Automating and Scaling Value-Based Contracting in the MedTech Sector

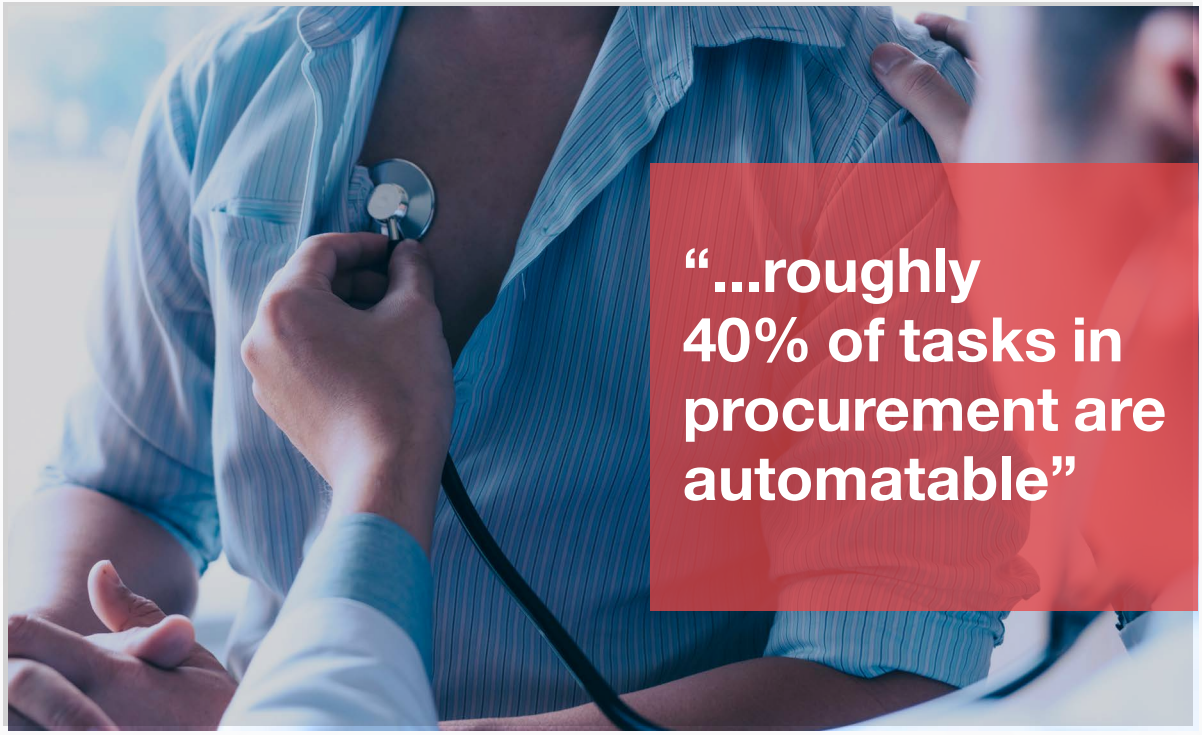
VAMSTAR

Introducing Value-Based Procurement

In a 2020 paper, MedTech Europe explains the changing landscape of healthcare and the challenges posed by these changes ('The Value-Based Procurement Journey in Europe'). As a result of an aging population, increased chronic illnesses, and disabilities, there is currently increased spending in the health sector coupled with need to achieve better and cost-effective health outcomes. To bypass these issues, more effective healthcare provision and procurement is required. One way of achieving this is by using value-based procurement (VBP), which is closely linked to the 'most economically advantageous tender', or MEAT, concept. Within these frameworks a cost-effectiveness approach yields the 'best' price but not necessarily the lowest price.

As such, utilizing a VBP framework in procurement may not cost less in the short-term but will increase value to both hospitals and patients in the long run. For instance, a procedure which results in a patient spending less time in the hospital or needing less monitoring will free up staff time, allowing them to mitigate shortages in clinical care more easily. Further, introducing language and metrics related to outcomes, such as 'improving anatomical adaptation', 'ease of implantation', and 'improving hemodynamic behavior', introduces the possibility that a patient will be less likely to need readmission or a follow-up procedure. Thus, the money spent on this equipment is a worthwhile investment, costing less overall in terms of staff time and number of procedures.

