28) after services were initiated, in a given FY. The instrument consists of eight closed-end questions and one open-ended question. The majority of questions ask about consumers' satisfaction with their rehabilitation counselor and about factors that could have prevented the consumer from achieving employment. Of the 733 surveys mailed out to consumers, 149 were returned yielding a response rate of 20%.

In terms of satisfaction regarding interaction with staff members, 92.6% of consumers responded that DSB staff members always treated them with respect. 85.9% of individuals reported feeling that DSB staff promptly returned their phone calls. A large proportion (82.6%) of respondents also said DSB staff members scheduled their appointments in a timely manner.

The survey also asked about experiences and interactions with the rehabilitation counselor specifically regarding their helpfulness in assisting consumers achieve a successful employment outcome. Approximately 73% of consumers responded that their rehabilitation counselors provided them with information regarding how their eye condition may affect employment outcomes. This is in contrast to 10.1% of consumers who responded that their rehabilitation counselors did not discuss these concerns with them at all. Three-quarters of individuals reported that their rehabilitation counselor discussed their job skills, abilities, and interests. Finally, 62.4% of consumers indicated that they their rehabilitation counselors referred them to other programs for assistance; 16.8% reported that this service was not necessary.

The survey also examined satisfaction with the development of Individualized Plans for Employment (IPEs). Half of consumers responded that they discussed career options and goals with their counselor while 29.5% reported that they chose their own career goal. Thirty-eight percent of individuals reported that their counselor provided resources that assisted in making a good decision about career options while 45.6% of consumers reported that they found these resources on their own. Finally, 61.7% of consumers indicated that they discussed their options and the choices they made with their counselor while 18.8% chose the services on their own.

Lastly, the survey examined satisfaction in relation to specific services received from DSB and how beneficial they were. Thirty percent of individuals received medical treatment services from the DSB, and 28.1% received diagnostic eye/medical evaluations. Guidance and counseling services were received by 15.8% of consumers.

Only 16% of consumers felt that they received assistance from the DSB in finding a job while 59% indicated that they did not. Of those individuals who indicated that they did receive assistance in finding a job, 24.7% said they were provided with job leads, 17.3% were given assistance in completing applications or resumes, 14.8% were referred to other sources for jobs, and 11% were both given assistance in scheduling job interviews and were provided with transportation. Of those individuals who indicated that they did not receive assistance in finding a job, 70.4% of them already had employment and simply needed assistance in keeping their employment. Seventeen percent of consumers found a job on their own.

Three-quarters of individuals agreed with their counselor to close their case while 7.4% failed to come to an agreement. Overall, 92.5% of consumers were satisfied with their experience with DSB. Seventy-five percent of consumers indicated that they would return to the DSB again if they needed additional assistance. Approximately 16.2% indicated that they would not return to DSB in the future.

## Section III: Stakeholder Input

### DSB Consumers: Phone Surveys and Focus Groups

Data from consumers was collected through phone surveys and focus groups. The phone survey included 21 questions about demographic background, satisfaction with the DSB services received and consumers' perceptions and experiences with barriers to employment. Two open ended questions were also added to help consumers describe additional services, and to share suggestions in terms of services that could be improved. The open-ended questions used in focus groups prompted consumers to elaborate on satisfaction with DSB services and to share their experiences with unserved and underserved populations of individuals with blindness or visual disabilities. Results are summarized in the following sections.

#### Sample Characteristics

A total of 308 consumers participated in the survey. The distribution of males and females was approximately even, at around 50%. The average age of consumers who participated was 52, and the range was 17 to 74. Three out of four were older than 45, and only a few were of transition age, between 14 and 21 (see Table 3.1).

**Table 3.1: Age Distribution**

Age category	Frequency	Percent
14-21	6	1.9
22-44	67	21.8
45-64	189	61.4
65-74	42	13.6
Missing	4	1.3
Total	308	100.0

Almost 60% of the sample identified themselves as European American (n=183), and slightly over one-third as African American (n=101). The others (n=23, 7.5%) self-identified as Asian, Hispanic/Latino, American Indian/Alaska Native, multiracial or other race/ethnicity.

A third of the sample said they have a visual impairment, almost 14% said they were blind, and almost a quarter identified themselves as being legally blind (Table 3.2). Multiple disabilities were common among those in the sample, with 17% noting that they

had at least two disabilities. Less than 5% of people identified as transition age youth, or veteran or someone with a substance abuse problem or criminal conviction/incarceration. No one in the sample said that they were homeless or with limited English proficiency.

**Table 3.2: Type of Impairment**

	Frequency	Percent
Individuals who are Visually Impaired	103	33.4
Individuals who are Legally Blind	71	23.1
Individuals who are Blind	43	14.0
Individuals with Multiple Disabilities	52	16.9
Veterans	14	4.5
Transition Age Youth (14-21 years old)	6	1.9
Individuals with Substance Abuse Problems	3	1.0
Individuals with Criminal Convictions/Incarceration	2	0.6
Individuals who are Deaf-Blind	1	0.3
Other	27	8.8

Note: Some individuals belong to more than one group

Two-thirds of the sample had a household income of less than \$30,000 (Table 3.3). A significant number (41%) had a household income below \$15,000 and only 6% had a household income of \$50,000 or above.

**Table 3.3: Household Income**

	Frequency	Percent
Less than \$15, 000	125	40.6
\$15,000 to less than \$30,000	72	23.4
\$30,000 to less than \$50,000	30	9.7
\$50,000 to less than \$75,000	11	3.6
\$75,000 or more	8	2.6
Don't Know/Not Available	59	19.2
Missing	3	1.0
Total	308	100.0

Participants were asked about the types of vision problems they were diagnosed with. Cataract was most often mentioned, at 48.4% of participants (Table 3.4). The next most frequent was glaucoma (21.4%), followed by diabetic retinopathy (10.4%), macular degeneration (9.7%) and retinitis pigmentosa (7.1%). Several other medical problems

were reported by a smaller group of participants. The majority involved impairment of the optic nerve or retina.

**Table 3.4: Vision Problems**

	Frequency	Percent
Cataracts	149	48.4
Glaucoma	66	21.4
Diabetic Retinopathy	32	10.4
Macular Degeneration	30	9.7
Retinitis Pigmentosa	22	7.1
Other	109	35.4
Retinal Detachment	8	2.6
Optic Nerve Atrophy	6	1.9

Participants were asked about their age at which they lost their vision (Table 3.5). Slightly more than half (51.6%) reported beginning to have problems with their vision after age 40. Fifty consumers (16.2%) said this started at birth, another 16% started losing vision between ages 22 and 40.

**Table 3.5: Age at Onset of Vision Problem**

	Frequency	Percent
Congenital	50	16.2
1 - 40	86	27.9
> 40	159	51.6
Missing	13	4.2
total	308	100.0

The employment status of those surveyed was rather varied. Thirty-seven percent of people were employed either full-time or part-time (Table 3.6). Another 39% were unemployed, 12.7% said they were retired, and those in the “other” category said they were homemakers or volunteers.

**Table 3.6: Employment status**

	Frequency	Percent
Employed Full-time	57	18.5
Employed Part-time	58	18.8
Unemployed	119	38.6
Retired	39	12.7
Other	35	11.4
Total	308	100

Of the traditional working age (22-64) about 40% reported having full-time or part-time employment, and 1 in 4 of the group 65 or older (Table 3.7).

**Table 3.7: Employment Status by Age Category**

	14-21		22-64		> 64	
	Freq	%	Freq	%	Freq	%
Employed Full-time	0	0.0	54	21.1	1	2.4
Employed Part-time	0	0.0	47	18.4	10	23.8
Unemployed	1	16.7	106	41.4	12	28.6
Retired	0	0.0	21	8.2	18	42.9
Other	5	83.3	28	10.9	1	2.4
Total	6	100.0	256	100.0	42	100.0

There were some significant differences in the employment rates of individuals of different racial/ethnic backgrounds (Table 3.8). Approximately 10% more individuals of European American race/ethnicity reported being employed full or part-time than African American (39.9% versus 29.7%).

**Table 3.8: Employment Status by Racial/Ethnic Category**

	European American		African American		Other	
	Freq	%	Freq	%	Freq	%
Employed Full-time	38	20.8	12	11.9	7	30.4
Employed Part-time	35	19.1	18	17.8	5	21.7
Unemployed	56	30.6	54	53.5	9	39.1
Retired	30	16.4	8	7.9	1	4.3
Other	24	13.1	9	8.9	1	4.3
Total	183	100.0	101	100.0	23	100.0

Almost half (47.1%) of the unemployed group (n=119), said they would like to find a job either immediately or within the next six months, and 44 individuals (37%) said that they had been actively searching for a job within the past six months, while 63% said they did not actively search for a job within the same timeframe (Table 3.9).

**Table 3.9: Unemployed Consumers' Intent to Have a Job**

	Frequency	Percent
Yes, immediately	49	41.2
Yes, within the next 6 months	7	5.9
No	55	46.2
Do not know	8	6.7
Total	119	100.0

Even fewer sought vocational services; 21% of those surveyed who were unemployed reported seeking out vocational services within the past year, and over 75% said they did not seek vocational rehabilitation. When vocational services were sought, the overwhelming majority people sought services through the Division of Services for the Blind or the Division of Vocational Rehabilitation Services.

Of those surveyed (N=308) 19.2% or 59 individuals said they were receiving services through the Division of Services for the Blind at the time of survey completion. In the unemployed group (n=119) 22.7% or 27 individuals were receiving services from DSB. Approximately half of the sample received services through DSB at least two times in the past (Table 3.10).

**Table 3.10: Number of Times the Person Received Services from DSB before**

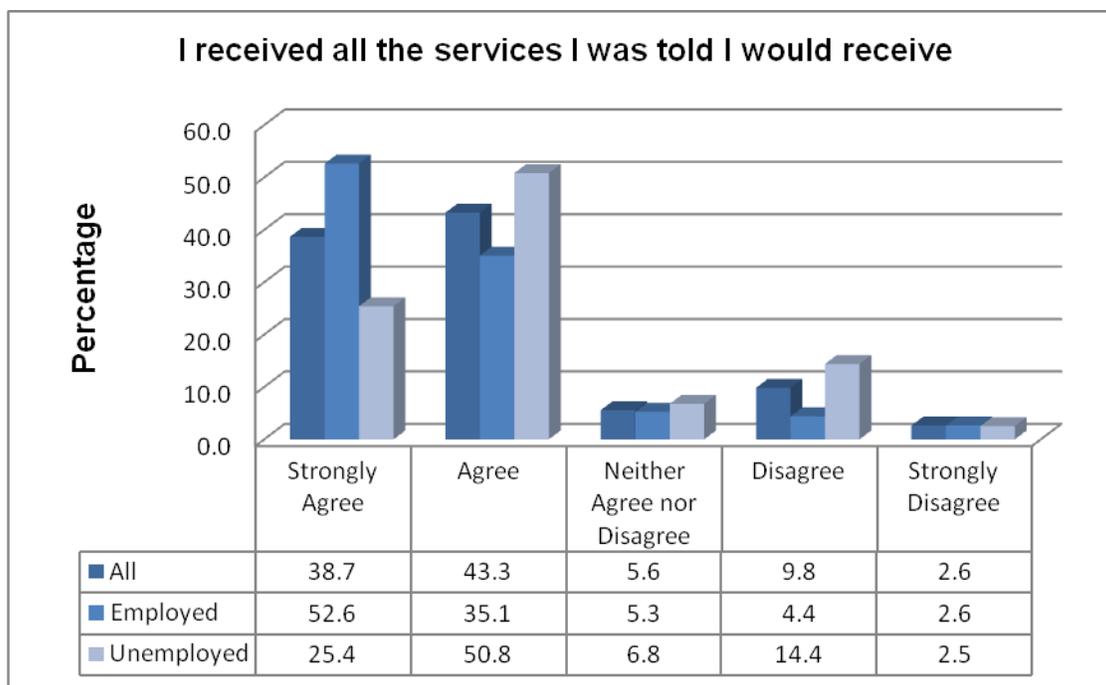
	Frequency	Valid %
Once	107	35.9
Twice	49	16.4
Three Times	24	8.1
Four times or more	73	24.5
Do not remember	45	15.1
Total	298	100.0

Note: n=10 missing

## General Satisfaction with DSB Services and Staff

Overall, participants conveyed that they had received all the services they were told they would receive (82% or n=250 Agreed or Strongly Agreed they did) (Figure 3.1). Those who are employed felt that they received all the services they were told they would receive more frequently than those who were unemployed.

**Figure 3.1: Satisfaction with Services**

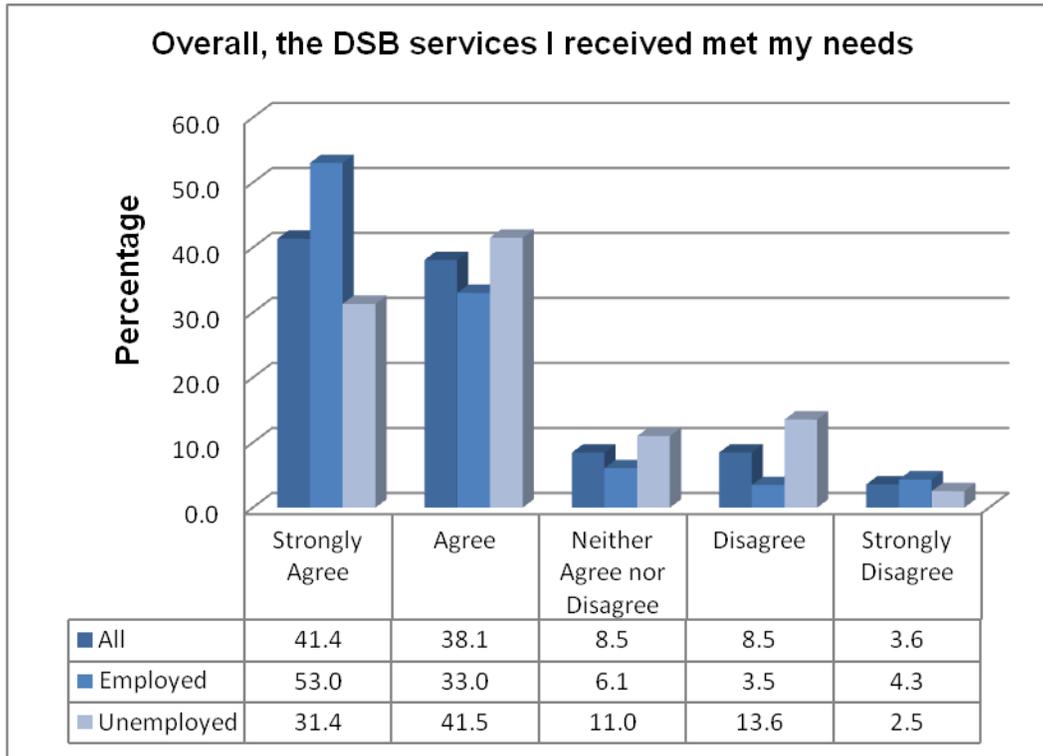


Focus group participants said that in general they were satisfied with DSB services. There were differences based on race/ethnicity. Those who identified as African American were more likely to disagree that they had received all the services that were told they would receive (67.6% of African Americans agreed/strongly agreed, and 85% of European Americans).

Of all participants, n=261 said that the services that DSB provided or purchased were of high quality. As expected, higher rates of those who were employed either full time or part time felt that DSB services were of high quality than those who are unemployed.

Approximately 80% of the entire sample said that DSB met their needs. The rate of disagreement with this statement was slightly higher in the unemployed group (Figure 3.2).

Figure 3.2: Needs Met



Participants were positive in general about the timeliness of services. Eighty-two percent of the entire sample agreed or strongly agreed that the vocational rehabilitation services were provided in a timely manner. Participants were somewhat ambivalent, but in general positive on the knowledge held by their VR counselor. Slightly more than half agreed or strongly agreed that the counselor was well informed and knowledgeable about their disabilities, while 37 percent were neutral about this. The helpfulness of counselors received similar rating (56.5% of the entire sample agreed/strongly agreed, and 38% neither agreed nor disagreed with this).

Ratings on the overall helpfulness of the VR counselor were slightly ambivalent. Less than half or 45.1% agreed/strongly agreed that their VR counselor worked with them to set goals that were important to them and 44% were neutral in regard to this.

Almost all participants (91.5%) would recommend DSB as a resource to someone else. However, those who were unemployed were less likely to recommend DSB services to others than those who were employment (86.4% versus 93.9%).

