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USING REAL-WORLD HOSPITAL PURCHASING AND CONSUMPTION DATA TO IMPROVE HEALTHCARE SYSTEMS EFFICIENCIES

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OBJECTIVES: Presently, there is a disparity between the purchasing power of various hospital institutions within Germany. Large institutions, those within hospital networks, and those with group purchasing organization (GPO) memberships can leverage their influence to secure favorable prices for medical devices and consumables. Other institutions, however, are not able to leverage the same purchasing power, resulting in higher prices and financial inefficiencies. The objective of this work was to measure the financial impact to a broad spectrum of hospitals using real-world German hospital purchasing and consumption data. **METHODS:** GfK Hospital Panel, a proprietary database for German hospital medical devices and consumables purchasing and consumption was evaluated. Wound care purchasing data was evaluated to see similarities and differences in purchasing volume, acquisition cost, and product utilization. Products used to promote infection control and healing in post-surgical sites were prioritized. **RESULTS:** The hospital purchasing and consumption data identified how specific products were used within and across hospitals. Differences in consumption by specialty department/units show how purchasing decisions are being concentrated in different settings. Hospitals with greater buying power and those with access to group purchasing organizations paid less per unit price than other hospitals, however the mix of products used varied by setting. Advanced wound care products had the greatest variability in usage among hospitals within the sample. **CONCLUSIONS:** Databases that provide detailed hospital purchasing data provide greater transparency to both hospitals and innovators on purchasing, pricing, and utilization trends. Smaller hospitals and those independently negotiating purchasing contracts can leverage this information to understand practice in other hospital settings as they make decisions for their own. These data are likely to have a significant impact in rationalizing expenditures across the German Healthcare System, providing transparency to help hospitals make better purchasing decisions.

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ECONOMIC ANALYSIS OF EVICEL® COMPARED WITH STANDARD OF CARE FOR DURAL CLOSURE IN ELECTIVE CRANIAL SURGERY: A UNITED KINGDOM HOSPITAL PERSPECTIVE

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OBJECTIVES: Intraoperative watertight dural closure is critical as CSF leakage can lead to an increased risk of costly clinical consequences (e.g., wound infection, meningitis). Although there are several fibrin sealants available, not all are indicated for sealing dura mater. An economic analysis compared a fibrin sealant (EVICEL® Solutions for Sealant) with standard of care (SoC) for sutured dural closure in cranial surgery in the United Kingdom (UK). **METHODS:** The economic analysis quantified the 30-day cost impact of EVICEL® from a U.K. hospital perspective based on a surgical approach using clinical trial data. SoC was composed of sutures in addition to rescue therapy for the majority of the population. Trial-reported resources used included the quantity of initial treatment, adjunctive and rescue therapy product utilization, operating room (OR) time, hospitalization duration, and risk of dural-related adverse events. Only SoC treatment successes were allowed to receive additional adjunctive therapies to ensure durability of closure; however, treatment failures in both Evicel® and SoC could receive rescue therapies. Adjunctive therapies consisted of sutures, collagen, and haemostats (not fibrin sealants); where as rescue therapies consisted of various glues, haemostats and autologous dural patches. Published data on U.K. costs were applied to resource use and several one-way sensitivity analyses were conducted. **RESULTS:** The analysis estimated that resource savings with EVICEL® completely offset its acquisition cost and resulted in cost savings of £207 per patient (sensitivity range: -£727.02 to £313.40) compared with SoC. Results remained robust to the majority of sensitivity analyses; however were most sensitive to assumptions regarding OR time and hospitalization duration. **CONCLUSIONS:** The use of EVICEL® for suture line dural closure may result in important cost savings for hospitals, partly driven by the reduced need for other adjunctive and rescue therapies. Further studies in larger populations may help to substantiate findings.

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MODELLED U.K. AND U.S. ANALYSES DEMONSTRATE SHERLOCK 3CG® TIP CONFIRMATION SYSTEM FOR PERIPHERALLY INSERTED CENTRAL CATHETER PLACEMENT IS ASSOCIATED WITH FAVOURABLE HEALTH ECONOMIC OUTCOMES

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OBJECTIVES: The Sherlock 3CG® Tip Confirmation System (TCS) is designed to confirm the correct tip placement of a peripherally inserted central catheter (PICC) by using magnetic real-time tracking and electrocardiographic catheter tip confirmation. The National Institute for Health and Care Excellence (NICE) recommended the adoption of Sherlock 3CG® TCS based on modelled health economic benefits in the United Kingdom (U.K.). The objective of this study was to develop a United States (U.S.) model for Sherlock 3CG® TCS and compare these results to the U.K. analyses. **METHODS:** Sherlock 3CG® TCS was compared with "blind" beside PICC placement, as well as region-specific PICC placement methods (i.e., fluoroscopy in the U.K. and tip location system (TLS) in the U.S.). Clinical and economic outcomes were assessed per patient over the duration of a successful PICC insertion procedure. All eligible patients with an identifiable P-wave in their ECG rhythm were assumed to switch to Sherlock 3CG® TCS and did not require confirmatory chest x-rays. PICC placement success rates, as well as region-specific costs for capital, maintenance, nurse training, consumable materials, and chest x-rays were included. Parameters and assumptions were based on the NICE/External Assessment Centre report and published literature when possible. **RESULTS:** Adoption of Sherlock 3CG® TCS was predicted to be more or less cost neutral per patient when compared with "blind" bedside in both the U.K. (£9.37) and the U.S. ($18.73). Further, Sherlock 3CG® TCS was predicted to be cost-saving per patient compared with fluoroscopy in the U.K. (-£106.12) or compared with a TLS in the U.S. (-$18.43). These results were robust to the majority of sensitivity analyses. **CONCLUSIONS:** This study predicts that Sherlock 3CG® TCS is an economically favorable strategy from both U.K. and U.S. perspectives and can provide additional patient and healthcare worker benefits. Additional analyses in other regions may help to further substantiate these results.

