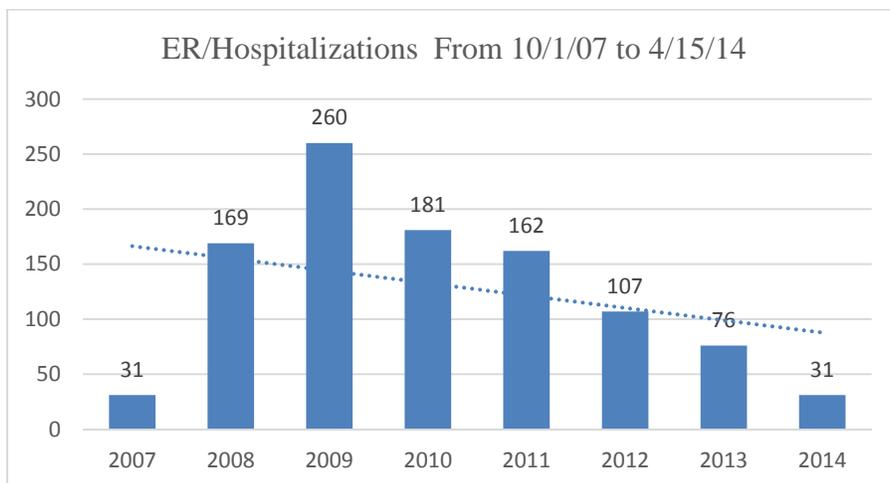


## **Beatrice State Developmental Center Medical/Professional Services**

The Division serves individuals with significant medical, mental, psychological, dental, and rehabilitative needs. Accordingly, the Division has made it a priority to recruit and retain medical, dental, nursing, and allied health professionals who can provide optimal support and care to individuals with developmental disabilities.

### ***Medical/Professional Services, General Progress***

In 2007, when BSDC experienced regulatory difficulties with the Centers for Medicare and Medicaid and the Department of Justice, medical services at BSDC were provided to over 300 individuals by four primary care providers, a contracted neurologist for four hours every two weeks, a dentist, and occasional consults by a contracted psychiatrist. Today, the medical unit at BSDC is staffed by three full-time primary care providers, two full-time psychiatrists, one neurologist, a part time internist, and one full-time dentist. These professionals provide primary, specialty, and advanced specialty services (e.g., musculoskeletal neurology). Dental care is also provided onsite to individuals living at BSDC and to others who have moved to the community from BSDC. Additionally, select specialty services from the Medical/Professional Services team are now provided via consultative services at BSDC, in the community and via tele-health to some individuals who have left BSDC to integrate into the community. A full time medical director oversees all the Medical/Professional Services team activities.



These enhanced medical and clinical supports at BSDC have provided many positive benefits to the individuals living at BSDC. One example is the reduced incidents of hospitalization. As shown in the chart above, hospitalizations have dramatically been reduced since 2009 (data prior to 2009 is inconsistent as BSDC had on-site hospital services.) Having accessible quality medical and clinical supports is clearly making a difference at BSDC.

### ***Public Health Clinic***

Our medical team provides clinical services at the BSDC licensed public health clinic (PHC), which is the only State of Nebraska PHC that is devoted exclusively to the care of individuals with IDD. Our specialists conduct both in-person and tele-health clinics, which are designed to provide maximal flexibility while mitigating geographical barriers. To date, specialty clinics are: psychiatry, physical nutritional management, dental treatment, including dental treatment under general anesthesia.

### ***Dental Clinic***

The BSDC dental clinic exclusively provides dental care for adult individuals with developmental disabilities. The clinic provides dental services to individuals who reside at BSDC, past residents of BSDC now living in the community and individuals in the community who have been unable to access necessary services. Preventative and restorative dental treatment completed in the dental clinic includes dental x-rays, prophylaxis, non-surgical periodontal disease treatment, restorations, crowns, root canals, removable partial and full dentures. Surgical treatment includes both routine extractions, surgical extractions, and surgical periodontal disease treatment. The dental clinic includes both a standard dental operatory and a surgical room for general sedation dental treatment. For dental patients that cannot safely tolerate invasive dental treatment, sedation is administered in operating room by one of three contracted certified registered nurse anesthetists. BSDC registered nurses assist with patient admission, sedation and post-operative recovery. BSDC primary care providers are able to conduct medical preventative tests (e.g., Pap smear) during general dental sedation for individuals when that is medically necessary (which is reviewed by appropriate Human and Legal Rights Committee processes.)