## Services Offered by DSB

Satisfaction was assessed in relation to the following 24 services provided by DSB:

- Medical services (diagnostic & treatment)
- Assistive technology and training in the use of adaptive equipment
- Low vision services
- Vocational counseling
- Orientation and mobility services
- Comprehensive vocational evaluations
- Independent living training
- Personal and home management skills
- Job seeking skills training
- Work readiness skills
- Job placement
- Support services (transportation, rental assistance, etc)
- Reader services
- Vocational or academic training/tuition assistance
- Job modification
- Community awareness and integration
- On-the-job training
- Job retention counseling
- Work adjustment job coaching
- Benefits planning
- Post-employment services
- Supported employment
- School-to-work transition services (14-21 years old)
- Other services

Consumers were asked to rank these services on a five point scale using categories such as excellent, above average, average, below average, or very poor. Most services were seen as beneficial services (Figure 3.3).

Above average rankings were provided to medical services (diagnostic & treatment), low vision services, orientation and mobility services, reader services, independent living training, assistive technology and training, personal and home management skills, vocational counseling, comprehensive vocational evaluations, vocational or academic training/tuition assistance and support services (transportation, rental assistance, etc).

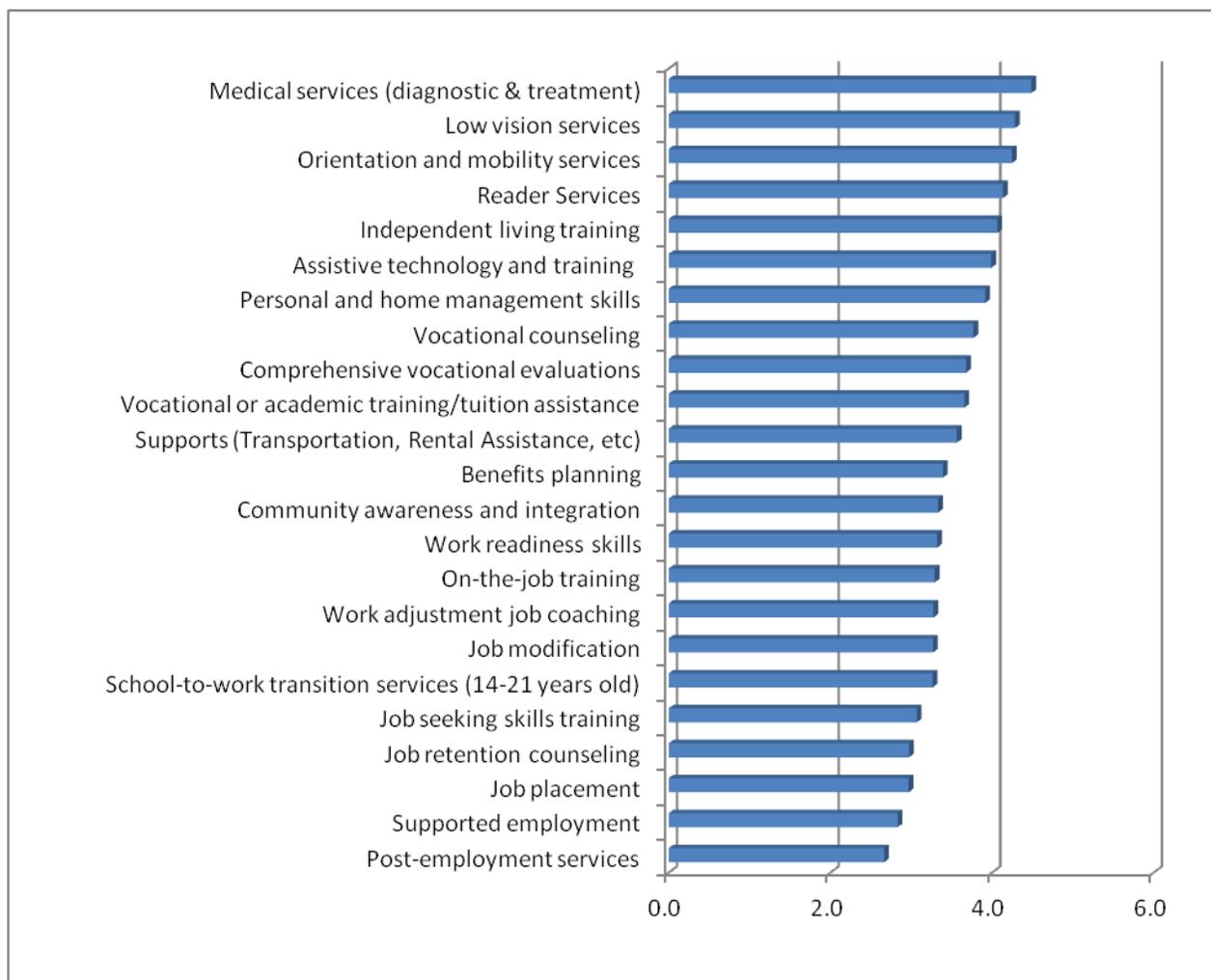
Medical services received the highest rank with more than half said they were above average and excellent, and 40% of respondents stating that these services were excellent. About 20% ranked vocational counseling services as excellent or above average. Similarly, around 20% ranked orientation and mobility services as excellent or above average.

Other services were still well provided, valuable services getting an average rating across respondents, such as benefits planning, community awareness and integration, work readiness skills, on-the-job training, work adjustment job coaching, job modification, school-to-work transition services (14-21 years old), job seeking skills training, job retention counseling and job placement.

Services that obtained below average rating were post-employment services, supported employment, job placement and job retention counseling.

Focus group participants also highlighted services that they felt were highly beneficial to them. They mentioned satisfaction in relation to medical services (surgery) and assistive technology. It was also mentioned that the counselor was supportive and the communication with counselor was great.

**Figure 3.3: Ratings for Services provided by DSB**



Note: Ratings for services (1 = Very poor, 2 = Below average, 3 = Average, 4 = Above average, 5 = Excellent)

### Services Needed but Not Provided

Of the 308 participants, n=71 or 23% answered the question asking about services the consumer needed to but did not receive to become employed and/or or live independently. “What other services did you need to become employed and/or live independently that you did not receive?”

- Vocational Services:** 18.3 % of the respondents mentioned needing vocational services. The majority of these people mentioned the need for “assistance in finding a job”. Three respondents wished they had received job training in order to become employed in the field that they desired. Two other respondents said that they were never offered services despite needing them.

- **Assistive Technology:** 16.9 % of the respondents said they needed additional assistive technology but did not receive any. Of those, four respondents wanted more technology training in general. Other respondents mentioned specific technology such as “zoom tech services”, “jaws screen reader” or “hearing aids”. Two times as many females than males reported assistive technology as something they were lacking.
- **Transportation:** 16.9 % of the respondents mentioned transportation problems as an issue. All of these respondents mentioned that transportation was lacking. Several mentioned having trouble either going to work or school due to transportation issues. Younger people (>30 years) mention more transportation issues than older individuals. Three times as many females than males reported transportation as an issue. Again, it is important to emphasize that while transportation is mentioned as a pressing unmet need, DSB has no means to provide it only to those who have an open case with DSB.
- **Medical Services:** 9.9 % of respondents said that they needed medical services. These included cataract surgery (3 respondents) and “help with glaucoma”. Some participants mentioned that their medical needs have “not been met” or that they were not allowed medical care because they did not meet the criteria.
- **Services to Improve Independent Living:** 9.9 % of the respondents said that they needed independent living services. Of the respondents mentioning independent living services, three specifically requested cooking skills training. Other remarks included help with “home management” and “organization skills”.
- **Follow-up Services:** 5.6 % mentioned the lack of follow-up services. These included calling to see if help is needed, making sure that the assistive technology has been received and following up on employment retention.

Focus group participants noted a lack of satisfaction in relation to timeliness of services, independent living skills training services, or communication with counselors. Specific services were mentioned as missing and in high need, such as computer classes, training to use assistive technology, social supports with housing issues. Some sort of buddy system to teach skills to children was also considered to be needed but missing. They also noted that a systematic way to disseminate information for example in relation to the availability of eye care providers or computer classes in the community is not being provided by DSB. It was also noted that DSB is not very well known, and marketing (such as educational posters in doctors’ offices) would be beneficial.

## Barriers to Employment

Community participation and barriers to gaining and maintaining employment were reviewed with those surveyed. Approximately 45% (139) of those surveyed (n=308) explained that they were able to participate in the community in a manner of their choosing, while another 43% (n=132) explained that they would need more assistance to participate in the community as fully as they would like (Table 3.11).

Females were more likely to report having issues participating in the community as fully as they wanted than males. Those who identified as African American reported needing assistance to participate in the community more frequently than European Americans.

**Table 3.11: Consumers' Ratings of their Community Participation**

	African American (N=108)		European American (N=185)	
	N	%	N	%
I am able to be an active member in my community and participate as fully as I choose.	28	25.9	97	52.4
I am able to participate in the community on occasion, but I could do more if help were available.	54	50.0	73	39.5
I am not able to participate in community life as I would like because the help is not available.	18	16.7	11	5.9
Missing	8	7.4	4	2.2

Those employed full-time reported being more able to participate in the community in a manner that they chose than those who were employed part-time. Likewise, those who reported being employed part-time were more able to participate in the community as fully as they chose than those who were unemployed.

**Table 3.12: Average Scores for Barriers**

	All	Employed	Not Employed
	N=308	N=115	N=119
Lack of jobs	2.71	1.99	3.32
Lack of vocational skills	1.91	1.70	2.33
Lack of available vocational rehabilitation services	2.08	1.75	2.57
Lack of qualified service providers	2.09	1.80	2.51
Lack of information regarding disability resources	2.17	1.84	2.64
Low expectations of rehabilitation counselor	1.70	1.56	1.86
Employer discrimination and attitude	1.88	1.82	1.90
Lack of State funds or budget restrictions	2.36	2.15	2.76
Fear of losing disability benefits	1.84	1.63	2.15
Lack of personal attendant services	1.55	1.41	1.78
Lack of transportation	2.55	1.92	3.26
Lack of adequate housing	1.47	1.43	1.64
Lack of child care	1.29	1.28	1.35
Lack of family support	1.39	1.39	1.53
Health concerns	2.17	1.72	2.58
Inadequate medical care and/or medical insurance	1.88	1.84	2.06
Safety concerns	1.95	1.77	2.25
Family concerns	1.48	1.39	1.63
Other (please specify)	1.97	1.62	2.41

Note: 1= not a significant barrier; 5 = a very significant barrier

Highest ranked barriers to employment in the entire sample were the lack of jobs, lack of transportation, lack of state funds or budget restrictions, lack of information regarding disability resources, health concerns, and lack of qualified service providers.

Those who were unemployed rated all the barriers as more of a problem than those who were employed (Table 3.12). Those unemployed identified the lack of jobs, lack of transportation, lack of state funds or budget restrictions, lack of information regarding disability resources and health concerns as their highest barriers. Also, those who were employed part-time rated these barriers as more significant than those who were employed full-time.

Gender differences were not frequently seen in barriers to gaining and maintaining employment. Barriers that presented differently across genders were lack of information

regarding disability resources, lack of state funds or budget restrictions, lack of transportation and safety concerns. Females were more likely to report these as barrier to gaining and maintaining employment than males.

There were significant differences between African Americans and European Americans as well. Lack of available vocational rehabilitation services and qualified service providers, low expectations of rehabilitation counselors, lack of state funds or budget restrictions, fear of losing disability benefits, lack of information regarding disability resources, lack of adequate housing and child care, lack of vocational skills, lack of transportation, lack of jobs and lack of personal attendant services were found to be more significant barriers for African Americans.

### Suggestions for Improving DSB Services

Participants were asked to share their comments and suggestions about improving DSB services. When prompted to respond to the question “Do you have any comments or suggestions on how to improve the DSB services?” Of the total of 178 (55.8%) comments provided, 42 people (23.6%) had positive feedback, for example “keep up the good work”.

136 (76.4%) of people had some suggestions about how to improve the DSB services. The main findings included:

- **Marketing:** 19.8% of respondents said that DSB should make efforts to inform the public about the services that they provide. The majority of respondents said that the DSB needed to have more publicity about their services. For example, one person said “I am unsure how other people are learning about DSB. I learned through word of mouth, but am uncertain how others would learn about this service”.
- **Communication:** 16.2% of respondents said that they experienced communication problems with the DSB. The majority of these respondents said that they wanted better communication. For example, one respondent wrote that he wanted “better overall communication between clients, service providers, and counselors”. Females reported communication issues nearly twice as often as males.
- **Counselors and Staff:** 14.7% of respondents reported having an issue with their counselor. Three consumers mentioned that their counselor was not knowledgeable enough. Three other consumers said that rate of turnovers

among counselors was too high. Other criticisms included the counselor having “a bad attitude”, being “discouraging” or having “low expectations”. Females reported nearly six times as many conflicts with counselors as many as males.

- **Funding:** 14.0% of respondents wanted the DSB to receive more funding. For example, one person commented the “DSB has too many consumers with not enough money. Either take on fewer clients or figure out how to raise more money”. Additionally, two people mentioned wanting more financial assistance.
- **Transportation:** 9.5% of respondents mentioned needing transportation services. The majority of these respondents requested more transportation services. Two people specifically mentioned the need for better transportation services in rural areas. Two other people mentioned that lack of needed transportation was a barrier to employment for them.
- **Vocational Services:** 5.9% of respondents brought up vocational services. Four respondents mentioned wanting job training and/or job placement. Other comments included wanting “better vocational counseling”.
- **Assistive Technology:** 5.1% of respondents requested more assistive technology. Several respondents mentioned wanting more technology training. Others mentioned wanting more assistive technology to be available. Some requested reader services such as zoom tech.

In addition, a few participants mentioned:

- **Geographic location:** 3.7% of the respondents mentioned that the quality of services that they received differed based on location. One respondent said that the “DSB does not offer enough services in rural areas”. Another commented: “The smaller the town the less services that are offered and the less informed the rehab counselors are about services or resources in your area”.
- **Timeliness:** 2.9% of the respondents commented that the services took too long to be provided. For example one person commented that: “response time from VR counselors to their clients’ needs to be faster”. Another said that they wished that they “did not have to wait so long in between eye appointments”.
- **Other:** 2.2% of the respondents mentioned desiring follow-up services. For example one person commented: “I wish DSB would have followed up with me after I sent them my letter about my disability”. Another comment suggested that

a “follow-up appointment would have been beneficial for explanation of future moves”.

Focus group participants said that better services in the area of computer classes, training in the use of assistive technology, social supports with housing issues should be pursued. They also noted that a more organized and systematic way to disseminate information for example in relation to the availability of eye care providers or computer classes in the community should be introduced. Marketing and raising public awareness about the availability of DSB (ex., educational posters in doctors’ offices) was also suggested.

## DSB Staff: Electronic Surveys

Sixty-three employees of the Division of Services for the Blind completed the online survey. Of these 63, five returned incomplete surveys resulting in 58 total usable responses. Additionally, some chose to not answer specific questions throughout the survey. As a result, in certain sections the sample sizes reported vary (due to missing data).

### Sample Characteristics

Almost all participants were female (93.1% or 54 of all respondents). 40% were 50-59 years old, and 72.4% were White/European Americans. Approximately 25% of the counselors were African American.

**Table 3.13: Districts**

	Frequency	Percent
Asheville/Charlotte	16	28.6
Greenville/Wilmington	16	28.6
Winston-Salem	14	25.0
Fayetteville/Raleigh	10	17.9

Social workers (25), rehabilitation counselors (17), orientation and mobility specialists (4), assistive technology consultants (3), and business service representatives (3) participated. About half of the respondents had a Master's degree (32), and another 18 had a Bachelor's degree.

