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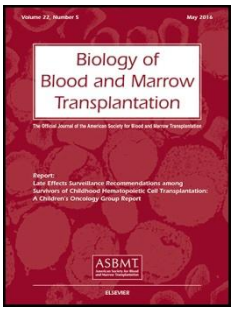

Title: Stem Cell Transplantation and Informatics – Current Considerations

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Abstract: Informatics strategies and applications available to stem cell transplant (SCT) programs are diverse and changing rapidly. While most hospitals have electronic medical records (EMR), few are equipped with specialized SCT applications. Most EMR do not contain critical elements to support SCT practice and research. Strategies to optimize IT resources to support SCT programs are reviewed, and technical and workflow support are discussed. Guidance and rationale for the use of both SCT applications and EMR are emphasized.

Keywords: Stem cell transplantation, Informatics, electronic medical records, workflow, interoperability

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Introduction

Informatics (IT) systems to support stem cell transplantation (SCT) are becoming a necessity for many SCT programs. The primary goals of this review are to discuss the current state of available IT systems, identify features of greatest importance in these systems, and review how IT may be used to optimize SCT practice and research in the future.

Historically, larger programs developed custom IT applications and databases to support research and publication. Concurrently, paper forms were developed by the Center for International Bone Marrow Transplant Research(CIBMTR) to collect registry data representing multi-institutional SCT activity and outcomes. Subsequently, one IT vendor developed an application to manually acquire data required by the registry, stored the data in a database, and generated the forms for submission to the registry. This was followed some years later by government incentives to encourage the use of electronic medical records (EMR) in all hospitals to manage day-to-day medical practice. These developments occurred without coordination or clear focus on describing longitudinal patient outcomes or combining processes to maximize efficiencies over the entire patient care and research process. In this review we will discuss critical IT elements necessary to support SCT and how they might be redesigned and interconnected to optimize function and data sharing.

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