### ***Electronic Health Record (EHR)***

The electronic health record (EHR) is the tool that makes person centered care successful. BSDC has made great strides in implementation and utilization of the Avatar EHR software. Prior to Avatar providers were required to review paper records. Paper records were time consuming, fragmented, and did not allow for timely comprehensive reporting, or performance monitoring. BSDC's use of Avatar has resulted in improved clinical workflow leading to more interdisciplinary collaboration.



BSDC clinical staff currently enter progress notes, assessments, orders, problems lists, and medication regimen reviews directly into Avatar. This direct entry allows providers comprehensive, up-to-date information about an individual allowing them to be proactive in that individual's care. BSDC also uses Avatar to monitor performance indicators and organizational goals. The Executive Management function, via Avatar, enhances risk management and the ability to make more informed decisions that result in BSDC delivering higher quality care.

EHR improvements are slated for late summer and fall of 2014. With the MyAvatar upgrade providers will have the ability to customize their desktops improving EHR navigation. MyAvatar is a practice management and medication management solution with an easy-to-use interface due to MyAvatar widgets. A widget is a small application that can display data completely tailored to the user's need. BSDC clinical staff will be able to open, view and edit records quickly and easily. With the functioning MyAvatar to do list, clinical staff will be able to stay on top of orders, diagnostic reports, and assessments that require review and/or completion. MyAvatar has great potential for integrating and organizing medical record documentation by allowing clinical staff to retask other clinical staff for follow-up on an individual's plan of care when their review and/or completion of an assessment is required.

Providers are challenged to deliver person centered care that is outcome based. BSDC staff has made Avatar implementation a priority in order to have the best possible outcomes for the individuals that BSDC serves. BSDC is moving from a paper based health record to an electronic health record. The MyAvatar upgrade is one step closer to that electronic health record goal.

### ***Allied Health Professionals, Physical and Nutritional Consultative Services (PNCS), and Spine and Gait Services***

#### **Allied Health Professionals:**

The medical providers work side-by-side with a full complement of allied health professionals. The allied health professionals are integral to the functions of the musculoskeletal –spine and gait clinic, and the physical nutritional management support group. Allied Health Professionals assist

in determining optimal positioning, oral intake standards and the identification of methods to improve the ability to communicate. The result of the services provided includes, but are not limited to, the mitigation of the risk of contractures, skin breakdown, constipation, aspiration, and undesirable behaviors. Functional areas impacted by Allied Health Professionals include improved mobility, improved independence with ADLS, improved expressive and receptive language, and tolerance of least restrictive diet. A comparison of the caseload (individuals to professional ratio) between 2012 and 2014 is worth noting and is depicted in the table below.

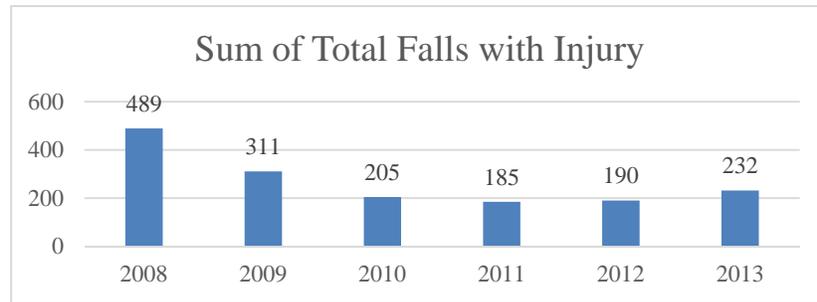
<b>Allied Health Professionals</b>	<b>Individuals to Professionals Ratio</b>		
	<b>2007</b>	<b>2012</b>	<b>2014</b>
<i>Physical Therapist, Physical Therapy Assistants</i>	112:1	132:4	124:3
<i>Occupational Therapists, Occupational Therapy Assistants</i>	335:1	132:5	124:4
<i>Speech and Language Pathologists</i>	168:1	132:3	124:4
<i>Registered Dietitians</i>	84:1	132:4	124:2.5
<i>Audiologist</i>	335:1	132:1	124:1
<i>Respiratory Therapist</i>	None	132:1	124:1
<i>Recreational Therapists, Recreation Therapy Assistants</i>			124:5



In 2013, the Speech and Language Pathologists collaborate with Occupational Therapy and Physical Therapy during mealtime to improve safe swallowing, implement enhanced communication strategies and support positioning efforts. They have monitored over 275 dining experiences and performed numerous food trials and bedside swallow assessments. They have supported 69 individuals to utilize Augmentative and Alternative Communication or Environmental Control Switches to improve communication abilities.