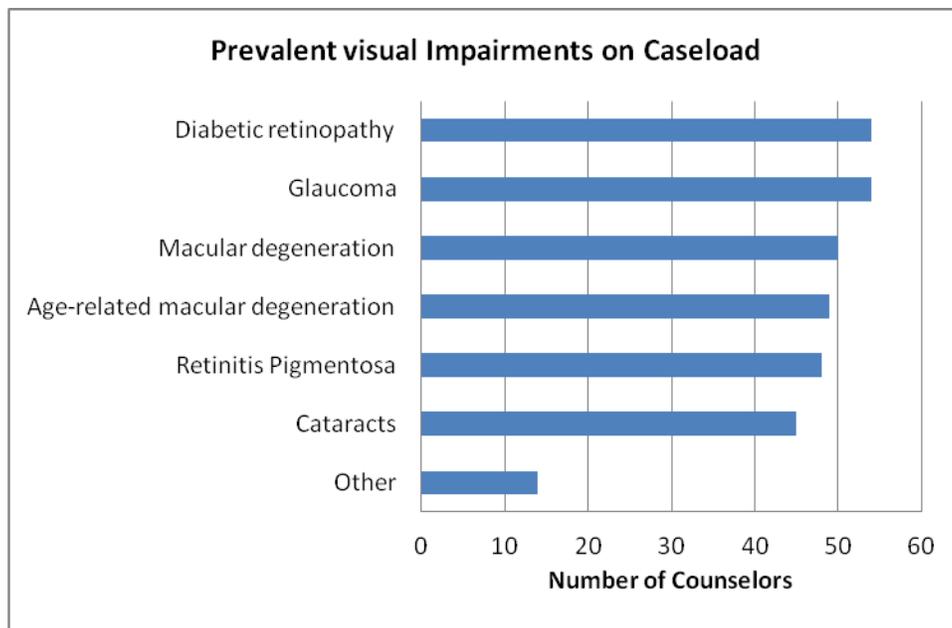
As far as caseload, half of the respondents said they had 50-99 clients on their caseload (Table 3.14). Almost a quarter had 100 or more clients on their caseload. Sixteen of the 57 responses regarding length of tenure, or 28.1%, indicated that they had worked for the DSB for two years or less. Fifteen (26.3%) individuals indicated that they had worked for the DSB for three to five years and six to nine years respectively. Eleven (19.3%) individuals indicated they had worked for the DSB for 10 years or more. One individual chose not to disclose how long he or she had worked for the DSB.

**Table 3.14: Caseload Size**

	Frequency	Percent
<25	2	3.2
26-49	8	12.7
50-99	33	52.4
100-150	11	17.5
>150	4	6.3
Total	58	92.1

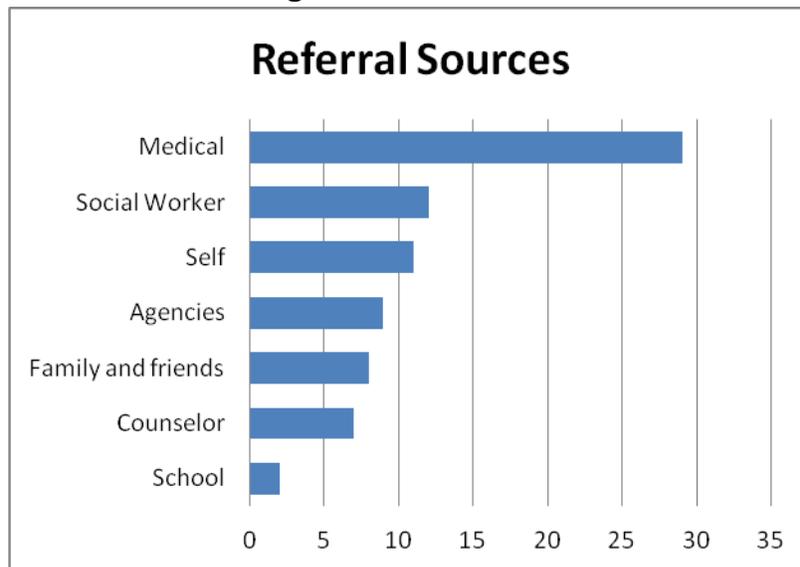
Fifty-four of the 56 DSB staff members said that they have on their caseload consumers with diabetic retinopathy and glaucoma (Figure 3.4). Fifty said they have macular degeneration, and 49 DSB staff members (77.8%), indicated that they had clients with age-related macular degeneration (AMD) on their caseload.

**Figure 3.4: Prevalent Visual Impairments on Caseload**



Staff receives the majority of their referrals from a medical setting. Other sources for referral often encountered are the social worker, the customer, family and friends of the customer, or other agencies (Figure 3.5).

**Figure 3.5: Referrals**



Note: X Axis Denotes the Number of Referrals

### **Consumers and Services Changes in Prevalence/Needs**

Out of 58 responses, 33 individuals indicated an increase of visually impaired clients in their caseload, and 29 noted that the prevalence of consumers with multiple disabilities increased on their caseload (Table 3.15). In addition, 16 participants noted an increase in consumers who are veterans and who have criminal convictions/felonies. Another 14 respondents from DSB staff reported that the number of consumers with limited or no English proficiency grew. Twelve articulated that the prevalence of consumers with substance abuse had increased on their caseload. Out of 57 who responded, only eight (14.0%) individuals indicated an increase in individuals who are deaf-blind in their caseload and only six (10.7%) saw an increase in transition youth (14-21 years old) clients in their caseloads. Ten DSB staff members noted a decrease on their caseload in consumers who are deaf-blind, and eight saw a decrease in consumers that are of transition age group.

The majority of respondents agreed there was no change in the prevalence rates of consumers on their caseloads who are deaf-blind, transition age, veterans, or have a substance abuse problem, criminal conviction/felony in their past, or limited English proficiency.

**Table 3.15: Changes in Consumer Groups**

	Increase	Decrease	No Change
Visually Impaired (N=58)	33 (56.9%)	2 (3.4%)	23 (39.7%)
Deaf-Blind (N=57)	8 (14.0%)	10 (17.5%)	39 (68.4%)
Multiple Disabilities (N=58)	29 (50.0%)	1 (1.7%)	28 (48.3%)
Transition Age Youth (N=56)	6 (10.7%)	8 (14.3%)	42 (75.0%)
Veterans (N=52)	16 (30.8%)	3 (5.8%)	33 (63.5%)
Substance Abuse Problems (N=55)	12 (21.8%)	3 (5.5%)	40 (72.7%)
Criminal Convictions/Felonies (N=55)	16 (29.1%)	2 (3.6%)	37 (67.3%)
Limited or No English Proficiency (N=55)	14 (25.5%)	1 (1.8%)	40 (72.7%)

Table 3.16 presents changes in consumer needs in relation to specific DSB services in recent years. More than half of DSB staff noted an increase toward assistive technology/equipment training, independent living training, personal/home management skills, and medical services. The consensus was the highest in terms of assistive technology, for which 45 or 77.6% of respondents agreed the need for this service, has increased. Next ranked were low vision services, medical services, support services, independent living training, orientation and mobility services, vocational counseling services, personal/home management skills training, job seeking skills training, and job placement.

Agreements were also high that the need for certain services did not change in recent years. DSB staff agreed that there was no change for school-to-work transition services (71.7% of respondents), supported employment (67.9% of respondents), reader and post-employment services (67.3% of respondents). Two-thirds agreed that the need for job modification and work adjustment job coaching stayed the same.

**Table 3.16: Changes in Consumer Needs**

	Increase	Decrease	No Change
Independent Living Training (N=58)	34 (58.6%)	5 (8.6%)	19 (32.8%)
Personal/Home Management Skills (N=58)	32 (55.2%)	4 (6.9%)	22 (37.9%)
Medical Services (N=57)	35 (61.4%)	1 (1.8%)	21 (36.8%)
Low Vision Services (N=58)	38 (65.5%)	0 (0.0%)	20 (34.5%)
Assistive Technology/Equipment Training (N=58)	45 (77.6%)	2 (3.4%)	11 (19.0%)
Comprehensive Vocational Evaluations (N=54)	26 (48.1%)	1 (1.9%)	27 (50.0%)
Job Seeking Skills Training (N=55)	31 (56.4%)	2 (3.6%)	22 (40.0%)
Work Readiness Skills (N=54)	26 (48.1%)	2 (3.7%)	26 (48.1%)
Job Placement (N=53)	28 (52.8%)	1 (1.9%)	24 (45.3%)
Job Modification (N=53)	17 (32.1%)	1 (1.9%)	35 (66.0%)
Job Retention Counseling (N=53)	18 (34.0%)	1 (1.9%)	34 (64.2%)
On-the-Job Training (N=52)	19 (36.5%)	2 (3.8%)	31 (59.6%)
Work Adjustment Job Coaching (N=53)	16 (30.2%)	2 (3.8%)	35 (66.0%)
Vocational/Academic Training/Tuition Assistance (N=53)	28 (52.8%)	1 (1.9%)	24 (45.3%)
Orientation and Mobility Services (N=57)	33 (57.9%)	3 (5.3%)	21 (36.8%)
School-to-Work Transition Services (N=53)	11 (20.8%)	4 (7.5%)	38 (71.7%)
Supported Employment (N=53)	12 (22.6%)	5 (9.4%)	36 (67.9%)
Vocational Counseling (N=54)	32 (59.3%)	1 (1.9%)	21 (38.9%)
Community Awareness and Integration (N=54)	29 (53.7%)	1 (1.9%)	24 (44.4%)
Benefits Planning (N=53)	22 (41.5%)	4 (7.5%)	27 (50.9%)
Reader Services (N=52)	10 (19.2%)	7 (13.5%)	35 (67.3%)
Support Services (N=55)	34 (61.8%)	3 (5.5%)	18 (32.7%)
Post-Employment Services (N=52)	10 (19.2%)	7 (13.5%)	35 (67.3%)

The qualitative responses also underscored the importance of certain services, and possible changes that DSB staff considers would be beneficial for DSB. Of the 15 participants who provided additional comments or suggestions, three suggested that it would be beneficial to provide more training in the use of assistive technology and making transportation more readily available. Two participants mentioned that more funding is needed, and also better transition services, and independent living skills training. In addition, it was noted that very beneficial would be if the DSB would be better advertised, if emotional counseling was provided after vision loss and the amount

of paperwork would be reduced in order to be able to have time to make connections with local businesses for future client placement.

### Consumer Barriers

Vocational rehabilitation staff (n=18) were also asked to rate consumer barriers (on a scale from one through five, where one means it is not a significant barrier to employment and five denotes a very significant barrier). Average scores across the group are presented in the Table 3.17 for each barrier asked. Lack of jobs, lack of transportation, fear of losing disability benefits, and lack of vocational skills each received an average score of 4 or above.

Of the 20 employees who indicated that they were vocational rehabilitation staff, 15 (75.0%) indicated they felt that the lack of available jobs was a significant barrier preventing consumers from gaining employment (by rating either a 4 or 5). Fourteen (70.0%) indicated that a lack of vocational skills posed a barrier, 16 (80.0%) indicated that a fear of losing disability benefits posed a significant barrier, and 18 (90.0%) indicated that a lack of transportation posed a significant barrier.

Table 3.17: Barriers to Employment

	Mean
Lack of jobs	4.05
Lack of transportation	4.45
Fear of losing disability benefits	4.05
Lack of vocational skills	4.00
Employer discrimination and attitude	3.84
Health concerns	3.79
Inadequate medical care and/or medical insurance	3.47
Lack of family support	3.21
Lack of State funds or budget restrictions	3.00
Safety concerns	2.79
Lack of adequate housing	2.74
Lack of child care	2.68
Family concerns (Caring for elderly, children, etc.)	2.61
Lack of available vocational rehabilitation services	2.58
Lack of qualified service providers	2.58
Lack of information regarding disability resources	2.47
Lack of personal attendant services	2.21
Low expectations of rehabilitation counselor	2.05

## One-Stop Shops

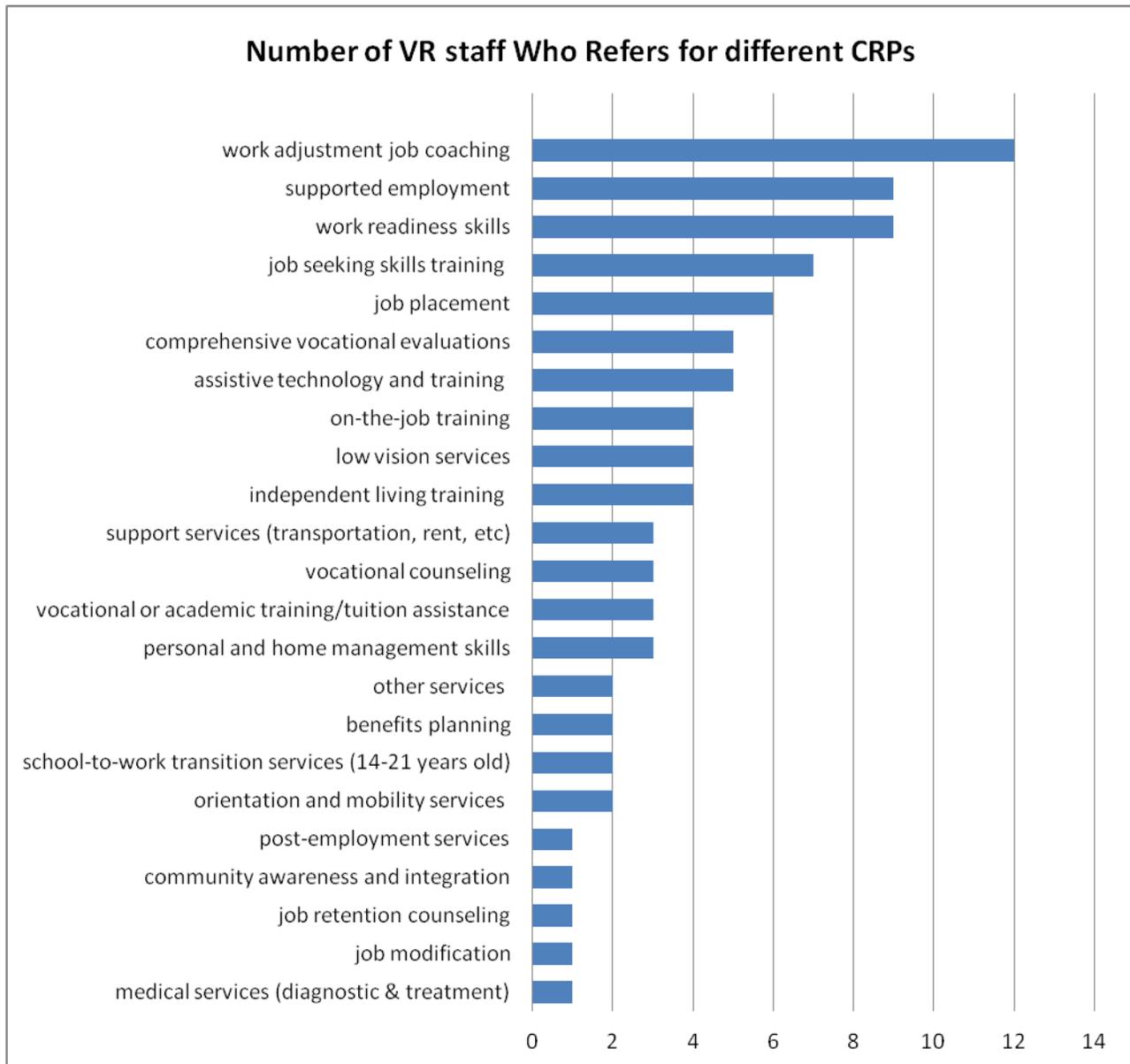
Vocational Rehabilitation staff (n=18) were asked to comment on One-Stop shops. Of the 18 responses only four (22.2%) individuals said that they often referred their clients to One-Stop shops. Six (33.3%) indicated they sometimes referred their clients, three (16.7%) indicated that they seldom referred their clients to One-Stop shops, and five (27.8%) indicated that they never referred their clients to One-Stop shops. Only two vocational rehabilitation staff members rated their collaboration with their local One-Stop shop as excellent and another two reported that it was above average. Eight rated their collaboration as average; four indicated it was below average, while one vocational rehabilitation staff member noted his or her collaboration with the One-Stop shops was very poor.

When prompted to describe issues they have experienced when working with the One-Stop shops and other components of the statewide workforce investment system, 13 participants commented. Two respondents mentioned the lack of knowledge concerning people with visual disabilities as an issue. Three others stated that they encountered a lack of assistive technology. Two respondents brought up each of the following issues: bad attitudes towards people with visual impairments, a poor staff to client ratio, and lack of space.

## CRPs

Figure 3.6 below displays the number of vocational rehabilitation staff who said they routinely refer consumers to Community Rehabilitation Programs. The most often utilized CRP service was work adjustment job coaching (12 VR staff made referrals for this service), followed by supported employment and job readiness (both mentioned by 9 VR staff). Job seeking skills training and job placement were also mentioned by several staff members (7 respectively 6 professionals).

**Figure 3.6: Services Requested from CRPs**



Of the 18 vocational rehabilitation staff, the majority (12 or 66.7%) said that the availability of CRPs to serve consumers in need in their area was insufficient. Seven (38.9%) disagreed, and nine (50.0%) were undecided in regards to a statement noting that the available CRPs provide a range of services that meet the needs of their consumers. Seven (38.9%) disagreed, and eight (44.4%) were undecided in regards to a statement indicating that the CRP staff is well trained to serve the VR needs of their consumers.

