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Optimizing In-Hospital Stroke Care: MDR in AIS Project Aims to Cut Door-to-Reperfusion Times for Faster Treatment and Better Outcomes

The MDR in AIS project has been launched as an operational initiative aimed at systematically reducing door-to-reperfusion times for Acute Ischemic Stroke (AIS) patients undergoing Mechanical Thrombectomy (MT). Recognizing that treatment delays directly translate to irreversible neural loss, the project targets key operational bottlenecks in primary receiving hospitals and transfer networks. By restructuring clinical decision-making, deploying telemedicine remote diagnostic tools, and adapting successful workflows from cardiology emergency protocols, the project provides a scalable framework to enhance patient recovery and optimize health system efficiency.

In acute cerebrovascular care, "time is brain" - with millions of neurons lost for every minute reperfusion is delayed. For Large Vessel Occlusion (LVO) stroke patients who initially present to Primary Stroke Centres (PSCs), achieving timely revascularization requires transfer to a Comprehensive Stroke Centre (CSC) equipped with specialized neuro-interventional suites. Historically, inter-hospital transfer protocols have suffered from procedural delays, including repeated neuro-imaging, slow administrative authorizations, and fragmented communication between medical teams.

The MDR in AIS initiative directly addresses these operational barriers by introducing an optimized, evidence-based stroke management pathway. Taking inspiration from ST-Elevated Myocardial Infarction (STEMI) networks, which established rapid "direct-to-catheterization-lab" transfer standards in cardiology, the project establishes parallel fast-track protocols for ischemic stroke. Central to this strategy is the deployment of telemedicine platforms, enabling CSC interventional specialists to assess patient imaging and clinical status remotely in real time. This pre-arrival diagnostic evaluation facilitates immediate dispatch of emergency transport and pre-prepares the destination interventional suite prior to patient arrival.

Preliminary system implementations indicate that streamlining decision-making and enhancing referral coordination dramatically reduces both Door-in-Door-Out (DIDO) times at primary facilities and Door-to-Reperfusion (DTR) times at comprehensive centers. By focusing simultaneously on quality, safety, equity, efficiency, accessibility, and economy, MDR in AIS delivers a sustainable solution to the growing incidence of stroke across European populations.

MDR in AIS aims to improve outcomes for LVO-AIS patients transferred to CSCs for thrombectomy by implementing a streamlined, evidence-based stroke pathway. It enhances quality, efficiency, safety, and sustainability across health systems facing rising AIS cases and increasing MT demand.

The optimized pathway strengthens decision-making, coordination, referrals, and telemedicine use to reduce delays and improve patient outcomes. Cross-country collaboration supports shared standards, organizational improvements, and economic benefits. Successful implementation can boost resilience and future readiness of European health systems.

Discover more about MDR in AIS on: [Website](#) | [LinkedIn](#) | [X Twitter](#)



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