

## **Making Transfusion Safe – At What Cost??**

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Blood components and products available for transfusion today have an enviable safety record. In particular the risk of transmitting known major transfusion transmissible viruses is now remote. This largely reflects the impact of the changing environment in which decisions around blood safety are made. The introduction of formal regulation of blood services and associated application of the pharmaceutical paradigm during the last 20 years was a legacy of the perceived mismanagement of issues around the emergence of HIV and Hepatitis C as transfusion transmissible agents in the 1980s. Blood services today have a very low tolerance of risk and utilise the precautionary principle when making decisions around blood safety. This approach whilst successful comes at a high cost. It is increasingly challenged in an environment of cost constraint in public health services. Technology continues to provide novel approaches to further reduce the already small risks of viral transmission. It will be important for robust systems to be developed to assess the overall benefit that these bring.

In contrast there is increasing evidence that patient risks around transfusion remain significant. This is demonstrated by data emerging from haemovigilance programmes internationally. These risks relate mainly to how the components are used and the introduction of human error into complex systems for delivery of components and products to patients. Despite increasing evidence of the harm that arises from this there has been surprisingly little progress made in overcoming the problems. The costs associated with delivery of blood components to patients are surprisingly high and this is exacerbated by errors in the systems. Technologies are now becoming available that will improve the overall security and efficiency of these systems but progress in their implementation is slow.

Finally increasing questions are being raised in relation to the impact of storage on the efficacy and risk profile of blood components. In particular these involve adverse clinical outcomes associated with transfusion of 'older' red cell components. If these concerns are confirmed to be real then this will potentially have a significant impact on blood services and the cost of blood and blood products.