Of the provided services list above on table 3.3, similar percentages can be seen across the board in regards the quality of services provided by CRPs. Overall, of 17 responses, only one (5.9%) rated his or her collaboration with CRPs as excellent. Three (17.6%) individuals rated their collaboration as above average, five (29.4%) indicated average, six (35.3%) indicated below average, and two (11.8%) indicated very poor.

## Future Trends

Forty-six DSB staff members provided comments to the prompt asking about future trends in service needs for people with visual disabilities in North Carolina. Almost one in three, or 30.4%, of respondents mentioned assistive technology training as a future trend in the services for people with North Carolina. Thirty-three percent of respondents brought up transportation as a future trend. Nine percent talked about the development of community rehabilitation programs as being important. Finally, an additional 8.7 % commented on providing better services for seniors. Other comments involved substance abuse counseling, more assistance to provide eye exams, better vocational counseling, and better services for school aged kids.

## Eye-Care Providers: Mail Survey

### Sample Characteristics

Of the 29 eye-care providers who responded to the survey, 16, or 55.2% described their practice as optometry (Table 3.18). Furthermore, six (20.7%) indicated general ophthalmology, one (3.4%) indicated optometry with a low vision specialty, two (6.8%) indicated optometry with some other specialty, one (3.4%) indicated ophthalmology specializing in retina related services, and three (10.3%) indicated some other ophthalmology specialty. About half were a private individual practice, and the other half belong to a group practice setting.

Almost all, or 93.1%, of eye-care providers offered comprehensive vision evaluation services. Additionally, 26 offered diagnostic services, 22 treatment services, 10 low vision device fitting/training services, and 10 offered surgical services. Other services were mentioned such as co-management of cataract and LASIK/contacts, generic contact services, LASIK surgery, ocular prosthesis fitting, and prosthetic services. Twenty-one eye-care providers have been providing vision-related services for more than 20 years. Another six have been providing services from 11 to 15 years, and two have been providing services for one to five years. Of these service providers, only four (13.8%) reported they had employed a low vision rehabilitation specialist.

**Table 3.18: Demographic Characteristics of the Sample**

Type of Practice	Frequency	Percent
Optometry	16	55.2
Ophthalmology	6	20.7
Ophthalmology (Other Specialty)	3	10.3
Optometry (Other Specialty)	2	6.8
Optometry (Low Vision Specialty)	1	3.4
Ophthalmology (Retina Specialty)	1	3.4
<b>Practice Type</b>		
Private Solo Practice	15	51.7
Group Practice Setting	14	48.3
<b>Services Offered</b>		
Comprehensive Vision Evaluations	27	93.1
Diagnostic Services	26	89.7
Treatment Services	22	75.9
Low Vision Device Fitting/Training	10	34.5
Surgical Services	10	34.5

Other Services	5	17.2
<b>Length of Tenure</b>		
1 to 5 years	2	6.9
6 to 10 years	0	0.0
11 to 15 years	6	20.7
16 to 20 years	0	0.0
20+ years	21	72.4
<b>Rehab Specialist Employed?</b>		
Yes	4	13.8
No	25	86.2

### Consumers of Eye-Care Providers

Approximately 89% of practices indicated that less than one-fourth of their patients need low vision rehabilitation services (Table 3.19). One (3.6%) responded with one-fourth to less than half, half to three-fourths, and more than three-fourths respectively.

**Table 3.19: Patients in Need of Low Vision Rehabilitation**

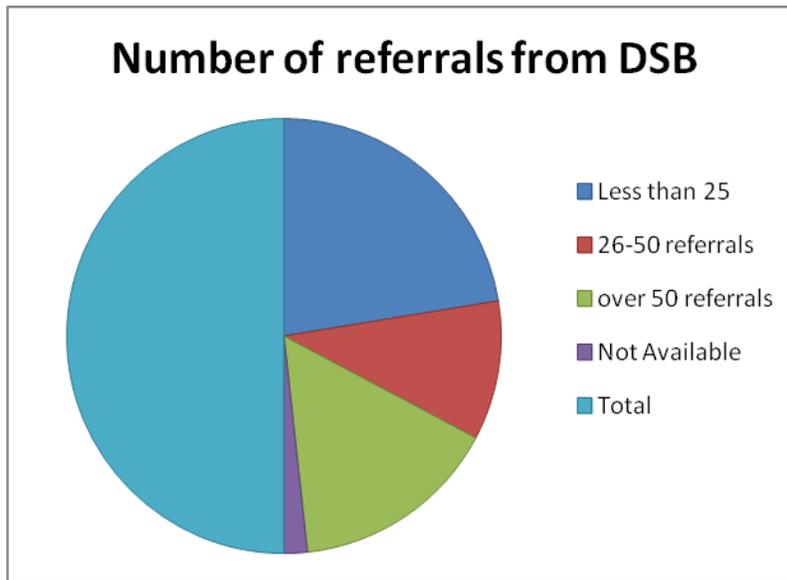
	Frequency	Valid %
Less than one-fourth	25	89.3
One-fourth to less than half	1	3.6
Half to three-fourths	1	3.6
More than three-fourths	1	3.6
Total	28	100.0

Missing data from 1 survey participant

Among consumers who needed services, one in three practices reported that only 25% of the consumers actually received services. Eighteen percent indicated that felt that one-fourth to less than half received services, while another 18% felt that more than three-fourths received services.

Of the eye-care providers surveyed, 13, or 44.8%, indicated that they received less than 25 referrals a year from the DSB (Figure 3.7). Six (20.7%) indicated that they received 26-50 referrals and nine (31.0%) indicated that they received greater than 50 referrals in a year. One (3.4%) of the 29 responses indicated that this question did not apply to his or her situation.

**Figure 3.7: Referrals from DSB**



In regard to the quality of collaboration with the DSB, overall, 22, or 76% of eye-care providers found their collaboration with the DSB to be excellent or above average. Five (17.2%) indicated an average rating, one (3.4%) indicated a below average rating, and one (3.4%) indicated that this question did not apply to their situation.

### **Unmet Needs of the Consumers**

The 29 eye care providers ranked the greatest unmet eye care needs in their community as follows: financial needs, routine eye exams/medical care, preventative care, assistive technology, aids, or other devices, mobility training, home care, education, and other needs (Table 3.20). The other category included low vision rehabilitation, availability of ongoing care for chronic conditions, and providing spectacles.

Three in four eye-care providers felt that low income individuals were unserved or underserved in their community. Other groups also mentioned by many respondents included individuals residing in rural areas, Hispanics/Latinos, Black/African-Americans, and American Indians/Alaska Natives. Other groups identified by a couple of eye care providers included Asians and the elderly.

**Table 3.20: Unmet Needs of Consumers Served by Eye-Care Providers**

<b>Significant Unmet Needs in the Community</b>	<b>Frequency</b>	<b>Percent</b>
Financial Needs	21	72.4
Routine Eye Exams/Medical Care	13	44.8
Preventative Care	10	34.5
Assistive Technology, Aids, or Other Devices	7	24.1
Mobility Training	4	13.8
Home Care	4	13.8
Education	11	37.9
Other Needs	3	10.3
<b>Unserved/Underserved Populations</b>	<b>Frequency</b>	<b>Percent</b>
Low Income Individuals	22	75.9
Individuals Residing in Rural Areas	13	44.8
Hispanics/Latinos	11	37.9
African Americans	9	31.0
American Indian/Alaska Natives	5	17.2
Other	2	6.9

### **Issues/Barriers in Finding Employment**

Eye care providers were asked to describe the issues or barriers individuals with blindness and visual disabilities are facing in gaining or maintaining employment. Of the 17 respondents who commented on common issues or barriers in gaining or maintaining employment, about half or 52.9% mentioned lack of education and/or lack of skills. Forty-one percent of respondents mentioned transportation as common barrier. Eighteen percent said that language barriers prevented individuals from gaining or maintaining employment. Lack of family support was brought up by 11.7 % of respondents as a problem concerning employment. Finally, 11.7% said that lack of current job availability was a significant barrier.

### **Solutions and the DSB's Role**

Seventeen participants reflected on possible solutions to improve vocational rehabilitation service provision in North Carolina for individuals with visual disabilities. Two overarching responses were given as possible solutions. Twenty-nine percent of respondents mentioned the need for better integration and coordination of services. For example, one respondent brought up the need for “a closer working relationship between DSB and low vision specialists.” Twenty-three percent of respondents mentioned continued or increased funding as a possible solution. These included

comments things such as “increased funding for training.” Other comments included providing transportation services, having a smaller ratio of population to trainers, and extending current programs.

Sixteen participants provided suggestions on how to improve service delivery to unserved and underserved groups. Again two main responses were given on how to improve service delivery to these groups. Forty-one percent of respondents indicated that better funding was needed to reach out to underserved populations. For example, one participant said that there “needs [to be] more funding to extend help throughout the year.” Roughly 37.5% of respondents said that better integration and coordination of services was needed to be able to serve these groups. For example, one respondent noted the need to “coordinate with local social service personnel who are aware of local patients in need.” Other responses include things like having more regional specialists and figuring out ways to improve the ordering glasses.

Six respondents provided additional suggestions. Two respondents only had positive comments such as saying that they “enjoyed working with services for the blind.” Two other responses talked about the need for better integration of services. One provider mentioned the need for better funding and another said that Medicare needs to do a better job of covering glasses.

## CRP Representatives: Electronic Surveys

Overall, seven CRP representatives were surveyed. Of these seven, two returned incomplete surveys, resulting in five usable surveys. Additionally, some chose to not answer specific questions throughout the survey. Due to this, in certain sections there are less than five responses provided.

### Sample Characteristics

Of the five total CRP representatives that responded to the survey, three were located in an urban area. The other two were in a suburban setting. Three indicated having a working partnership with the DSB for greater than 10 years and one said that collaborated with the DSB for three years.

Job titles of respondents included a supervisor of residential supports for deaf-blind, an assistant director, a community services coordinator, a director of employment services, and a program director.

Three representatives indicated that they received less than 10 referrals from the DSB in a given year. One representative indicated receiving 20 to 25 referrals from DSB.

Four out of five said they are able to initiate services with consumers after receiving a referral from VR within a month. One stated that they can initiate services within a week; another noted it may take up to two weeks). Only one respondent reported it would take longer than a month to initiate services

### Consumers Served by CRP Representatives

Three of the five CRP representatives said that they experienced an increase in individuals with multiple disabilities and individuals with criminal convictions/felonies in their caseload (Table 3.21). Two CRP representatives indicated an increase of visually impaired consumers and deaf-blind consumers in their caseload.

**Table 3.21: Changes in the CRP caseloads**

	Increase	Decrease	No Change
Individuals with Visual Disabilities	2	0	3
Individuals who are Deaf-blind	2	0	3
Individuals with Multiple Disabilities	3	0	2
Transition Age Youth (14-21 years old)	0	0	5
Veterans	0	0	5
Individuals with Substance Abuse Problems	1	0	4
Individuals with Criminal Convictions/Felonies	3	0	2
Individuals who are homeless	1	0	4
Individuals with limited or no English proficiency	1	0	4

Representatives all agreed that there was no change in the prevalence of transition youth (14-21 years old) or veterans in their caseloads. In addition four out of five agreed that the number of consumers who are homeless, have substance abuse problems, or limited English proficiency has not changed in recent years.

When asked to comment on the change in the number of individuals with visual impairments served by their organization, two representatives reported an increase, another two noted no change, and the final respondent stated that it decreased.

### **Service Needs of Consumers**

Increase was noted by at least 2 CRP representatives in the need for work adjustment job coaching, job placement, supported employment, independent living skills training, personal/home management skills, assistive technology/equipment training, job seeking skills training, work readiness skills, job modification, on-the-job training, orientation and mobility services, vocational counseling, community awareness and integration and benefits planning (Table 2.22). Two CRP representatives noted a decrease in comprehensive vocational evaluations.

At least three noted no change in relation to consumers' need for medical services, low vision services, school-to-work transition services, reader services, job seeking skills training, work readiness skills, on-the-job training, job retention counseling, voc/academic training/tuition assistance and support services.

**Table 3.22: Changes in Need for Specific Service of Consumers**

	Increase	Decrease	No Change
Independent Living Training (N=4)	2	0	2
Personal/Home Management Skills (N=4)	2	0	2
Medical Services (N=4)	0	0	4
Low Vision Services (N=4)	0	0	4
Assistive Technology/Equipment Training (N=4)	2	1	1
Comprehensive Vocational Evaluations (N=5)	1	2	2
Job Seeking Skills Training (N=5)	2	0	3
Work Readiness Skills (N=5)	2	0	3
Job Placement (N=5)	3	0	2
Job Modification (N=4)	2	0	2
Job Retention Counseling (N=4)	1	0	3
On-the-Job Training (N=5)	2	0	3
Work Adjustment Job Coaching (N=5)	3	0	2
Voc/Academic Training/Tuition Assist. (N=4)	1	0	3
Orientation and Mobility Services (N=4)	2	0	2
School-to-Work Transition Services (N=4)	0	0	4
Supported Employment (N=5)	3	0	2
Vocational Counseling (N=4)	2	0	2
Community Awareness and Integration (N=4)	2	0	2
Benefits Planning (N=4)	2	0	2
Reader Services (N=4)	0	0	4
Support Services (N=4)	1	0	3
Post-Employment Services (N=4)	0	1	2

### Consumer Barriers to Gaining Employment

On a scale from 1 through 5 (1= not a significant barrier to employment and 5 = a very significant barrier) CRPs ranked lack of transportation the highest barrier to employment (4.5 average score) (Table 3.23). This was closely followed by lack of state funds or budget restrictions and fear of losing disability benefits. Also highly ranked were lack of jobs, lack of personal attendant services, lack of qualified service providers, employer discrimination and attitude, lack of adequate housing and safety concerns.

Family concerns (Caring for elderly, children, etc.) and lack of child care were ranked below 2, so these were less likely to be perceived barriers.

**Table 3.23: Barriers to Employment ranked by CRPs**

	Mean
Lack of transportation	4.8
Lack of State funds or budget restrictions	4.5
Fear of losing disability benefits	4.3
Lack of jobs	4.0
Lack of personal attendant services	3.8
Lack of qualified service providers	3.5
Employer discrimination and attitude	3.5
Lack of adequate housing	3.0
Safety concerns	3.0
Lack of information regarding disability resources	2.8
Lack of vocational skills	2.5
Lack of available vocational rehabilitation services	2.5
Low expectations of rehabilitation counselor	2.5
Lack of family support	2.5
Health concerns	2.5
Inadequate medical care and/or medical insurance	2.5
Family concerns (Caring for elderly, children, etc.)	1.8
Lack of child care	1.5

### Issues Experienced by Unserved/Underserved Consumers

In qualitative comments, CRPs described several common issues faced by unserved and underserved individuals with visual impairments in North Carolina. The most salient barrier was considered to be transportation (noted by 4 of the 5 CRP representatives who participated). An increase in the difficulty of finding employment for those with criminal backgrounds has also been found. Medical issues were noted as a problem, as well as finding direct support staff that have the ability to sign when interacting with individuals who have a hearing impairment as well.

In order to help overcome some of the barriers, CRP employees worked with public transportation and family to help ensure adequate transportation. This was an effective tactic in one situation; however, this route was cost prohibitive in another situation. Also, to help meet the needs of getting around in places of employment, CRP employees have found that enlisting assistance with an orientation and mobility specialist was helpful; in addition, educating employers on how to arrange the physical structure of a

place of employment, such as where to put pieces of furniture and items that would frequently be needed by the employee with a vision issue, has been beneficial.

### **Suggestions for Improving Services**

Funding was cited as a major need in order to help develop and improve Community Rehabilitation Programs and improve vocational rehabilitation services. Also, increasing the number of referrals would make it more financially possible for direct support staff to be trained and for services to be provided to people. Additionally, increasing transportation resources and options would improve the ability of CRPs to provide vocational rehabilitation services.

## **Workforce Development System Partners: Electronic Surveys**

Of the two workforce development system partners who completed the survey, indicated that his/her organization had a relationship with the DSB for 21 years. The other indicated that they have not worked directly with the DSB. One respondent was an assistant secretary and the other was a director. The individual who has a 21 year relationship with DSB, he/she ranked the collaboration as above average, but also noted gaps in services for individuals with disabilities delivered through One-Stop shops.