Outcomes like these are classified as non-price criteria, and VBP contracts between buyers and suppliers are contracts which include such criteria. For a recent presentation to the MedTech Europe working group, Vamstar discussed how to identify tenders with non-price criteria using artificial intelligence (AI)—this is important because most tenders with non-price criteria are not labeled as 'VBP'. Across all of Europe, Vamstar's platform recognized that 4% of healthcare and life sciences tenders featured non-price criteria in 2020. Narrowing the regional focus to the EU5, Nordics, and Netherlands revealed a much higher share at 16.6%. And further sharpening the focus to cardiovascular disease increases the share further to 48% for the same year. These numbers reveal that MEAT-based VBP has indeed been gaining traction over the last few years. However, there are still barriers to implementation and in this paper we will discuss why, what these barriers are, and how the healthcare industry can solve them. Part of the solution we propose is based in Vamstar's own AI-powered marketplace.



Challenges in Scaling VBP

There are four challenges in the way of scaling up VBP. One is related to the need for transparent outcomes. 73% of buyers and suppliers agree that contract outcomes need to be clearly defined. To achieve VBP and such desired outcomes, the outcome criteria need to be explicitly outlined and as of today, this is not the case for most tenders.

A second issue is the speed at which buyers currently operate. Most still incorporate manual processes with only 12% having electronic systems in place that are capable of achieving VBP. A related whitepaper from Vamstar titled ‘Improving Tender Performance Using AI’ provides additional details on this topic, including how roughly 40% of tasks in procurement are automatable (source: McKinsey). This means that currently, 40% of tasks in procurement are slower than they need to be. Within the healthcare industry, there is much room for improvement of efficiency through the use of automated e-processes and integrating data to guide decision making. Such changes will allow VBP to be achieved more easily.

A third issue is that only some MEAT-based VBP contracts feature the full cost of care criteria with clear ROI metrics. At present, this figure stands at 30% of all the contracts. Many other tenders, however, do have non-profit criteria, but are not explicitly labelled as VBP tenders. These tenders are more difficult to identify as VBP tenders. It would take an impossible amount of time to manually sift through all tenders and find non-price criteria. These missed opportunities slow VBP growth.

Finally, there are issues related to business models. 60% of buyers do not have value rewarding payment models and they often take considerable time to design VBP programs. These buyers do not necessarily know what they want from VBP. Again, this factor slows the growth of VBP because it cannot yet be fully implemented.

AI-Based Solutions

A well-designed AI-based VBP solution can be used as a means of getting around these issues by simulating outcomes and measuring performance. AI can offer a dynamic and self-learning data model to match the true cost and value drivers for all stakeholders. It can further simulate outcomes through continuous monitoring and extraction of key outcomes across major therapy areas. This data can then be used to help create contracts between buyers and suppliers, increasing the pace at which VBP is adopted in procurement. AI can also measure performance through integrated data, intelligence and automated workflows for buyers and suppliers. This makes contracting faster and easier, thus increasing the volume of VBP contracts.

Vamstar's AI Capabilities

Vamstar has developed its own AI to solve the above issues and enable the automation and scaling of VBP contracting. Vamstar scans millions of buyer contracts across 80+ countries in 109 languages from sources such as hospitals, clinics, private websites, contract registries, e-sourcing platforms, and distributor databases. The AI can then find data on direct sourcing arrangements, VBP contracts, innovation framework agreements, procurement contracts, RFPs, tenders, tender awards, and pre-tender notices. The data is processed by natural language processing (NLP) data models that combine various classification systems for data cleansing, data transformation, and entity extraction from the contract documents. Thereafter, data is easily accessible to commercial and procurement teams; the contract documentation is provided in a single platform and pre-checked for compliance with buyer terms and conditions.