The Developmental Therapy team (comprised of physical, occupational, respiratory and recreational therapists) have supported BSDC residents in their positioning and ambulatory needs. Of the 73 individuals on campus that use wheelchairs, 67 wheelchairs have been customized to meet individualized needs. They support approximately 30% of BSDC residents in formal

therapies to improve positioning and ambulation, and are available to support interdisciplinary teams in developing habilitation activities that can continue in a normalized environment after being discharged from formal therapy. Over 90% of BSDC residents are fitted with orthotics to further improve ambulation and allow them to safely participate in an active lifestyle. These efforts have resulted in increased physical activity, decreased skin breakdown and fewer falls resulting in injury. This is commendable considering the significant increase in the individuals' physical activity.



### **Spine and Gait Services Specialty Clinic:**

Individuals with developmental disabilities and moderate-to-severe brain/body impairments present the most complex physical/medical challenges of any patient group. The myriad of chronic musculoskeletal, and brain conditions (also known as 'Neuromuscular Disorders') encountered among the individuals served at BSDC are currently addressed by a constellation of integrated clinical services which come together in a multidisciplinary format the Neuromuscular Clinic known as the Spine and Gait Clinic.

Originally developed as an extension of General Neurology Clinic, the Spine and Gait Clinic has evolved into a stand-alone, multidisciplinary clinic from which clinical solutions to complex anatomical and musculoskeletal conditions arise. Through the education and exposure of BSDC staff to recent bio-scientific theories and developments, the complicated clinical scenarios of brain, behavior, and body that characterize our aging population can be approached systematically and coherently.

Specific Areas of Focus in the Spine and Gait Clinic include:

- Increased clinical attention to non-visible CNS/PNS conditions manifesting as impaired physicality and/or behavior (examples include fall trends, exacerbation of self-injurious behaviors);
- Increased Medical Team awareness of 'hidden' conditions of the body, through identification of root causes of clinical deterioration, progression, and decline, thus allowing for appropriate and timely interventions;
- An increased understanding and appreciation by staff and caregivers of chronic, overlapping disorders of brain, spine and body/soft tissues, thus promoting early

interventions and reduced morbidity/mortality – in particular, those arising from respiratory conditions, GI motility and/or elimination disorders, urinary stasis, and other conditions affecting viscera and the internal milieu of the body.

### **Physical Nutritional Consultative Services (PNCS):**

The PNCS team consists of dedicated therapists and clinicians who monitor the health and safety of BSDC residents to eliminate or mitigate health risks associated with choking, aspiration, pneumonia, skin breakdown, and nutritional decline. The group includes occupational therapists, speech language pathologists, physical therapists, registered nurses, and registered dietitians, working along with the home staff and guardians, to identify changes in health status and potential risk factors.

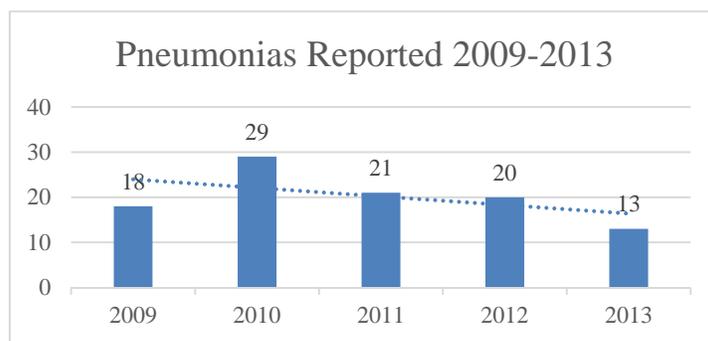
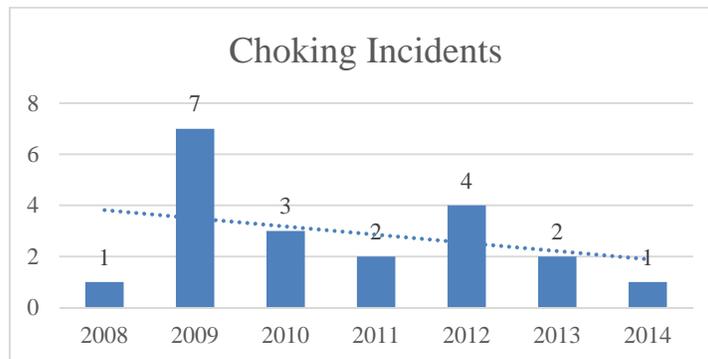
PNCS Leadership reviews and discusses daily findings that may indicate health changes and deploys therapists, nurses, and dietitians to evaluate the individual in their daily environment, particularly at meals as this is a time when posture, swallowing, and nutritional intake concerns converge. Their observations and recommendations are submitted to PNCS leadership for trending and tracking, which may direct the need for additional supports and services such as the development of a comprehensive, multidisciplinary action plan. PNCS also oversees the development and ongoing revision of tools provided to staff, known as “Points of Service,” that guide in the safe provision of meals, oral care, medication and treatment, and positioning.