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ECONOMIC ANALYSIS OF EVARREST® SEALANT MATRIX COMPARED WITH STANDARD OF CARE IN SEVERE SOFT TISSUE SURGICAL BLEEDING: A GERMAN HOSPITAL PERSPECTIVE

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OBJECTIVES: Although several hemostats are available, drawbacks include limitations with efficacy and ease-of-use. Despite their use, uncontrolled bleeding still remains common and is associated with important clinical and economic burden. A study was conducted to estimate the economic impact of a novel fibrin sealant matrix (EVARREST®) versus standard of care (SoC) in problematic severe soft tissue surgical bleeding in Germany. **METHODS:** An economic model quantified 30-day cost impact of EVARREST® from a German hospital perspective. Severe soft tissue bleeding trial resources included quantity of initial treatment, re-treatment, surgery time, transfusion risk, amount transfused, and hospitalization (including ICU and ward stay). SoC was composed of Surgicel® (88%) and conventional methods (e.g., manual compression). The surgical analysis included resources clinically related to the significant hemostasis benefit of EVARREST®vs. SoC (i.e., initial and re-treatment, operating time, transfusion). A hospital analysis included all resources collected. Published data on German costs were applied to resource use. A subgroup analysis was conducted for patients meeting coagulopathic criteria based on abnormal values for at least one of the trial coagulation parameters collected. Value-added tax (19%) was added to product costs. **RESULTS:** The surgical base-case analysis predicted that EVARREST® cost was offset by averted resource use with per patient cost impact of €1,893 vs. SoC. The hospital analysis predicts further resource reduction with EVARREST® leading to cost impact of €608 per patient. In coagulopathic patients, the results dramatically improved, with the surgical and hospital analysis both showing cost-savings of €542 and €3,275 with EVARREST®vs. SoC respectively. **CONCLUSIONS:** In problematic bleeding situations, EVARREST® may result in important cost savings for hospitals, in addition to meeting an important unmet need. This analysis suggests results may depend on surgical bleeding type, with increased benefit seen in challenging (i.e., coagulopathic) bleeding patients. Further study is needed to confirm findings.

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ECONOMIC ANALYSIS OF EVARREST® SEALANT MATRIX COMPARED WITH STANDARD OF CARE IN SEVERE SOFT TISSUE SURGICAL BLEEDING: AN ITALIAN HOSPITAL PERSPECTIVE

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OBJECTIVES: Although several hemostats are available, drawbacks include limitations with efficacy and ease-of-use. Despite their use, uncontrolled bleeding still remains common and is associated with important clinical and economic burden. A study was conducted to estimate the economic impact of a novel fibrin sealant matrix (EVARREST®) versus standard of care (SoC) in problematic severe soft tissue surgical bleeding in Italy. **METHODS:** An economic model quantified 30-day cost impact of EVARREST® from an Italian hospital perspective. Severe soft tissue bleeding trial resources included quantity of initial treatment, re-treatment, surgery time, transfusion risk, amount transfused, and hospitalization (including ICU and ward stay). SoC was composed of Surgicel® (88%) and conventional methods (e.g., manual compression). The surgical analysis included resources clinically related to the significant hemostasis benefit of EVARREST®vs. SoC (i.e., initial and re-treatment, operating time, transfusion). A hospital analysis included all resources collected. Published data on Italian costs were applied to resource use. A subgroup analysis was conducted for patients meeting coagulopathic criteria based on abnormal values for at least one of the trial coagulation parameters collected. **RESULTS:** The surgical base-case analysis predicted that EVARREST® cost was offset by averted resource use with per patient cost impact of €1,016 vs. SoC. The hospital analysis predicts further resource reduction with EVARREST® leading to cost-savings of €708 per patient. In coagulopathic patients, the results dramatically improved, with the surgical and hospital analysis both showing cost-savings of €2,366 and €6,128, with EVARREST®vs. SoC respectively. **CONCLUSIONS:** In problematic bleeding situations, EVARREST® may result in important cost savings for hospitals, in addition to meeting an important unmet need. This analysis suggests results may depend on surgical bleeding type, with increased benefit seen in challenging (i.e., coagulopathic) bleeding patients. Further study is needed to confirm findings.

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ECONOMIC JUSTIFICATION OF TELEMEDICINE TECHNOLOGY FOR PREVENTIVE MEDICAL EXAMINATION OF THE POPULATION IN REMOTE REGIONS IN RUSSIA

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OBJECTIVES: economic analysis of telemedical technologies application for regular medical examination among the adult population living far from hospitals in the