Respondents saw no change in the population size of individuals with visual disabilities, individuals who are deaf-blind, or individuals with multiple disabilities. Both respondents did see an increase in the population size of transition youth individuals, veterans, individuals with substance abuse problems, and individuals with limited or no English proficiency. One respondent also indicated an increase in the homeless population they served as well.

Both respondents rated their knowledge of effective strategies to support employment for consumers with a disability, providing materials in alternate or accessible formats, and information about vocational rehabilitation services as above average. The respondents were split among above and below average for knowledge of assistive technology and its availability, self-disclosure to employers and potential employers, and how working can impact social security and other benefits.

### **Training Needs of Staff Regarding Visual Disabilities**

One respondent indicated needing additional training in understanding the Americans with Disabilities Act, assistive technology, and employer resources and tax credits. Respondents indicated that the presence of too many administrative barriers, as well as poor service to rural areas, were specific barriers for those in need of services. However, neither participant was able to provide a recommendation as to how the DSB could meet these needs.

### **Services: Barriers and Suggestions for Improvement**

Barriers to receiving needed services reflected in qualitative comments included living in a rural area, as was the amount of administrative barriers that prohibited people from receiving services.

In order to improve the services of workforce investments, training funds could be used in a more focused way. In addition, services could be better integrated, and more services could be offered virtually. Funding could be handled more responsibly as well; using resources in a way that is more cost efficient and effective, and utilizing training funds in a more focused way would improve the services.

## Employers: Key Informant Interviews

### Sample Characteristics

A total of 21 employers participated in the key informant interviews. The sample included individuals with the following positions and job titles: assistant manager, director, president, supervisor, human resource specialist/director, junior clinic manager and one care nurse, operations manager, business owner, sales manager, service manager and store manager.

As far as business size, the range varied from three to 1,280. Eleven employers said their business hired between 10 and 49 individuals (Table 3.24).

**Table 3.24: Business Size**

Number of Employees	Frequency	Percent
<10	4	19.0
10-49	11	52.4
50-100	0	0.0
>100	6	28.6
Total	21	100.0

Few individuals with disabilities were hired by the businesses of the 21 employers surveyed within the past three years (Table 3.25). Eleven said they hired only one person, another four employers reported hiring only two people with disabilities, and another four employers noted hiring no employees with disabilities in the past three years. Fifteen of the 21 (71%) said this trend was stable across the years. Fourteen stated they saw no increase in the number of individuals with visual impairments employed by their organization, while seven noted an increase.

**Table 3.25: Number of Persons with Visual Impairments Hired by the Business**

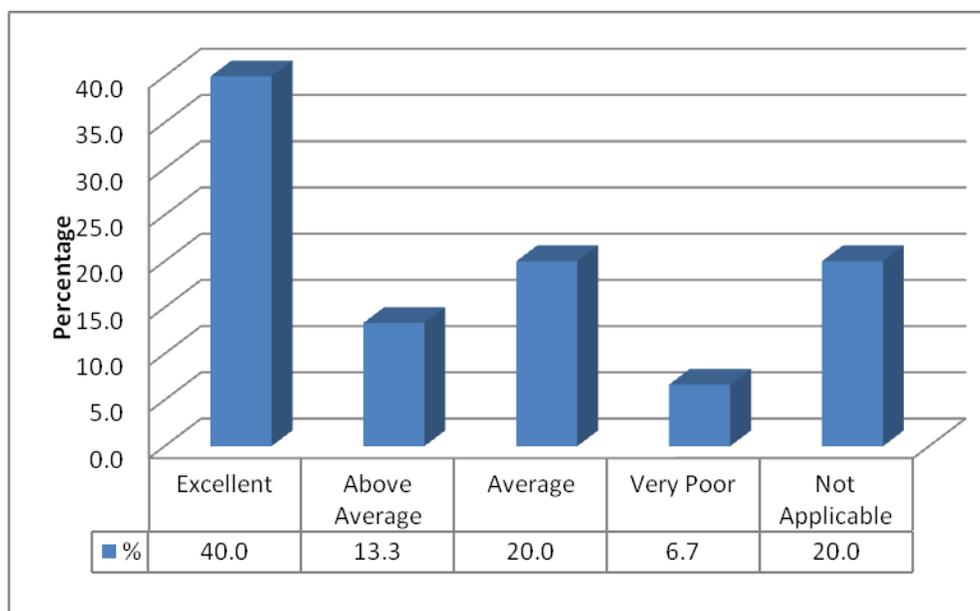
	Frequency	Percent
None	4	19.0
1	11	52.4
2	4	19.0
4	1	4.8
6	1	4.8
Total	21	100.0

Specific training to work with the population of individuals with visual impairments is significantly lacking. Eighteen employers (86%) received no specialized training in regards to working with individuals with visual impairments.

Responses to open-ended questions provided details on specific training needs of employers to work with individuals with visual impairments. Employers felt that they needed the most training in how to best accommodate those with visual impairments, how to train employees with visual impairments, and how to best keep employees with visual impairments safe. Also, training on how to best assess employee’s skills, and how to make accommodations based on the skills and deficits found was reported as a need. Employers were interested in resources available in their area for their employees including transportation options. They also felt that those with visual impairments needed more extensive training in completing their job tasks efficiently, successfully and safely; a job coach was mentioned as a possible way to increase this training for employees. Overall, it appeared that many employers felt that they weren’t able to adequately support their employee with a visual disability and would like more information about visual impairments.

Employers were asked to rate the quality of the relationship they had with DSB. More than half rated this relationship as excellent or above average (Figure 3.8). From the 21 participants, 12 individuals said they would refer other employers to DSB, two said they would not, while another six were unsure about this.

**Figure 3.8: Overall Experience working with DSB**



## Factors Impacting Employment

When deciding to hire potential employees with blindness, deaf-blindness, or other visual impairments, employers were influenced by a number of factors and concerns. Factors that most influenced employers' decision to hire persons with visual impairments included meeting the minimum job qualifications (mentioned by 20), having a strong work ethic (19), achieving or maintaining diversity in workforce (13), and meeting educational requirements (12) (table 3.26). Strong work history was approximately evenly distributed between the yes and no categories; some thought it is important, other thought it is not that important.

The majority said that receiving a federal work opportunity tax credit or labor market were not important factors in their decision to hire a person with visual impairments.

**Table 3.26: Factors that Influence Hiring Decisions**

	Yes	No
Meeting the minimum job qualifications	20	1
Strong work ethic	19	2
Achieve or maintain diversity in workforce	13	8
Meeting educational requirements	12	9
Strong work history	10	11
Labor market	6	15
Receiving a federal work opportunity tax credit	3	18

For the concerns, safety (noted by 13) and the lack of vocational skills (12) were mentioned by more than half of participants (Table 3.27). Items that did not cause concern include: an employers' lack of familiarity and comfort in working with individuals who are blind, vision impaired, and/or deaf-blind (mentioned by 19), integration into workplace (16), the use of excessive sick time/family and medical leave act (16), or the cost of accommodations (16).

**Table 3.27: Concerns of Employers about Hiring Persons with Visual Impairments**

	Yes	No
Safety concerns	13	8
Lack of vocational skills	12	9
Lack of Transportation	9	12
Cost of accommodations	5	16
Excessive sick time/Family and Medical Leave Act	5	16
Integration into Workplace	3	18
Lack of familiarity and comfort in working with this population	2	19

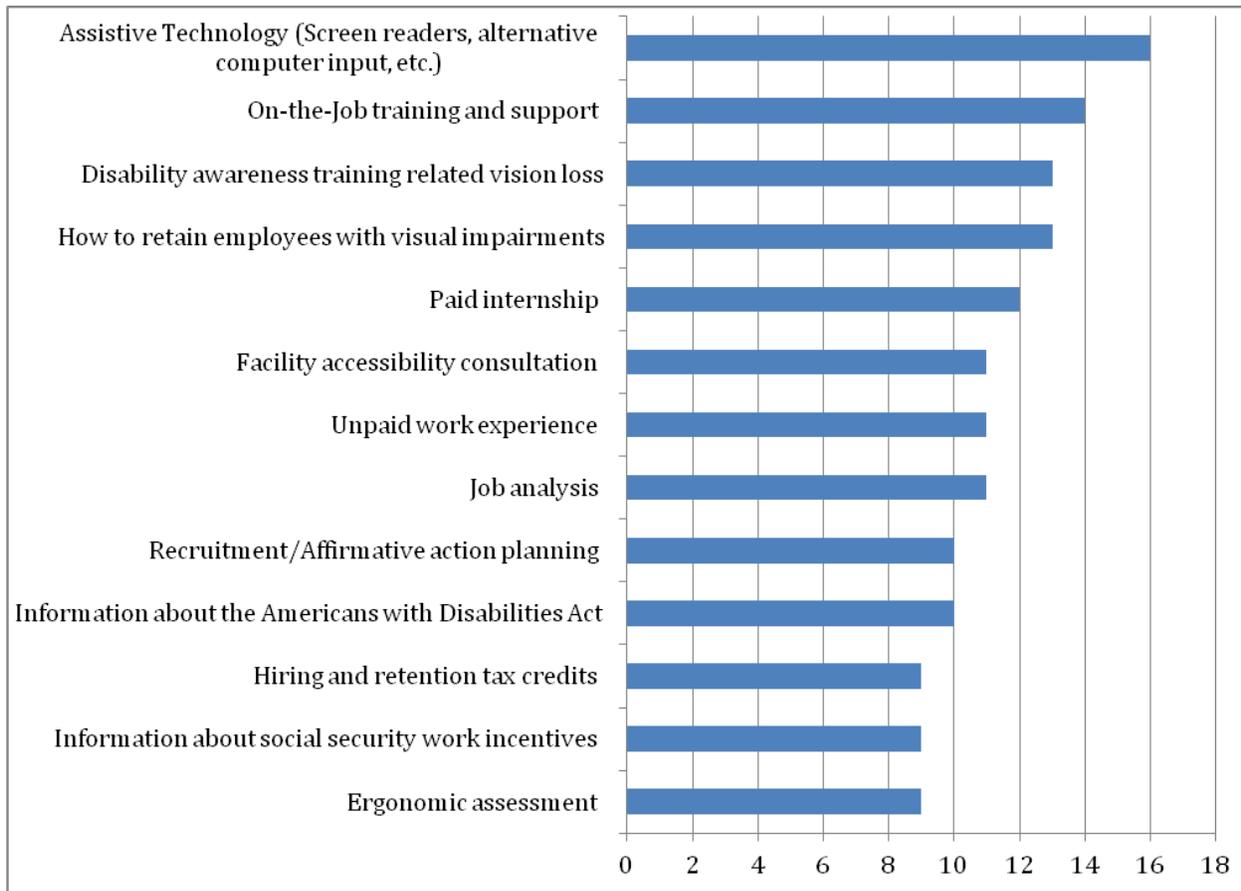
### DSB Services

When asked to rate services that the DSB could provide to assist employers in hiring or retaining individuals who are blind, vision impaired and deaf-blind assistive technology (screen readers, alternative computer input, etc.) was mentioned by most (16 employers) (Figure 3.9).

Also, the majority of employers mentioned the following as services needed:

- On-the-Job training and support
- How to retain employees with visual impairments
- Disability awareness training related to vision loss
- Paid internship
- Job analysis
- Unpaid work experience
- Facility accessibility consultation

**Figure 3.9: DSB Services Ranked by Employers**



Note: The X Axis Denotes the Number Times a Service was Mentioned

### Suggestions for Improving DSB Services

Employers felt that the Division of Services for the Blind could improve on the information given to employers when they are contemplating having employees with visual impairments. Many employers felt that they did not have enough information to adequately prepare to employ someone with a visual disability. Also, employers felt that DSB didn't offer complete or accurate information to employers, and were rather rushed through the process of explaining having an employee with a disability while failing to answer questions or address concerns of employers. This resulted in the employer feeling as though the DSB counselor was "pushy." The other main concern of employers was the short time period in which DSB provided follow up services. Employers felt that they and their employees could both benefit from a longer service provision timespan, as well as increased funding to assist with the needs of those with visual impairments.

## **Advocacy Group Representatives: Key Informant Interviews**

A total of 10 advocacy group representatives were interviewed over the phone. The range of consumers served by their organizations ranged from six to 15,000 people per year. Two said over 10000, one reported 500, and the others 200 and below.

The first question asked explored the collaboration between their agency and DSB. The responses were all very positive and the collaboration was noted as good. Comments like “We have a very good relationship with DSB. We are advocates of their organization. We have had a long lasting relationship. Over the years, we have had tremendous cooperation while working together to make sure individuals with visual disabilities’ needs are met” are reflective of this relationship.

### **Unservd/Underserved Groups**

Three out of 10 respondents noted both the elderly and those with low vision as groups not being reached by services, or being underserved most frequently. Those who lived in rural areas or were students were also mentioned as being underserved (both noted by two participants). Those who were unemployed or deaf blind or have other multiple disabilities were also identified as unserved/underserved.

### **Needs of Unservd/Underserved Groups**

Assistive technology and training to use the technology, and independent living skills training and resources to increase independent living are needed. In addition, remedial academic support for students who are blind or visually impaired, providing more vocational services while also focusing on resources that aren’t always geared towards vocation, providing more transportation options, and increasing areas of support overall proved to be needs of unserved or underserved groups.

Education and connecting individuals with offices that provide services for senior citizens, and promote the use of the disability library was recommended. Recruiting qualified and able staff to work with those with visual impairments will decrease the common issues as well. Increasing ways to effectively communicate with the deaf-blind population is highly needed, as are local organizations that can provide primary services.

Students with multiple disabilities require intensive services that are often ignored. Increasing the amount of training and accommodations available, as well as availability of assistive technology will be beneficial for this population. Job placement and utilization of personal skills in those with visual impairments could also be increased. Transportation was frequently mentioned as a barrier for those with visual impairments.

## **VR needs and the Role of DSB**

Barriers to accessing the services through Vocational Rehabilitation often revolved around the use of technology. Advocates noted that more technology and training in the use of technology was needed; also, providing technology in a way that combines modern technology with more established technology, such as braille, would best equip those with visual impairments. Other barriers were noted, such as inappropriate job placement or incorrect career development models. Advocates felt that often consumers with visual impairments are placed into jobs that their skills weren't utilized well, or their interests weren't met. Consumers needed to play a larger role in where they were placed for work, as should employers. Advocates noted that VR should be more proactive in providing training for employers of consumers with visual impairment to help them understand visual impairments and the possible impacts of this disability.

Budget constraints were noted, as were transportation problems. These two topics were reason for many consumers to not be able to receive services or maintain their job placement. Another reason services were not accessible were eligibility requirements to receive services through VR. Advocates felt that eligibility requirements were too high for those with visual impairments to receive services in some instances.

DSB needs to provide more linkage services, so that people can be connected with other organizations that are available to them. Also, more support to assist with vocation, and creating more vocational goals would be beneficial to the unserved or underserved clients receiving services through VR. Also, more assistive technology and training in the use of technology would be very beneficial to this group.

Some of these suggestions focused on VR counselors. For example, training for VR counselors to help them become better informed on the needs of those with visual impairment or those that are deaf blind, as well as educating employers on how to best assist their employee with visual impairment. Advocates also noted that services provided to those with visual impairments could be more creative, more efficient and more personalized so that each consumer could get the specific services and resources needed, rather than a generalized service or services that are offered to all consumers with a visual impairment, and DSB can assist in these areas. Improving skills

assessments could be one way that services could be more individualized. Also, shifting the focusing from gaining employment to maintaining employment, and offering more training to prepare for employment may improve personalization and increase creativity. Increasing transportation options for those with visual impairment so that jobs are able to be maintained would also decrease the many barriers found to receiving services within VR.

To increase the availability of services to others, eligibility requirements could be lowered. Also, funding for programs or resources could be increased in order to allow more people to access services. Giving people the information that these services exist through mediums such as success stories could allow people to learn about services and their positive effects. Furthermore, offering incentives to employers who offer jobs to those with visual impairments in order to increase the number of jobs available to this population would also decrease the barriers for those with visual impairments.

### **Future Trends for Vision Rehabilitation Service Needs in North Carolina**

The most noted future trend for those with visual impairments was a need to increase familiarity with technology. Advocates consistently noted that DSB was a good resource, and provided good collaboration. General comments included suggesting increased collaboration of information and services, as well as increased collaboration with Centers for Independent Living. Also, advocates felt continuing to really listen to consumers and remaining an independent entity, rather than merging with another type of disability was important to maintain the level of services for consumers with visual impairment.

