SNPMIS: A US Military MIS Program for Special Needs Children

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Abstract

Special Needs Program Management Information Systems (SNPMIS) is a Military Health System (MHS) database program that delivers holistic medical, therapy and social services to young beneficiaries of US Military personnel. This system tracks data in ways that allows providers to readily access information so as to provide holistic, effective and efficient care across the globe. The intent of this article is to describe how the SNPMIS database provides electronic connectivity to clinicians, educational, health care and social service providers who are then able to make accessible, quality and cost-effective services to US families with children who have special needs whether they are in the same city or in different countries.

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The US Military Health System (MHS) certainly faces a daunting mission when it comes to making data available to personnel. With deployments of troops in Afghanistan, Iraq, and now the current situation with Libya, US military men and women reside in bases all over the world. In addition to the realities of managing health care information across a large amount of geographical locations, US military information technology professionals are now also responsible for delivering the healthcare data of special needs children of enlisted personnel. A recently created database program, SNPMIS (Special Needs Program Management Information System), enables US military moms and dads to learn about the care of their special needs children and beneficiaries regardless of where they lived.

Social workers, administrators and clinicians have long been challenged when it comes to finding regional healthcare resources for their patients. Adding in the factor that a parent of a special needs client is deployed out of the country greatly complicates an already challenging situation. The SNPMIS database manages a repository of health care resource data that categorizes it by region, which is beneficial to all involved with the treatment of the special needs child. This database program also provides a collaborative medium for dialogue among those who love and support the child. Providing a worldwide healthcare database system is a huge human service initiative. This article describes this technological innovation, which was created to support special needs children and active duty military parents.

SNPMIS: Definition and Deliverables

SNPMIS or The Special Needs Program Management Information System is a database program that manages therapeutic and medical data to all military families who have special needs children or beneficiaries. In short, SNPMIS is revolutionizing special needs care for the children of Military personnel through information technology. The database automates many tedious, resource intensive services such as medical scheduling and appointing, provider privileging and credentialing, patient safety and healthcare reporting, special needs management, nutrition management solutions, and clinical data analysis (Smith, 2009). In addition to providing a central location of information that depicts how and what care options are being provided for these beneficiaries, the program also enables all authorized caregivers and family members access to this information so holistic, up to date information can be retrieved. Normally, a patient goes to several professionals and the appointment data, diagnosis and recommendations reside in each location. SNPMIS makes it possible for all caregivers and parents to see what treatments are being done by whom and when. Because the program tracks therapy information, medical prescriptions as well as educational activities the patient's parents and caregivers can all competently discuss treatment decisions, progress and inertia (DHSS, 2011) which at the writing is quite novel in the health care arena.

SNPMIS Program

When SNPMIS provides clinicians and other service providers access to a patient's entire treatment history (e.g., records, lab results medications, and treatments) and upcoming appointment and recommendation data, it expedites communication around the patient's condition as well as eliminating communication mistakes made by inaccurately interpreting handwriting. Other mistakes such as medication dosage errors can be avoided because all caregivers will know what is being prescribed, and the system is programmed to flag medication warnings. While data entry errors could be made, the system or a system user can provide quick feedback to address mistakes.

Confusion on what type of care a child is getting from other providers, unnecessary treatments or wasteful visits are less likely to happen to a patient in the SNPMIS system. Since databases by nature are pre-programmed with specific parameters, errors and redundancy are also eliminated. This automated approach also enables cost cutting measures such as immediately informing a physician that a referral or prescription will not be covered by the patient's coverage. Additionally, services and meds that are needed can be easily proposed in the system for inclusion and possible addition. Once the information is proposed the data can be trended for future insurance coverage decisions. Finally, the time normally invested in paperwork can now be reallocated to time spent on other aspects of caring for the patient. Electronic guidelines and reminders increase the effectiveness of all those involved in providing care for a special needs child. For instance, a child's situation could improve more readily if appointments are honored and not missed and home care deliverables are easily accessed.

SNPMIS provides and analyzes an enormous amount of information. SNPMIS gives providers the ability to specialize treatment options determinate on outcomes for each specific patient. The shared database provides quick access and real time information for clinicians to problem solve and collaborate plus sets the stage for collaborative efforts between healthcare, educational and social service providers.

SNPMIS presents data in ways that positive changes can be made holistically. Providers who have the same information can reduce the duplication of efforts, eliminate counteractive activities and speed up communication processes. These processes supply the data for collaborative decision-making processes. SNPMIS offers a multidisciplinary team the use of a mixture of subjective and objective information available about a child's functioning relative to each of the desired outcomes. As with most service evaluations, objective data alone can fall short of providing sufficient information needed to make a rating decision. Combining subjective data with objective data provides additional insights, which can be significant. SNPMIS provides both objective and subjective data ensuring a more accurate picture of a child's situation. When a team consensus decision-making process rates a patient's progress, the rating using SNPMIS is normally more accurate than a rating made without using SNPMIS. (EDIS, 2008).

Another benefit the SNPMIS program provides is that the parents and caretakers of the patients become SNPMIS program participants. Through education, providers are able to provide parents and caretakers with tools necessary to effect positive changes. For example, how the family understands and uses the information is the result of a service provided. If a provider shared information about a possible strategy such as: 'creating a need for the child to express wants/needs by offering the child choices at meal time,' and the parent understands and uses the strategy effectively to help the child express desires, a benefit has been experienced (EDIS, 2008).