The clinical and PNCS teams conduct numerous meal, positioning, and oral care monitoring visits to assure staff is accurately providing services that meet our individuals’ needs, and that any supports that may improve the individuals’ positioning, ability to eat, or ability to receive good oral care are obtained or adjusted in a timely manner. In 2012, the clinicians completed 1215 monitors. In 2013, there were 1131 monitors completed, and in the first quarter of 2014, a total of 303 monitors have been conducted, as shown in the chart below.

Quarter/Year	Dining	Positioning	Oral	Total
1Q12	182	0	0	182
2Q12	272	0	38	310
3Q12	263	40	74	377
4Q12	221	46	79	346
1Q13	151	51	63	265
2Q13	183	44	59	286
3Q13	192	55	50	297
4Q13	175	48	60	283
1Q14	211	43	49	303
<b>Total</b>	<b>1850</b>	<b>327</b>	<b>472</b>	<b>2649</b>

The efforts of the PNCS team, in collaboration with the other allied health professionals, has resulted in great health outcomes for BSDC residents, as shown in the following charts:

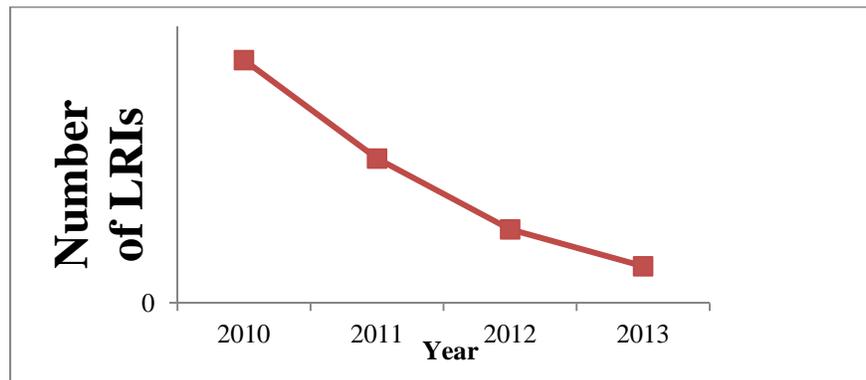


Prior to 2009, BSDC placed much less emphasis on appropriate food textures, positioning and recognition and prevention of PNCS triggers. Data from 2009 indicate a low level of pneumonias being diagnosed, and 2008 data show almost no choking incidents on campus - both of which are not likely accurate; staff were just not trained at that time to fully recognize and understand the importance of these issues. Today, **all** BSDC staff (not just medical and clinical staff) are fully

trained in recognizing PNCS triggers and understanding their importance. BSDC is also diligent in diagnosing pneumonias, as they are often the result of choking or other aspiration incidents. As these charts illustrate, this has resulted in better positioning and use of proper food textures and dietary supports that reduce choking incidents which directly correlate with a reduced number of pneumonias.

### **Reduced Lower Respiratory Tract Infections:**

The rate of lower respiratory tract infections (LRIs) in the individuals who live at BSDC has gone down over the years. This success is due to an educated, hardworking, creative thinking interdisciplinary team that has used a wide variety of innovative allied health therapies to mitigate risk. The therapies used to make this happen include collaborative efforts with positioning at mealtime, therapeutic positioning, oral motor therapy, improved nursing assessment, elevation evaluations, improved oral hygiene including the use of suction tooth brushing for those at highest risk, skilled observations of speech and language pathologists to adjust texture and consistency of dietary intake, dietary adjustments to address status changes, respiratory therapy treatments, increased participation in recreational therapy, and exercise. BSDC rates of lower respiratory tract infections have gone down by 40%!