## **State Rehabilitation Council Members: Focus Group**

Six individuals participated in the focus group meeting held at the Division of Services for the Blind State Office in Raleigh.

### **Commonly Utilized DSB Services**

SRC members were asked to identify the most commonly utilized services by DSB consumers.

Among services identified 2 participants discussed assistive technology and training in using the technology and medical restoration (surgeries, medication, and treatment). In addition transition programs (access to AT for high school students) were mentioned, Orientation mobility training, job development and placement and independent living skills training and supports were also noted.

Participants were unsure how to describe the satisfaction of consumers with DSB services. One participant mentioned the frustration that surrounds the low return rate of customer satisfaction surveys by DSB consumers. Participant also discussed the lack of funding as a common concern with DSB.

### **Unmet Needs and Unserved/Underserved Groups**

Participants noted that DSB services are not being utilized by everyone who would qualify. Reasons for services being underutilized by some groups is the lack of awareness in the general public about the existence of DSB, and the availability of vocational rehabilitation services provided by DSB. Participants agreed that many people do not know about services. One explanation for this is the lack of publicity.

Participants thought that perhaps DSB should be more proactive in educating the public about its role in the community and should better invest into reaching out to people to let them know who they are and what they can provide. Communities are more aware of services delivered by social workers but less knowledgeable of vocational rehabilitation services and employment focused services.

Two participants agreed that the general public doesn't know the difference between legally blind and low vision. Thus they form a misconception about DSB, because they think that only clients who are legally blind are served by DSB.

Unmet independent living skills training and supports were also noted. In recent years funding was reduced for IL services which translated into challenges for many individuals to become independent and fully participate in the community.

Individuals of Hispanic ethnicity are currently underserved in North Carolina. The limited number of Hispanic speaking counselors is a major limitation within DSB. While some member has noted the efforts made to increase awareness about DSB and vocational rehabilitation and reach out to Hispanic populations by DSB participation to festivals, and conferences.

Transition age youth was another group that was identified to be underserved. What contributed to this issue is that often adolescents with visual impairments refuse to accept VI, and don't want to use magnification devices, the cane because of peers, which may negatively impact them later.

### **CRPs and Supported Employment Services**

Participants mentioned the limitation of CRPs in reaching a subset of individuals with disabilities, such as those who have multiple disabilities. Professionals employed by CRPs don't know how the services are delivered to specific groups or clients who do not fall under the typical client profile, such as traumatic brain injury and visual impairment, or other comorbidities to address the needs of individuals with multiple disabilities.

Participants were asked to comment about the availability and accessibility of supported employment services. A major issue mentioned was the lack of supported employment services in rural areas. In addition, it was noted that many supported employment programs are mainly geared toward persons with cognitive disabilities, developmental disabilities, and/or physical disabilities, and less toward legally blind/visually impaired.

### **Additional Comments**

SRC members recommended a better collaboration between DSB and the Division of Vocational Rehabilitation Services. The communication between the two agencies was considered to be insufficient. There is a need for better collaboration and in-service efforts as some people need services from both agencies.

In addition, a theme already discussed surfaced again, to raise more awareness in the community about the role and function of DSB. Further, efforts should be invested to educate staff and employers about changing needs of clients and about advancements in assistive technology. It was also mentioned how important is to upgrade the skills of

professionals and training agency staff about different areas of rehab and emerging consumer needs.

## Section IV: Discussion

### Unserved and Underserved Groups

A main goal of this assessment was to identify unserved and underserved groups of individuals with blindness and visual impairments residing in North Carolina.

UNSERVED	UNDERSERVED
<ul style="list-style-type: none"><li>• individuals who are blind or visually impaired residing in North Carolina who qualify but are not receiving VR services from the state-federal public vocational rehabilitation system</li></ul>	<ul style="list-style-type: none"><li>• individuals who are blind or visually impaired who are being served but are underrepresented respective to their group size within the state</li></ul>

This study did not identify any groups with blindness and visual impairments that are not served currently by DSB. However, there are specific groups that are underserved by the agency.

The review of the literature reflects that more females than males have vision problems such as cataracts, hyperopia, glaucoma, low vision, AMD, blindness and the RSA911 analysis reflect roughly equal rates of males and females being served by DSB. Women are underserved by DSB.

Three in four eye-care providers identified low income individuals as underserved. Other groups also mentioned by many respondents included individuals residing in rural areas, Hispanics/Latinos, Black/African-Americans, and American Indians/Alaska Natives. Other groups identified by eye care providers included Asians and the elderly.

DSB consumer focus group participants described adolescents as underserved by DSB. The RSA911 data reflects that one in three DSB consumers is African American. Though African Americans are receiving services through DSB, they tend to be less

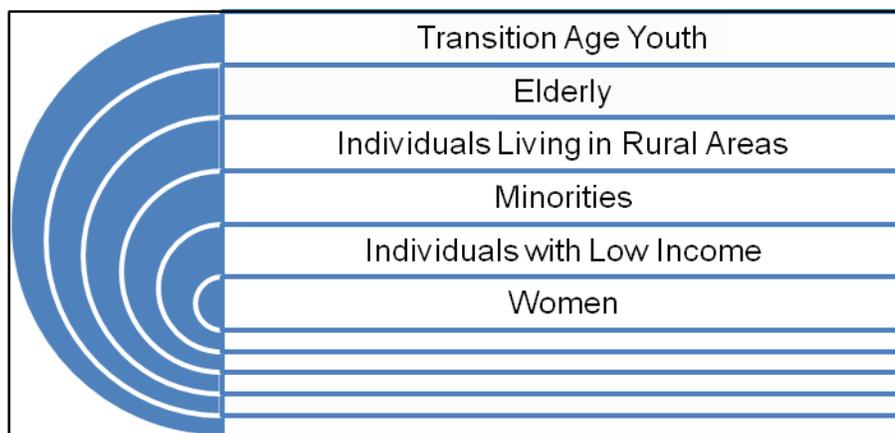
successful in securing employment than non-Hispanic White individuals. They also have lower rates of eligibility and plan development.

Advocacy group representatives identified the elderly, students, and individuals living in rural areas as being underserved. Other underserved groups mentioned included unemployed individuals, persons who are deaf-blind or individuals who have other multiple disabilities.

SRC members said that Individuals of Latino/Hispanic ethnicity are currently underserved in North Carolina. Transition age youth was another group that was identified to be underserved.

Workforce Development System partners identified rural residency as a major disadvantage in accessing services.

**Figure 4.1: Underserved Groups**



Many DSB staff participants and CRP representatives reported an increase in their caseload of individuals who have visual impairments. This is a positive finding, and aligns with demographic trends regarding changes in the prevalence of individuals with visual impairments. However, this could not be generalized across all caseloads examined, or across all agencies.

CRP Representatives also noted an increase in individuals with multiple disabilities and individuals with criminal convictions/felonies on their caseload. Two CRP representatives (of the total five) indicated an increase of visually impaired consumers and deaf-blind consumers in their caseload.

It is important to examine populations in which participants noted no change or a decrease, yet current data suggest an increase in minorities, immigrants and the elderly. Veterans, individuals who are deaf-blind, the elderly, individuals with substance abuse, or individuals with limited or no English proficiency could be studied in this aspect, as they may also be underserved by DSB. For example, large numbers of DSB staff who participated said that they experienced no change in the prevalence of consumers who are transition age youth, deaf-blind, or individuals with substance abuse, or individuals with limited or no English proficiency, which may suggest that these groups could also be to some extent underserved.

## Unmet Needs and Gaps in Services

### Employment and Community Participation

Employment is a significant unmet need of persons with visual impairments. The employment rate of individuals with vision problems in North Carolina is 36.7% (American Community Survey, 2011). In this assessment, 39% of DSB consumers reported being unemployed. Of those of working age (22-64), 40% reported having full-time or part-time employment. Unemployment is higher in some minority groups (e.g., individuals of African American race/ethnicity).

In the unemployed group (n=119)

- almost half (47%) said they would like to find a job either immediately or within the next six months
- 37% said that they had been actively searching for a job within the past six months
- 21% sought out vocational services within the past year (over 75% said they did not seek vocational rehabilitation)
- the majority sought VR services from Division of Services for the Blind or the Division of Vocational Rehabilitation Services

The RSA911 data reflects that individuals with blindness have significantly lower employment outcomes than individuals with other visual impairments.

Approximately 43% (n=132) of all DSB consumers who participated in the survey explained that they would need more assistance to participate in the community as fully as they would like. Participation rates were lower for women and individuals of African American race/ethnicity.

Barriers to employment identified by DSB consumers included the lack of jobs, lack of transportation, lack of state funds or budget restrictions, lack of information regarding disability resources, health concerns, and the lack of qualified service providers.

### **Health and Eye Care Needs**

Eye care providers reported that individuals with blindness and visual impairments in North Carolina struggle with unmet eye care needs that include routine eye exams/medical care, preventative care, assistive technology, aids, or other devices. Low vision rehabilitation and availability of ongoing care for chronic conditions were also prevalent needs described by eye care providers. DSB consumers also described health concerns as a major barrier for employment.

### **Other Needs**

Eye care providers reported that individuals with blindness and visual impairments in North Carolina have unmet needs in the area of mobility training, home care, transportation, family support, and education.

## **Adequacy of DSB Services and Gaps**

### **Gaps identified by Consumers**

DSB consumers ranked above average services such as:

- Medical services (diagnostic & treatment)
- Low vision services
- Orientation and mobility services
- Reader services
- Independent living training
- Assistive technology and training
- Personal and home management skills
- Vocational counseling
- Comprehensive vocational evaluations
- Vocational or academic training/tuition assistance
- Support services (transportation, rental assistance, etc)

Average score was assigned for benefits planning, community awareness and integration, work readiness skills, on-the-job training, work adjustment job coaching, job

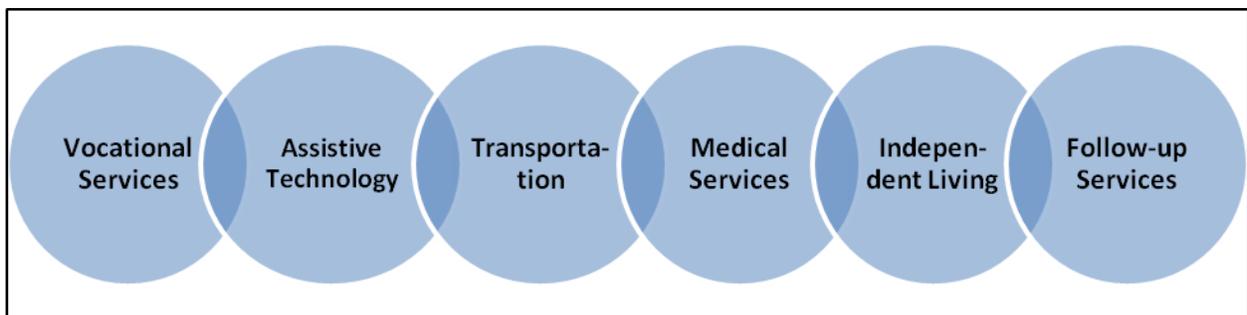
modification, school-to-work transition services (14-21 years old), job seeking skills training, job retention counseling, and job placement.



These findings indicate that service area where DSB could improve are post employment services, and supported employment.

The answers to open ended questions are also important. When asked “What other services did you need to become employed and/or live independently that you did not receive?” vocational services, assistive technology, transportation, medical services, services to improve independent living and follow-up services were noted as not provided. Again, it should be stressed, that it was not asked whether they requested the service or not. DSB does have these services available, and they are provided to eligible program participants.

**Figure 4.2: Gaps in Services Noted by DSB Consumers**



These findings suggest that consumers acknowledge the value of most DSB services and are please with the services when they receive them, but there is a group of consumers who could benefit from them, and are not receiving them.

When asked to suggest ways to improve DSB services, consumers noted:

- Increased funding: “DSB has too many consumers with not enough money. Either take on less clients or figure out how to raise more money”.

- More transportation services, including in rural areas
- Improve vocational services (job training, job placement, and vocational counseling)
- More assistive technology and training

In sum, gaps in services identified by DSB consumers were:

- Post-employment services and supported employment
- Vocational services, assistive technology, transportation, medical services and services to improve independent living
- An increase in transportation and vocational assistance services and assistive technology (were also suggested that should be improved by DSB).

### **Gaps identified by Other Stakeholders**

More than half of DSB staff noted an increase toward assistive technology/equipment training, independent living training, personal/home management skills, and medical services. The consensus was the highest in terms of assistive technology, for which 45 or 77.6% of the respondents agreed the need for this service. The demand also increased for low vision services, medical services, support services, independent living training, orientation and mobility services, vocational counseling services, personal/home management skills training, job seeking skills training, and job placement.

Eye care providers mentioned the following as gaps in services for individuals with visual impairments: financial needs, routine eye exams/medical care, preventative care, assistive technology, aids or other devices, mobility training, home care, and education.

Advocacy group representatives reported the need for additional assistive technology and independent living skills training. In addition, providing more vocational services, education, and transportation were also mentioned.

The group of SRC members identified assistive technology and training in using the technology and medical restoration (surgeries, medication, and treatment). In addition, transition programs (access to AT for high school students), orientation and mobility training, job development and placement, and independent living skills training and supports were areas that could be improved.

Gaps were identified regarding services relating to independent living skills training and supports.

## Section V: Conclusions

The North Carolina Comprehensive Statewide Needs Assessment provides an in-depth examination of vocational rehabilitation needs of individuals with blindness and visual impairments residing in the state. The study identifies unserved and underserved groups, gaps in DSB services, and provides suggestions to develop and implement innovative approaches to expand and improve the provision of vocational rehabilitation services to individuals with visual disabilities.

Changes in population trends will impact needs toward VR services for individuals with visual disabilities. North Carolina experienced significant changes in the past years concerning the demographic profile of its residents with relevant implications for visual impairments. The influx of immigrants, increase in the prevalence of minorities, increase in life expectancy, the aging of the population accompanied by the expansion of the definition of the traditional working age), as well as healthcare needs and access to healthcare point toward increased needs for VR services within the state. In addition, it is estimated that the number of North Carolina residents with impaired vision, including blindness, could more than double over the next three decades (Prevent Blindness America, 2012). Rehabilitation services for individuals with blindness and vision disabilities will be needed more than ever before.

# Appendix A

## Consumer Survey

1. Are you:
  - Male
  - Female
  
2. What is your age: \_\_\_\_\_
  
3. Which of the following best describes your racial or ethnic background?
  - Asian
  - Black/Black/African-American
  - White/Caucasian
  - Hispanic/Latino
  - American Indian/Alaska Native
  - Native Hawaiian/Pacific Islander
  - Multiracial
  - Other
  
4. What is your home zip code? \_\_\_\_\_
  
5. Are you member of any of these groups? Check all that apply.
  - Individuals who are Visually Impaired
  - Individuals who are Blind
  - Individuals who are Legally Blind
  - Individuals who are Deaf-blind
  - Individuals with Multiple Disabilities
  - Transition Age Youth (14-21 years old)
  - Veterans
  - Individuals with Substance Abuse Problems
  - Individuals with Criminal Convictions/Incarceration
  - Individuals who are homeless
  - Individuals receiving public support other than Supplemental Security Income/ Social Security Disability Insurance or SSI/SSDI (i.e. Temporary Assistance for Needy Families or TANF, Welfare, Women, Infant and Children or WIC)
  - Individuals with limited or no English proficiency

- Other (please specify) \_\_\_\_\_

6. At what age did you begin to lose your vision (years?) \_\_\_\_\_

7. Have you ever been told by a doctor or health professional that you had

	Yes	No	DK/NA
Age-related macular degeneration, or AMD			
Cataracts			
Glaucoma			
Diabetic retinopathy			
Macular degeneration			
Retinitis Pigmentosa			
Other _____			

8. Which of the following best described your current employment status:
- Employed full-time (work an average of 35 hours or more per week)
  - Employed part-time
  - Unemployed
  - Homemaker
  - Retired
  - Student
  - Volunteer
  - Other \_\_\_\_\_

**(IF UNEMPLOYED, ABOVE please answer questions 9 - 11)**

9. Do you want to find a job?
- Yes, immediately
  - Yes, within the next 6 months
  - No
  - Do not know (DK)

10. Have you actively been looking for a job within the past 6 months?

- Yes
- No

11. Have you sought any vocational services in the past year?

- Yes
- No
- DK/Not Applicable (NA)

(ASK IF Q11=Yes) Where did you go?