Another SNPMIS user, the Army Educational and Developmental Intervention Service (EDIS) also collects data from the database to measure initiative outcomes.   Raw data (i.e. individual child data) can be collected at the local program level in each country and systematically collected through SNPMIS to create the "Child Outcomes Summary Form (COSF)." This form becomes an entry for each child in the system. This effort rates outcome results (EDIS, 2008), and the record entered can also link to each patient record. Through this SNPMIS report, aggregate data is converted to reporting categories determining the quality of care given at the program level (EDIS, 2008). The data can be viewed locally, by state, regionally and/or by worldwide and by program. This control is available for a variety of factors, including types of disability and levels of severity. Consequently patients who have a particular disability could also be linked to program and outcome data. This data connection better informs clinicians, caregivers and families how outcomes are related to specific characteristics of a child's treatment (EDIS, 2008).

SNPMIS also enables healthcare providers to track patients enhancing their ability to provide a better level of care than in the past. SNPMIS can be used to produce reports with specific outcomes for every patient in the system. For example, if a school-aged patient has a specific disability or disease, SNPMIS provides data to specialize individual care for that child. The SNPMIS data system stores, examines and makes recommendations for the child given the information provided. Given a sufficient amount of data, the database can compare the child's prognosis relative to many other factors. For instance, imagine a solider has just learned that her daughter has been diagnosed with a disorder. The child outcome data provided by SNPMIS provides data such as race/ethnicity, military rank of the parents, beginning date of treatment,

mix of services provided, and age at entry. Similar demographic data from other patients could be related to this particular child's case for comparison and contrast to analyze for information such as treatment programs the patient could be enrolled in that provided benefit to other patients. Access to outcome data and the ability to analyze it assists physicians and patients in learning more about other treatments, social services and educational programs listed in the database. The intent of the database developers was to effectively manage data so that the diagnosis and treatment of special needs children would increase the likelihood of the children growing up to live healthy and productive lives, and this can all be done regardless of where the parent or the child resides (DHSS, 2011).

SNPMIS identifies child progress and outcome data that gives providers the ability to identify and prescribe intervention programs that would benefit each child. SNPMIS can provide percentages on groups of children enrolled in a program and their results. This program data can provide norms of treatment programs. Program data by region can be analyzed as well as individual child data compared to their own regional results. An example would be looking at the ratings for different EDIS early intervention programs and how one child's progress is compared to norm for the particular program they are enrolled in as a patient. While a database cannot ensure that all children will progress, having a database that makes the information available to professionals and parents will ensure that all involved in caring for the special needs child will have the same data. Collecting data at the program level allows providers data on their program's performance and the percentage of clients who have not been able to progress (EDIS, 2008).

SNPMIS is a systematic tool that produces high-level data and individual data, which can assist professionals in providing proper care for patients. Another benefit of the SNPMIS data is educational services that provide parents with information about their child's special needs. The use of this benefit is referred to as 'Family Outcomes.' Family Outcomes could be a class on their child's disorder or a class on how to communicate with their child or beneficiary.

Similarly, providing parents with information about their child's diagnosis is a service. If parents or family members understand the information and find it helpful in describing their child's condition to others, advocating for services, or responding effectively when their child needs additional support, a benefit has been experienced and a family outcome has been achieved. Services include the provision of information, material, and emotional support. How the family understands and uses the service support is an outcome" (EDIS, 2008).

The Army Educational and Developmental Intervention Services (EDIS) have developed five family outcomes that SNPMIS provides:
1.   Understand their child's strengths, abilities, and special needs.
2.   Know their rights and advocate effectively for their children.
3.   Help their children develop and learn.
4.   Have support systems.
5.   Access desired services, programs, activities in their community.
      (EDIS, 2008).

In addition to the family outcomes that focus on actual skills, confidence, and resources, there are universal outcomes such as 'Early intervention.' The database also generates surveys that assess how these outcomes have helped the family system. A survey that hones in on universal outcomes, Family Outcome Survey (FOS), describes status and ability (Bailey, 2006) which produces a data report to program administrators. Outcome data collected by SNPMIS can provide feedback to all parties involved in providing special needs care for children.

Future Considerations

SNPMIS processing power and abilities will need to change over time. Developments made to enhance information delivery to military beneficiaries should be reviewed in the future. For example, assessments of how families with multiple children are receiving care may be in the same pool of data with families who only have one special needs child. In order for EDIS to get the best possible information as it relates to families' experiences in EDIS early intervention (EDIS, 2008), additional SNPMIS studies should be added to the literature. SNPMIS electronically connects many stakeholders making information more readily available to decision makers; however, it may be beneficial to compare SNPMIS to a non-technical system to determine whether or not an electronic system is superior in providing services such as patient satisfaction, quality of care and length of treatments.

Conclusion

SNPMIS provides information necessary to deliver the proper therapy, social services and medical support to the children and beneficiaries of the troops worldwide. Privacy protection is ensured with encrypted communication by the issuance of a "Common Access Card" to parents of the special needs child and all those involved in treating the child. The database is designed for record management, means of communication and managing relational data to ensure quality coverage and care. Measured treatment outcomes reports are continually run to give parents and caregivers the tools to discuss and directly improve special care treatment for children of Military personnel across the globe.

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