### **Collaboration for a “Bright” Future!**

Like many individuals living at BSDC, Tim Bright had suffered years with limited movement and communication. With the collaboration of the PNCS team, the Developmental Therapy team and the Speech Language Pathology team, Tim’s life has changed dramatically. His daily life is enhanced by his ability to eat safely and to sit comfortably, his improved breathing, his stamina while working at Bear Creek, and his ability to swim. His speech language pathologist has worked with him to build a strong communication system through the use of his Dynavox, and his power wheelchair has a new custom molded seating system that our occupational therapy team built for him here at BSDC. A short film about Tim’s journey, told by Tim and by his parents, can be viewed at: <https://www.youtube.com/watch?v=Oxg0a5tUnMw>.



Tim's quality of life demonstrates the value of the teamwork and skilled practitioners at BSDC, and the care and concern we have for all of our individuals.

### ***Behavior Support Team (BST)***

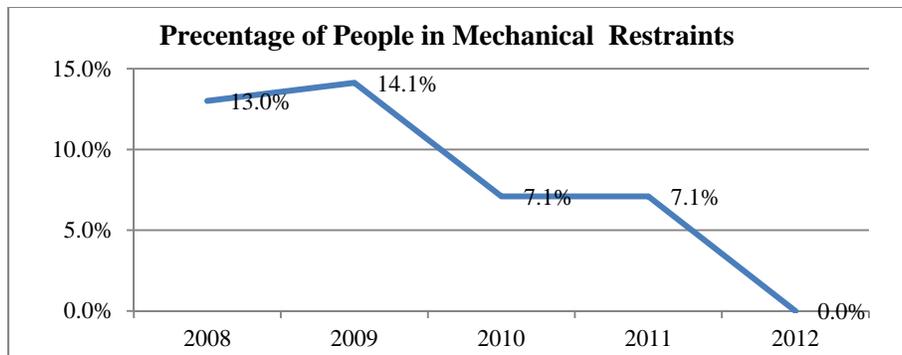
The Medical/Professional Services team at BSDC seamlessly integrates medical and behavior support services. To date, the BST consists of 5 Board Certified Behavior Analysts, a full-time Behavior Analysis Student, a part-time Behavior Analysis Student, a Licensed Psychologist, 2 Provisionally Licensed Psychologists, 3 Doctoral Psychology Interns, a Staff Assistant, and a Director (who is also a Licensed Psychologist.) In addition, the BST clinically supervises 6 Behavior Support Specialists, who assist with day-to-day monitoring and training of Behavior Support Plans in the homes.