- Division of Services for the Blind (DSB)
- Division of Vocational Rehabilitation Services
- Technical School/Vocational Training
- Temporary Job Placement Agency
- Independent Living Center
- Veteran's Administration
- School-to-Work Transition Program ((14-21 years old)
- Did not know where to look
- Other \_\_\_\_\_

12. Are you currently receiving services from DSB?

- Yes
- No

13. Have you received services in the past from the DSB?

- Yes
- No

14. How many times in the past have you received services from the DSB?

- 1
- 2
- 3
- 4 or more
- Do not remember

15. Please identify to what extent you agree or disagree with the following statements:

	Strongly agree	Agree	Neither Agree nor disagree	Disagree	Strongly disagree
I received all the services I was told I would receive.					

Overall, my vocational rehabilitation (VR) services were provided in a timely manner.					
The services the DSB provided or purchased were of high quality.					
My VR counselor was well informed.					
My VR counselor was knowledgeable about my disabilities.					
My VR counselor was helpful.					
The DSB helped me find or keep my employment.					
My VR counselor worked with me to set goals that are important to me.					
I am satisfied with my employment.					
Overall, the DSB services I received met my needs.					
I would recommend the DSB services to others.					

16. Please rate the following services provided by the DSB:

	Excellent	Above Average	Average	Below Average	Very Poor	N/A
Independent living training						
Personal and home management skills						
Medical services (diagnostic & treatment)						
Low vision services						
Assistive technology and training in the use of adaptive equipment						

Comprehensive vocational evaluations						
Job seeking skills training						
Work readiness skills						
Job placement						
Job modification						
Job retention counseling						
On-the-job training						
Work adjustment job coaching						
Vocational or academic training/tuition assistance						
Orientation and mobility services						
School-to-work transition services (14-21 years old)						
Supported employment						
Vocational counseling						
Community awareness and integration						
Benefits planning						
Reader Services						
Support Services (Transportation, Rental Assistance, etc)						
Post-employment services						
Other services						

17. What other services did you need to become employed and/or live independently that you did not receive?

---



---



---

18. Thinking of all the services, supports and programs that are available to you, which statement best describes you ...

- I am able to be an active member in my community and participate as fully as I choose.
- I am able to participate in the community on occasion, but I could do more if help were available.

- I am not able to participate in community life as I would like because the help is not available.

19. Please rate the most significant barriers that have prevented you from gaining and maintaining employment on a scale from 1 to 5:

1= not a significant barrier

5 =a very significant barrier

	1	2	3	4	5
Lack of jobs					
Lack of vocational skills					
Lack of available vocational rehabilitation services					
Lack of qualified service providers					
Lack of information regarding disability resources					
Low expectations of rehabilitation counselor					
Employer discrimination and attitude					
Lack of State funds or budget restrictions					
Fear of losing disability benefits					
Lack of personal attendant services					
Lack of transportation					
Lack of adequate housing					
Lack of child care					
Lack of family support					
Health concerns					
Inadequate medical care and/or medical insurance					
Safety concerns					
Family concerns (Caring for the aging, frail members, children, etc.)					

Other (please specify): \_\_\_\_\_

20. What was your household's income last year?

- Less than \$15,000

- \$15,000 to less than \$30,000
- \$30,000 to less than \$50,000
- \$50,000 to less than \$75,000
- \$75,000 or more
- DK/NA

21. Do you have any comments or suggestions on how to improve the DSB services?

---

---

---

---

**Thank you!**

# Appendix B

## Consumer Focus Group

### Discussion Questions:

1. What do you see as the unmet vocational rehabilitation (VR) service needs for individuals who are blind, visually impaired, and/or deaf-blind in North Carolina? Do you see needs for services that are not offered?

---

---

---

---

2. From your experience, who are unserved or underserved populations of individuals with visual disabilities in North Carolina?

---

---

---

---

3. What do you see as the VR service needs for those who are unserved or underserved?

- a. What are the barriers?

---

---

---

---

- b. What could the Division of Services for the Blind (DSB) do to meet the need?

---

---

---

---

---

4. Is there something else you would like to tell us?

---

---

---

---

# Appendix C

## Division of Services for the Blind (DSB) Staff Survey

1. Are you:
  - Male
  - Female
  
2. What is your age: \_\_\_\_\_
  
3. Which of the following best describes your racial or ethnic background?
  - a. Asian
    - Black/Black/African-American
    - White/Caucasian
    - Hispanic/Latino
    - American Indian/Alaska Native
    - Native Hawaiian/Pacific Islander
    - Multiracial
    - Other
  
4. Which district office do you belong to? \_\_\_\_\_
  
5. What is your job title/position within the Division of Services for the Blind (DSB)?  
\_\_\_\_\_
  
6. What is your highest degree? \_\_\_\_\_
  
7. What is your caseload size? \_\_\_\_\_
  
8. How many years have you worked for the DSB? \_\_\_\_\_
  
9. Prevalent visual impairments seen in your caseload?

	Yes	No
Age-related macular degeneration, or AMD		
Cataracts		
Glaucoma		
Diabetic retinopathy		
Macular degeneration		

Retinitis Pigmentosa		
Other _____		

10. Who makes the majority of referrals to you? \_\_\_\_\_

11. For recent years, in your caseload have you seen any changes (1=increase, 2=decrease or 3=no change) in the size of the following groups:

	1	2	3
Individuals with Visual Impairments			
Individuals who are Deaf-blind			
Individuals with Multiple Disabilities			
Transition Age Youth (14-21 years old)			
Veterans			
Individuals with Substance Abuse Problems			
Individuals with Criminal Convictions/Felonies			
Individuals who are homeless			
Individuals receiving public support other than Supplemental Security Income/ Social Security Disability Insurance or SSI/SSDI (i.e. Temporary Assistance for Needy Families or TANF, Welfare, Women, Infant and Children or WIC)			
Individuals with limited or no English proficiency			

Other: \_\_\_\_\_

12. For recent years have you seen any changes (1=increase, 2=decrease or 3=no change) in the need for the following services in your caseload:

	1	2	3
Independent living training			
Personal and home management skills			
Medical services (diagnostic & treatment)			
Low vision services			
Assistive technology and training in the use of adaptive equipment			

Comprehensive vocational evaluations			
Job seeking skills training			
Work readiness skills			
Job placement			
Job modification			
Job retention counseling			
On-the-job training			
Work adjustment job coaching			
Vocational or academic training/tuition assistance			
Orientation and mobility services			
School-to-work transition services (14-21 years old)			
Supported employment			
Vocational counseling			
Community awareness and integration			
Benefits planning			
Reader Services			
Support Services (Transportation, Rental Assistance, etc)			
Post-employment services			
Other services			

**Questions 13-19 are intended for Vocational Rehabilitation (VR) staff only. If you are not classified as VR staff, please skip to question 20.**

13. Please rate the most significant barriers that you think prevent your consumers from gaining and maintaining employment on a scale from 1 to 5:

1= not a significant barrier to employment  
5 =a very significant barrier

	1	2	3	4	5
Lack of jobs					
Lack of vocational skills					
Lack of available vocational rehabilitation services					
Lack of qualified service providers					

Lack of information regarding disability resources					
Low expectations of rehabilitation counselor					
Employer discrimination and attitude					
Lack of State funds or budget restrictions					
Fear of losing disability benefits					
Lack of personal attendant services					
Lack of transportation					
Lack of adequate housing					
Lack of child care					
Lack of family support					
Health concerns					
Inadequate medical care and/or medical insurance					
Safety concerns					
Family concerns (Caring for the aging, frail members, children, etc.)					

Other (please specify): \_\_\_\_\_

14. How often do you refer your clients to One-Stop Shops?

- a. Often
- b. Sometimes
- c. Seldom
- d. Never

15. How would you rate your collaboration with your local One-Stop:

- Excellent
- Above Average
- Average
- Below Average
- Very Poor

16. What issues have you experienced when working with the One-Stop Centers and other components of the statewide workforce investment system (e.g., lack of space for VR, negative attitudes toward persons with visual impairments, etc):

---



---



---



---

17. For which of the following services do you routinely refer consumers to Community Rehabilitation Programs (CRPs)? Check all that apply:

- independent living training
- personal and home management skills
- medical services (diagnostic & treatment)
- low vision services
- assistive technology and training in the use of adaptive equipment
- comprehensive vocational evaluations
- job seeking skills training
- work readiness skills
- job placement
- job modification
- job retention counseling
- on-the-job training
- work adjustment job coaching
- vocational or academic training/tuition assistance
- orientation and mobility services
- school-to-work transition services (14-21 years old)
- supported employment
- vocational counseling
- community awareness and integration
- benefits planning
- reader services
- support services (transportation, rental assistance, etc)
- post-employment services
- other services

18. Please read the following statements regarding CRPs and identify your level of agreement with the statement

	agree	undecided	disagree
There are enough CRPs to serve consumers in need of services in my area			

The available CRPs provide a range of services that meet the needs of my consumers			
The CRP staff is well trained to serve the VR needs of my consumers			
The CRPs provide quality services in the areas listed below that meet the needs of my consumers			
<ul style="list-style-type: none"> <li>• independent living training</li> <li>• personal and home management skills</li> <li>• Medical services (diagnostic &amp; treatment)</li> <li>• low vision services</li> <li>• assistive technology and training in the use of adaptive equipment</li> <li>• comprehensive vocational evaluations</li> <li>• job seeking skills training</li> <li>• work readiness skills</li> <li>• job placement</li> <li>• job modification</li> <li>• job retention counseling</li> <li>• on-the-job training</li> <li>• work adjustment job coaching</li> <li>• vocational or academic training/tuition assistance</li> <li>• orientation and mobility services</li> <li>• school-to-work transition services (14-21 years old)</li> <li>• supported employment</li> <li>• vocational counseling</li> <li>• community awareness and integration</li> <li>• Benefits planning</li> <li>• Reader Services</li> <li>• Support Services (Transportation, Rental Assistance, etc)</li> <li>• Post-employment services</li> <li>• other services</li> </ul>			

19. How would you rate your collaboration with the CRPs:

- Excellent

- Above Average
- Average
- Below Average
- Very Poor

20. What do you see as far as future trends in terms of service needs for people with visual disabilities in North Carolina?

---

---

---

21. Any other comments or suggestions?

---

---

---

---

**Thank you!**

# Appendix D

## State Rehabilitation Council Focus Group

### Discussion Questions:

1. What are the most commonly utilized services by the Division of Services for the Blind (DSB) consumers? Are consumers generally satisfied with these services?

---

---

---

---

2. What do you see as the unmet vocational rehabilitation (VR) service needs for individuals who are blind, visually impaired, and/or deaf-blind in North Carolina? Have you noted any gaps in VR services?

---

---

---

---

3. From your experience, who do you believe to be unserved or underserved populations of individuals with visual disabilities in North Carolina?

---

---

---

---

4. What do you see as the VR service needs for those who are unserved or underserved?

- c. What are the barriers?
- d. What could the DSB do to meet the need?

---

---

---

---

---

5. What do you think about the availability and accessibility of supported employment services? Any barriers you could identify? What can the DSB do to meet the need?

---

---

---

---

---

6. If you look at the entire workforce investment system in the state, are there additional service needs?

e. What are the barriers?

f. What could the DSB do to meet the need?

---

---

---

---

---

7. What do you see as the need to establish, develop, and improve community rehabilitation programs (CRPs)?

---

---

---

---

8. Is there something else you would like to tell us?

---

---

---

---

## Appendix E

### Eye Care Provider Survey

1. What best describes your practice type?
  - Optometry - General
  - Optometry-Low vision specialty
  - Optometry - Other specialty \_\_\_\_\_
  - Ophthalmology - General
  - Ophthalmology – Retina specialty
  - Ophthalmology – Low vision specialty
  - Ophthalmology – Other specialty \_\_\_\_\_
  
2. Is yours a...
  - Private solo practice
  - Group practice
  - Hospital or medical center
  - Other clinical setting
  - Other \_\_\_\_\_
  
3. What types of services have you provided?
  - Comprehensive vision evaluation
  - Diagnostic services
  - Low vision device fitting/training
  - Surgery
  - Treatment
  - Other: \_\_\_\_\_
  
4. How long has your organization provided services to individuals who are blind, vision impaired and/or deaf-blind?
  - Less than 1 year
  - 1 - 5 years
  - 6 - 10 years
  - 11 - 15 years
  - 16 - 20 years
  - 20 + years

5. Do you have a low vision rehabilitation specialist working with you in your practice?
- Yes
  - No
  - Don't Know/Not Applicable
6. Roughly, what percentage of the patients in your practice need low vision rehabilitation services?
- Less than one-fourth
  - One-fourth to less than half
  - Half to three-fourths
  - More than three fourths
7. Among those who need them, roughly, what percentage of the patients who need low vision rehabilitation services receive them?
- Less than one-fourth
  - One-fourth to less than half
  - Half to three-fourths
  - More than three fourths
  - DK/NA
8. Approximately how many referrals do you receive from the Division of Services for the Blind (DSB) on an annual basis?
- Less than 25
  - 26-50 referrals
  - Over 50 referrals
  - N/A
9. How was your overall experience working with the DSB in the past?
- Excellent
  - Above Average
  - Average
  - Below Average
  - Very Poor
  - N/A

10. What do you consider to be the greatest unmet eye care needs in your community? (CHECK ALL THAT APPLY.)

- Financial Needs
- Routine Exams or Medical care
- Preventive care
- Assistive Technology, aids or devices
- Mobility Training
- Home care
- Education
- Other \_\_\_\_\_
- DK/NA

11. What groups do you think are unserved or underserved in the area of low vision rehabilitation services? (CHECK ALL THAT APPLY.)

- Low income
- Blacks/Black/African-Americans
- Hispanics/Latinos
- American Indians/Alaska Natives
- Rural areas
- Other \_\_\_\_\_
- DK/NA

12. What are common issues or barriers these groups face in gaining or maintaining employment?

---

---

---

---

---

13. What do you see as possible solutions to improve vocational rehabilitation service provision in North Carolina for individuals with visual disabilities?

---

---

---

---

---

14. How can the DSB improve service delivery to the unserved and underserved groups?

---

---

---

---

15. Any additional comments or suggestions?

---

---

---

---

---

**Thank you!**

## Appendix F

### Community Rehabilitation Program Representative Survey

1. Where is your agency located?
  - Urban
  - Rural
  - Suburban
  
2. How long have you been partnering with the Division of Services for the Blind (DSB)? \_\_\_\_\_
  
3. What is your job title? \_\_\_\_\_
  
4. Approximately how many referrals do you receive from the DSB in a year?  
\_\_\_\_\_
  
5. For recent years, in your caseload have you seen any changes in your referrals? (1=increase, 2=decrease or 3=no change) in the size of the following groups:

	1	2	3
Individuals with Visual Disabilities			
Individuals who are Deaf-blind			
Individuals with Multiple Disabilities			
Transition Age Youth (14-21 years old)			
Veterans			
Individuals with Substance Abuse Problems			
Individuals with Criminal Convictions/Felonies			
Individuals who are homeless			
Individuals receiving public support other than Supplemental Security Income/ Social Security Disability Insurance or SSI/SSDI (i.e. Temporary Assistance for Needy Families or TANF, Welfare, Women, Infant and Children or WIC)			
Individuals with limited or no English proficiency			

Other: \_\_\_\_\_

6. Was there any change in the number of individuals with visual impairments served by your organization?

- No change
- There was an increase
- There was a decrease

7. Are there any groups of individuals with visual disabilities (including racial-ethnic minorities) that are not being served in North Carolina (NC) or are not getting the level/amount of service warranted? Who are they, and what do they need?

---

---

---

7. a: Please describe your agency's experience with these populations: what are common issues or barriers?

---

---

---

---

7.b: What efforts have been made to provide services? Were these effective?