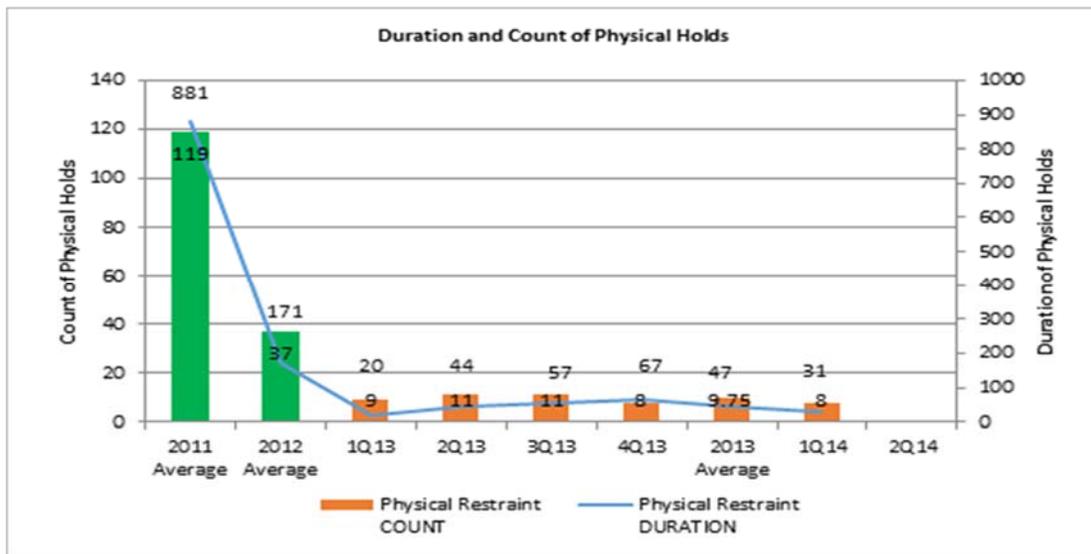
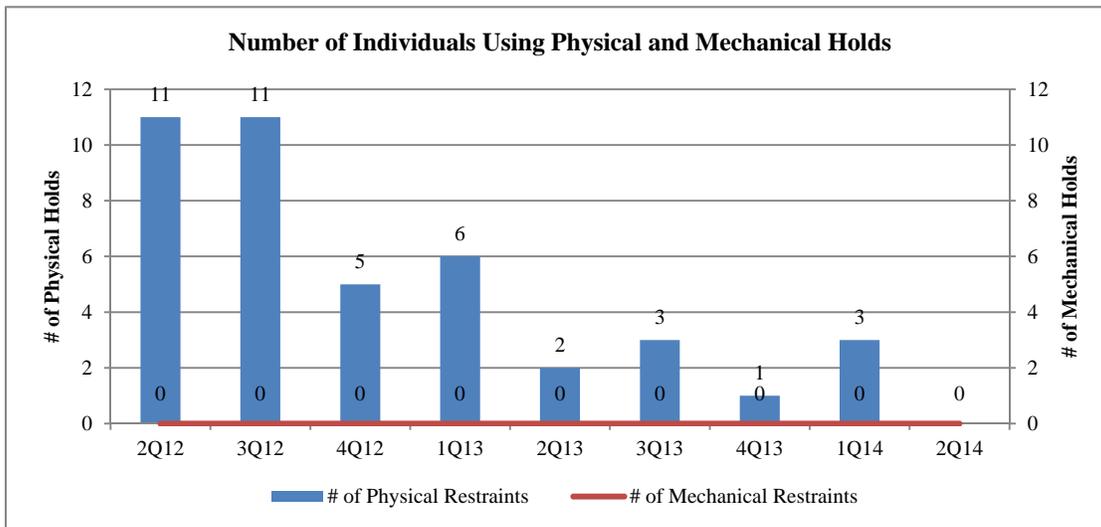
The BST works collaboratively with Psychiatry, Neurology, Medical Providers, Nursing, Speech-Language Pathology, Nutrition, Occupational Therapy, Physical Therapy, Recreation Therapy, and other professionals in support of constantly improving the psychological and behavioral health of those who live at BSDC. Continued improvements in collaborative efforts with all professional groups have greatly aided the provision of a very high standard of health service provision. Such is especially notable with Psychiatry, where behavior data provided by Behavior Analysts and others is used for evidence-based interventions, thereby improving the odds of success.



The BST also provides training to community providers and is available, as needed, for consultation regarding specific people living in the community as well to help continue the mission of changing behavior to improve lives for everyone in the State. Caseloads for BST members in the Behavior Analysis role are 14:1, which is very manageable and much improved since 2007 when it was 30:1. The addition of the Behavior Support Specialists and the Board Certified Behavior Analysts has greatly improved the success of behavior interventions, such that there have been **no uses of mechanical restraint in over 2 years.**



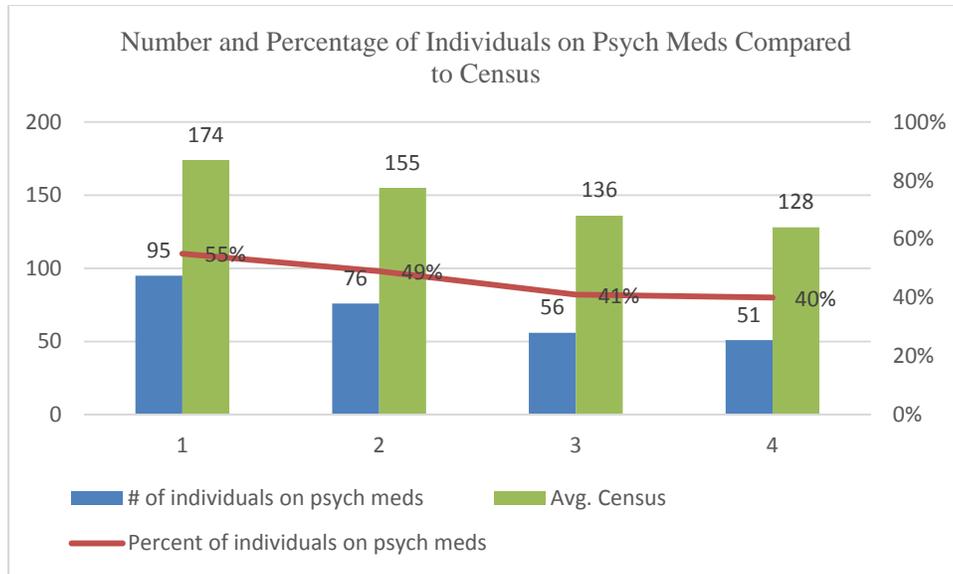
The work of the BST has been positively reviewed by Dr. David Pyles, who has worked all over the country in the ID/DD field and was trained by one of the most famous Applied Behavior Analysts currently alive, Dr. John Bailey, professor at Florida State. However, it isn't necessary to rely on the opinions of experts when the data speaks for itself:



All physical interventions have been removed from the habilitation programs at BSDC for several years; programmatic restraints (neither mechanical or physical) are prohibited. Physical intervention or holds are only allowed as part of an individual’s safety plan and significant administrative review accompanies any such response. The BST along with many others at BSDC have implemented Behavioral Support Plans that have reduced the use of physical holds.

<b>Physical and Mechanical Restraint</b>	<b>Physical Restraint DURATION</b>	<b>Physical Restraint COUNT</b>	<b>Mechanical Restraint DURATION</b>	<b>Mechanical Restraint COUNT</b>	<b>Chemical Restraint COUNT</b>	<b>Medical Restraint COUNT</b>	<b>TOTAL DURATION In Minutes</b>	<b>TOTAL COUNT (Physical, Mechanical, Chemical and Medical Restraints)</b>
2008 Yearly Average	665	131.25	4286	62	0	0	<b>4951</b>	<b>200.75</b>
2009 Yearly Average	918.25	164.25	2668.00	54.00	0	0	<b>3586.25</b>	<b>221.75</b>
2010 Yearly Average	618.25	112.75	1050.5	26.5	12.75	41.75	<b>1668.75</b>	<b>193.75</b>
2011 Yearly Average	881.25	119.00	418.75	9.75	1.75	26.50	<b>1300.00</b>	<b>157.00</b>
2012 Yearly Average	171.00	36.75	0.00	0.00	0.00	0.00	<b>171.00</b>	<b>36.75</b>
2013 Yearly Average	47.00	9.75	0.00	0.00	0.00	0.00	<b>47.00</b>	<b>9.75</b>
<b>** Restraint Use Data not fully collected/captured in Avatar system because Avatar data system not operational during 4th Quarter 2007.</b> <b>*Physical Restraint (includes Mandt)</b>								

While BSDC is excited about the success of the efforts to increase meaningful activity of the individuals we support and limit the use of all restraints, the BST team had to work carefully with the interdisciplinary teams and the psychiatrists to ensure that this success did not come as a result of increased psychiatric medications. As the following chart shows, BSDC was able to achieve these results at the same time it achieved success in reducing reliance on psychiatric medications. The teams have collaborated to reduce the usage of psychiatric medications for BSDC residents by 15% over the past four years.



The BST’s vision for the future involves continuing to strive for the best possible supports for those with developmental disabilities, as well as to build the foundation of a clinical training and research program that will contribute to the development of the next generation of mental health/behavior professionals and the practice of those who support our population.

### ***Nursing Services***

At BSDC, nursing supports are provided through both the Nursing Department and the Health Care Coordinator team.

The Nursing Department provides a continuous 24/7 presence as part of an interdisciplinary team approach to the health care and well-being of the individuals being served. BSDC has a total number of 43 RN’s and LPN’s that provide hands on nursing care, interventions, monitoring, and oversight to individuals residing in intermediate care facilities (ICF’s) across the campus. Many of these individuals are medical fragile with multiple identified health risk factors based on their diagnosis. Additionally many of these individuals are dually diagnosed.

The Health Care Coordinators (HCCs) are a team of LPNs that report directly to the individual ICFs but collaborate closely with the Nursing Department and other allied health professionals to ensure that the individuals they are assigned to support are properly supported. The HCCs ensure that direct support staff are trained on each individual’s nursing care plan and, if applicable, their points of service plans. The HCCs also routinely observe and audit employee performance related to health care supports and are available to assist when staff have questions about medical or

clinical supports. The HCCs are liaisons between the individual ICFs and the allied health professionals, and their efforts are essential to ensuring full collaboration occurs.