---

---

---

---

8. Please rate the need of individuals with visual disabilities for the following services on a scale from 1 to 5,  
1=in low demand/rarely needed  
5=very high need/demand

	1	2	3	4	5
Independent living training					
Personal and home management skills					
Medical services (diagnostic & treatment)					
Low vision services					

Assistive technology and training in the use of adaptive equipment					
Comprehensive vocational evaluations					
Job seeking skills training					
Work readiness skills					
Job placement					
Job modification					
Job retention counseling					
On-the-job training					
Work adjustment job coaching					
Vocational or academic training/tuition assistance					
Orientation and mobility services					
School-to-work transition services (14-21 years old)					
Supported employment					
Vocational counseling					
Community awareness and integration					
Benefits planning					
Reader Services					
Support Services (Transportation, Rental Assistance, etc)					
Post-employment services					
Other services					

9. For recent years have you seen any changes (**1=increase, 2=decrease or 3=no change**) in the need for the following services provided by your community rehabilitation program (CRP) representatives:

	1	2	3
Independent living training			
Personal and home management skills			
Medical services (diagnostic & treatment)			
Low vision services			
Assistive technology and training in the use of adaptive equipment			
Comprehensive vocational evaluations			
Job seeking skills training			

Work readiness skills			
Job placement			
Job modification			
Job retention counseling			
On-the-job training			
Work adjustment job coaching			
Vocational or academic training/tuition assistance			
Orientation and mobility services			
School-to-work transition services (14-21 years old)			
Supported employment			
Vocational counseling			
Community awareness and integration			
Benefits planning			
Reader Services			
Support Services (Transportation, Rental Assistance, etc)			
Post-employment services			
Other services			

10. Please rate the most significant barriers your consumers with visual disabilities experience in gaining and maintaining employment on a scale from 1 to 5,  
1= not a significant barrier  
5 =a very significant barrier

	1	2	3	4	5
Lack of jobs					
Lack of vocational skills					
Lack of available vocational rehabilitation services					
Lack of qualified service providers					
Lack of information regarding disability resources					
Low expectations of rehabilitation counselor					
Employer discrimination and attitude					
Lack of State funds or budget					

restrictions					
Fear to loose disability benefits					
Lack of personal attendant services					
Lack of transportation					
Lack of adequate housing					
Lack of child care					
Lack of family support					
Health concerns					
Inadequate medical care and/or medical insurance					
Safety concerns					
Family concerns (Caring for the aging, frail members, children, etc.)					

11. Usually how quickly are you able to initiate services with vocational rehabilitation (VR) consumers after receiving a referral from VR?

- Within a week
- Between one and 2 weeks
- Between 2 weeks and 1 month
- More than 1 month

12. Please rate to what extent the following issues impact your organization’s ability to provide services to persons with visual disabilities:

	Major Issue	Minor Issue	Not an Issue	Not Applicable
Lack of qualified staff				
Costs for services				
Employee turnover				
Lack of jobs				
Lack of referrals				
Increase in need for services				
Poor communication with DSB				

13. What do you see as the need to establish, develop, and improve Community Rehabilitation Programs (CRPs)?

---



---



---

14. What do you see as possible solutions to improve vocational rehabilitation service provision in North Carolina for individuals with visual disabilities?

---

---

---

---

---

15. Any additional comments or suggestions?

---

---

---

---

**Thank you!**

# Appendix G

## Advocacy Group Representative Key Informant Interview

1. How would you describe the collaboration between your agency and the Division of Services for the Blind (DSB)?

---

---

---

---

2. On average, how many individuals with visual disabilities are served by your agency in a year? \_\_\_\_\_

3. What populations of individuals with visual disabilities are not being served in North Carolina (NC) or are not getting the level/amount of rehabilitation service warranted? Who are they, and what do they need?

---

---

---

---

- Please describe your agency's experience with these populations: what are common issues or barriers?

---

---

---

---

---

4. What do you see as the vocational rehabilitation (VR) service needs for those who are unserved or underserved?

4.a - What are the barriers?

---

---

---

---

---

4.b - What could the DSB do to meet the need?

---

---

---

---

---

---

5. What do you see as far as future trends in terms of service needs for people with visual disabilities in North Carolina?

---

---

---

---

6. Other comments?

---

---

---

---

**Thank you!**

## Appendix H

### Employer Key Informant Interview

1. What is your position/title within the organization?  
\_\_\_\_\_
2. How many individuals does your business employ? \_\_\_\_\_
3. How many individuals with blindness and visual impairments have you hired in the past 3 years?
  - None
  - \_\_\_\_\_
4. What training have you had specific to working with and employing individuals with blindness and visual impairments
  - None
  - \_\_\_\_\_
5. Was there any change in the number of individuals with visual impairments employed by your organization?
  - No change
  - There was an increase
  - There was a decrease
6. Have you seen more individuals who are blind, vision impaired, and/or deaf-blind seeking employment at your organization in the past three years?
  - Yes
  - No
  - Not sure
7. How was your overall experience working with the Division of Services for the Blind (DSB) in the past?

- Excellent
- Above Average
- Average
- Below Average
- Very Poor
- Not Applicable

8. Would you refer other employers to the DSB?

- Yes
- No
- Not sure

9. Which factors most influence your decision to hire individuals who are blind, vision impaired and deaf-blind? Check all that apply.

	Yes	No
Meeting the minimum job qualifications		
Meeting educational requirements		
Strong work history		
Strong work ethic		
Achieve or maintain diversity in workforce		
Labor market		
Receiving a federal work opportunity tax credit		
Other: _____		

10. In your opinion, which of the following are your greatest concerns about hiring individuals who are blind, vision impaired and deaf-blind? Check all that apply.

	Yes	No
None		
Cost of accommodations		
Lack of Transportation		
Lack of vocational skills		
Lack of familiarity and comfort in working with individuals who are blind, vision impaired, and/or deaf-blind		
Safety concerns		
Excessive sick time/Family and Medical Leave Act		

Integration into Workplace		
Other:		

11. Were the concerns listed in the chart above (Question 10) overcome?

---



---



---

12. Which services could the DSB provide to assist you as an employer in hiring or retaining individuals who are blind, vision impaired and deaf-blind? Check all that apply.

- Job analysis
- Paid internship
- Unpaid work experience
- How to retain employees that become blind, vision impaired, and/or deaf-blind
- On-the-Job training and support
- Assistive Technology (Screen readers, alternative computer input, etc.)
- Ergonomic assessment
- Facility accessibility consultation
- Information about social security work incentives
- Hiring and retention tax credits
- Information about the Americans with Disabilities Act (ADA)
- Disability awareness training related to individuals who are blind, vision impaired, and/or deaf-blind
- Recruitment/Affirmative action planning
- Other (please specify)

---

13. What sort of training would be helpful for you to efficiently work with individuals who are blind, vision impaired and deaf-blind that you hire?

---



---



---



---

14. Do you have any comments or suggestions that could have improved your experience with the DSB?

---

---

---

---

---

**Thank you!**

# Appendix I

## Workforce Development System Partner Survey

1. How long have you partnered with the Division of Services for the Blind (DSB)?  
\_\_\_\_\_
2. What is your job title? \_\_\_\_\_
3. In a year, on average how many individuals with visual impairments do you serve? \_\_\_\_\_
4. Approximately how many referrals do you receive from the DSB in a year?  
\_\_\_\_\_
5. Approximately how many referrals do you make to the DSB in a year? \_\_\_\_\_
6. would you rate your working relationship with local DSB staff?
  - Excellent
  - Above Average
  - Average
  - Below Average
  - Very Poor
7. Do you feel there are gaps in services for persons with disabilities in the One Stop Shop?
  - Yes
  - No
8. In recent years, have you seen any changes (1=increase, 2=decrease or 3=no change) in the size of the following groups seeking services at your one-stop center:

	1	2	3
Individuals with Visual Disabilities			
Individuals who are Deaf-blind			
Individuals with Multiple Disabilities			
Transition Age Youth (14-21 years old)			

Veterans			
Individuals with Substance Abuse Problems			
Individuals with Criminal Convictions/Felonies			
Individuals who are homeless			
Individuals receiving public support other than Supplemental Security Income/ Social Security Disability Insurance or SSI/SSDI (i.e. Temporary Assistance for Needy Families or TANF, Welfare, Women, Infant and Children or WIC)			
Individuals with limited or no English proficiency			

Other: \_\_\_\_\_

9. Rate your knowledge of

	Excellent	Above Average	Below Average	Poor	Very poor
Assistive technology and its availability					
Effective strategies that support employment outcomes for consumers with disabilities					
Providing materials in alternate or accessible formats					
Self-disclosure to employers and potential employers					
Information about vocational rehabilitation services					
How working can impact social security and other benefits					

10. What training needs would your staff have related to serving persons with visual disabilities? Check all that apply:

- Americans with Disabilities Act (ADA)
- Social Security work incentives
- Assistive Technology
- Vocational Rehabilitation (VR) services
- Employer resources/tax credits
- Blindness and low vision

- Deaf-blind

11. What do you see as the need to establish, develop, and improve Community Rehabilitation Programs (CRPs)?

---

---

---

---

12. If you look at the entire workforce investment system in the state, are there additional service needs?

- Yes
- No
- Don't know

13. If yes, please explain:

---

---

---

---

14. What are the barriers for getting needed services?

---

---

---

---

15. What could the DSB do to meet the need?

---

---

---

---

16. Any other comments you would like to share? \_\_\_\_\_

---

---

**Thank you!**

## References

- Badenhausen, K. (2012). The Best Places for Business and Careers. Forbes. Retrieved 25 August 2013 from <http://www.forbes.com/sites/kurtbadenhausen/2012/06/27/the-best-places-for-business/>
- Cavanaugh, B., & Virginia Department for the Blind and Vision Impaired. (2012). Comprehensive statewide needs assessment. The National Research and Training Center on Blindness and Low Vision, Mississippi State University.
- Crudden, A., Sansing, W., Butler, S., & McBroom, L. (2004). Overcoming Barriers to Employment among Persons with Visual Disabilities: Perspectives of Rehabilitation Providers. Rehabilitation Research and Training Center on Blindness and Low Vision, Mississippi State University.
- Crudden, A., Williams, W., McBroom, L. & Moore, E. J. (2002). Consumer and Employer Strategies for Overcoming Employment Barriers. Rehabilitation Research and Training Center on Blindness and Low Vision, Mississippi State University.
- Erickson, W., Lee, C., von Schrader, S. (2012). Disability Statistics from the 2010 American Community Survey (ACS). Ithaca, NY: Cornell University Rehabilitation Research and Training Center on Disability Demographics and Statistics (StatsRRTC). Retrieved from <http://www.disabilitystatistics.org>.
- Infoplease. (2013). North Carolina economy. Retrieved from <http://www.infoplease.com/encyclopedia/us/north-carolina-economy.html>
- Kentucky Office for the Blind. (2011). Comprehensive needs assessment (CSNA) of blind and visually impaired Kentucky residents. Retrieved from <http://blind.ky.gov/SiteCollectionDocuments/ComprehensiveNeedsAssessment12-1.pdf>
- North Carolina Department of Agriculture and Consumer Services. Field crops: Tobacco. Retrieved on July 10, 2013 from <http://www.ncagr.gov/markets/commodit/horticul/tobacco/>
- North Carolina Division of Services for the Blind. (2012). North Carolina's Division of Services for the Blind annual report 2012. Retrieved from <http://www.ncdhhs.gov/dsb/publications/annual2012.htm>
- North Carolina Division of Vocational Rehabilitation Services: Program Policy, Planning, and Evaluation Section. (2010). A comprehensive statewide assessment of vocational rehabilitation needs of North Carolinians with disabilities. Retrieved from [http://www.ncdhhs.gov/dvrs/newspubs/pubs/Comprehensive\\_Needs\\_Assessment.pdf](http://www.ncdhhs.gov/dvrs/newspubs/pubs/Comprehensive_Needs_Assessment.pdf)

- North Carolina State Center Health Statistics. (2012). Behavioral risk factor surveillance system (BRFSS) calendar year 2009 results. Retrieved from <http://www.schs.state.nc.us/schs/brfss/2009/>
- Prevent Blindness America. (2012). New vision problems in the U.S. report: New report from prevent blindness America shows sharp increase in eye disease prevalence. <http://www.preventblindness.org/new-vision-problems-us-report>
- Rehabilitation Services Administration. State plan for the State Vocational Rehabilitation Services Program and state plan for the State Supported Employment Services Program NC Department of Health and Human Services - Division of Services for the Blind State Plan for Fiscal Year 2011 (submitted FY 2010). Retrieved from <http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCkQFjAA&url=http%3A%2F%2Fwww.ncdhhs.gov%2Fdsb%2Fpublications%2FFFY2011%2520State%2520Plan.doc&ei=cxloUvGVC4qe2qXEmIHQAQ&usq=AFQjCNG9DkK8o6gz5Agva2tEziLuA6lx0Q&bvm=bv.55123115,d.eW0>
- Shell, J. (2010). *Developing a Model Comprehensive Statewide Needs Assessment With Corresponding Training Materials For State VR Agency Staff and SRC Members: The VR Needs Assessment Guide*. U.S. Department of Education. Retrieved from <http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCkQFjAA&url=http%3A%2F%2Fwww2.ed.gov%2Fprograms%2Frsabvrs%2Fresources%2Fvr-needs-assessment-guide.doc&ei=RxloUrTAG6L42AX32IDADA&usq=AFQjCNHQdlueXe9M7th322w-mgvsj28-6g&bvm=bv.55123115,d.eW0>
- Sligar, S. R., Madison, S. A., & Kim, M. (2010). Comprehensive statewide needs assessment report: North Carolina Division of Services for the Blind. Retrieved from Retrieved from [http://www.ncdhhs.gov/dsb/publications/NC\\_DSB\\_CSNA\\_Final\\_Report\\_2010.04.21.doc](http://www.ncdhhs.gov/dsb/publications/NC_DSB_CSNA_Final_Report_2010.04.21.doc)
- State Center for Health Statistics, NC Division of Public Health, & NC Department of Health and Human Services. (2011). Health profile of North Carolinians: 2011 update. Retrieved from [http://www.schs.state.nc.us/schs/pdf/HealthProfile2011\\_WEB.pdf](http://www.schs.state.nc.us/schs/pdf/HealthProfile2011_WEB.pdf)
- U.S. Census Bureau. (n.d.). Metropolitan Statistical Area. Retrieved from [http://quickfacts.census.gov/qfd/meta/long\\_metro.htm](http://quickfacts.census.gov/qfd/meta/long_metro.htm)
- U.S. Census Bureau. (2011). Selected economic characteristics: 2011 American Community Survey 1-year estimates. Retrieved from [http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_11\\_1YR\\_DP03&prodType=table](http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_1YR_DP03&prodType=table)
- U.S. Census Bureau. (2011). State intercensal estimates (2000-2010). Retrieved from <http://www.census.gov/popest/data/intercensal/state/state2010.html>

- U.S. Census Bureau. (2012). Selected social characteristics in the United States: 2007-2011 American Community Survey 5-year estimates. Retrieved from [http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_11\\_5YR\\_DP02&prodType=table](http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_11_5YR_DP02&prodType=table)
- U.S. Bureau of Labor Statistics. (2011). Economy at a Glance. For North Carolina. <http://www.bls.gov/eag/eag.nc.htm>
- U.S. Bureau of Labor Statistics. (2013). Databases, tables, & calculators by subject. Retrieved from <http://data.bls.gov/timeseries/LASST37000003>
- U.S. Bureau of Labor Statistics. (2013). Local area unemployment statistics map. Retrieved from <http://www.bls.gov/lau/>.
- U.S. Census Bureau; American Community Survey. (2012). Selected social characteristics in the United States: 2012 American Community Survey 1-year estimates. Retrieved from [http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_12\\_1YR\\_DP02&prodType=table](http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_12_1YR_DP02&prodType=table)
- U.S. Social Security Administration. (2010). Annual statistical report on the Social Security Disability Insurance Program, 2010. Retrieved from [http://www.socialsecurity.gov/policy/docs/statcomps/di\\_asr/2010/index.html](http://www.socialsecurity.gov/policy/docs/statcomps/di_asr/2010/index.html)
- U.S. Social Security Administration, Office of Retirement and Disability Policy. (2012). SSI recipients by state and county, 2012: North Carolina. Retrieved from [http://www.ssa.gov/policy/docs/statcomps/ssi\\_sc/2012/nc.html](http://www.ssa.gov/policy/docs/statcomps/ssi_sc/2012/nc.html)
- Vincent, G. K., & Velkoff, V. A. (2010). The next four decades: The older population in the United States: 2010 to 2050. U. S. Census Bureau Current Population Reports. [www.census.gov/prod/2010pubs/p25-1138.pdf](http://www.census.gov/prod/2010pubs/p25-1138.pdf)
- State Center for Health Statistics, NC Division of Public Health, & NC Department of Health and Human Services. (2011). Health profile of North Carolinians: 2011 update. Retrieved from [http://www.schs.state.nc.us/schs/pdf/HealthProfile2011\\_WEB.pdf](http://www.schs.state.nc.us/schs/pdf/HealthProfile2011_WEB.pdf)
- Wong, V. (2011, September). Which is America's Best City? *Business Week*. Retrieved from <http://www.businessweek.com/lifestyle/which-is-americas-best-city-09202011.html>