Nursing care is provided in a holistic as well as aggressive approach at the earliest signs of altered homeostasis in order to maintain wellness and promote and provide a quality of life. This allows each individual the opportunity to obtain and maintain a maximum level of independence possible in keeping with the philosophy of “normalization,” An important component of our holistic approach is recognizing those issues that can exacerbate any pre-existing medical condition or risk factor so as to avoid them. By doing so, we are able to minimize and or avoid any additional obstacles that would ultimately impede the ability of the individuals we serve to be successful in overcoming or even eliminating any additional identified barriers. The following diagnosis/Syndromes as well as inherent risk factors represent merely a sampling of the acute and/or chronic medical conditions individuals at BSDC live with on a daily basis.

- Hyperactive Airway Disease/Chronic Lung Disease
- Seizure Disorders
- Gastro-Esophageal Reflex
- Hydrocephalus with Ventral Peritoneal Shunt
- Flexure Contractures (multiple)
- Immobility, Osteoporosis=Spontaneous Fractures
- Diabetes
- Aspiration Pneumonia/Micro Aspiration of Secretions
- Hip Subluxation
- Apneic Episodes
- Oropharyngeal Dystonia with Deglutertory Swallowing Mechanism Disturbances
- Spastic Quadraparesis
- Microcephaly
- Cortical Blindness
- Pica

- Chronic/Organic Brain Syndrome
- Down's Syndrome
- Rumination
- Craniosynostosis
- Scoliosis

Not only do the nurses provide great professional support and oversight of the health of individuals living at BSDC, but they are also an integral part of the interdisciplinary teams and are fully integrated in to the homes on campus. The nurse are approachable and routinely interact with individuals living at BSDC. This helps them know the individuals, their routines, and normal health status, which allows them to better support the individuals when they are ill or otherwise needing medical or clinical supports.

### ***Continuing Education and Conference/Professional Presentations***

The Medical/Professional Services team at BSDC provides direct medical care as well as medical education and training. Educational activities were either non-existent or poorly organized in 2007, and BSDC did not have sufficient staff to realize such educational and training opportunities. In contrast, with the assistance of clinical nurse trainers and two nurses dedicated to physical nutritional management services, BSDC now provides professional, paraprofessional, and community education on diverse medical, clinical and nursing topics, which arm support staff, the community, and the professionals equally with the knowledge and skills needed to support people with developmental disabilities. The staff at BSDC is exposed to various ongoing training opportunities to enhance their knowledge with relevant topics that are unique to the population served. To date, members of the Medical/Professional Services team have provided training on ethics, epilepsy, gait and posture, pain, medication, psychiatric diagnosis, management of constipation, enteral feeding, and managing difficult behaviors. In many circumstances, we are able to arrange for continuing education credits for medical professionals in the community to encourage attendance and perhaps be more willing to support individuals with developmental disabilities in their local community.

Medical/Professional Services team members have presented at conferences locally and nationally.



The PNCS and Spine and Gait Specialty Clinic teams have presented the following topics nationally at the American Association for Intellectual and Developmental Disabilities: *Development and Initial Implementation of a Physical Nutritional Support Program* (poster session in Charlotte, NC in 2012); and *Development and Implementation of a Spine and Gait Clinic* (poster session in Charlotte, NC in 2012).

The PNCS team has also presented at the last two national meetings held by the Developmental Disabilities Nursing Association: *Development, Implementation and Sustainability of a Physical Nutritional Support Program* (Philadelphia, 2013); and *Occupational Therapy Expertise in Interdisciplinary Physical and Nutritional Support for Developmental Disabilities* (Baltimore, 2014.)

James Bailey, who serves as Director of Clinical Services at BSDC, is a member of the monitoring team for *USDOJ v. Texas* and has served as a case judge and quality review judge for the *Jackson v. Ft Stanton* case in New Mexico and *Rolland v. Massachusetts*. In the past year, he has presented on the topics of physical and nutritional supports at the Indiana Speech and Hearing Convention as well as the Association of Professional Developmental Disabilities Association and is scheduled to present at the “It’s my Life” conference in Omaha and the Indiana Association of Rehabilitation Facilities Annual Convention in the upcoming year.

### ***Equipped for the Future***

The Medical/Professional Services team provides evidence-based and best services to BSDC residents and is fully poised to increase its support as a valuable advisory and consultative resource to individuals with developmental disabilities in Nebraska and beyond. Our professionals have made remarkable achievements and provided timely health preventions and illness interventions and reducing unnecessary emergency department visits. We continue to build upon past accomplishments as the future of developmental disabilities health care in Nebraska continues to evolve. The dedication of employees, staff, administration, support groups, families and guardians, continues to lead us to fulfilling our vision of a nationally recognized developmental disability center-for-excellence.