Vamstar's proprietary technology combines product-level market intelligence using traditional research methodologies with the marketplace tendering data. This is done to create buyer and supplier profiles, and develop ML-based benchmarks for prices, volumes, and strategic value-based outcomes. This solution finds concealed trends that humans may not recognize, enabling decision-making based on data. This is useful in the procurement process as it is a quick means of identifying patterns, which can then be used to inform contracts.

How the AI Works in Practice

Vamstar's digital infrastructure connects data, insights, and processes to enable stakeholder engagement.

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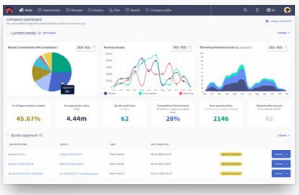
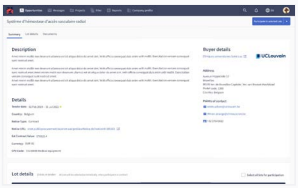
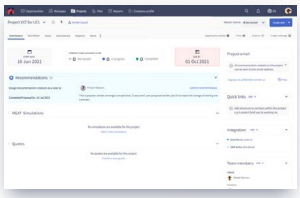




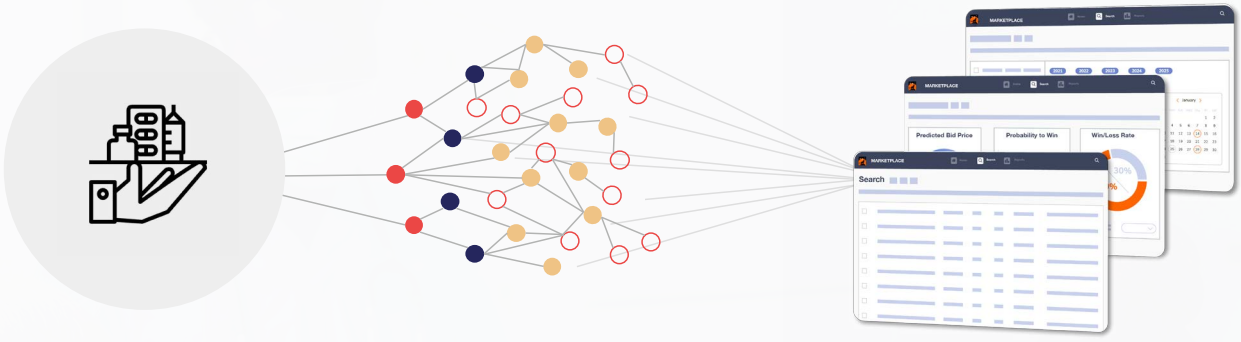


1. ML discovers MEAT-based VBP opportunities
2. AI matches these opportunities with outcomes and auto-scores
3. Smart outcome and contract management allows a streamlined process

The first graphic presents the capability of Vamstar's AI to scan through different sources. Here, ML discovers MEAT-based VBP opportunities and key outcome criteria in contracts from 86,000 buyers in 80+ countries. This data is then used to connect buyers and suppliers, with the best outcomes for both in mind. Graphic 2 shows Vamstar's AI matching these opportunities with the product and disease-specific outcomes. The AI enables automatic scoring on the current evidence base, making comparisons easier. Suppliers can then discover all VBP opportunities through Vamstar's interface. Following from these processes, graphic 3 demonstrates the use of smart outcomes and contract management. These ensure that both buyers and suppliers can streamline the process to drive value-based incentives. Both parties are presented with all relevant information and can then produce the most beneficial contracts accordingly.

All steps of the procurement process are presented in the user interface clearly and accessibly. As a result, parties can create contracts much faster than if such automated systems were not used. The wider effect is a more efficient healthcare system with less time spent on sourcing and procurement, and more time on desirable outcomes.

To summarize, Vamstar's AI assembles data, forecasts future demand, and helps clients manage the commercial process to drive revenue growth.



The AI cleans and aggregates all historical data on tenders, including their evaluation criteria, buyer preferences, and product specific outcomes. These are based on previous quotes, bids, and clinical datasets. After which Vamstar's proprietary technology maps relevant disease-specific outcomes with the current evidence base.

1 Tenders + VBP contracts

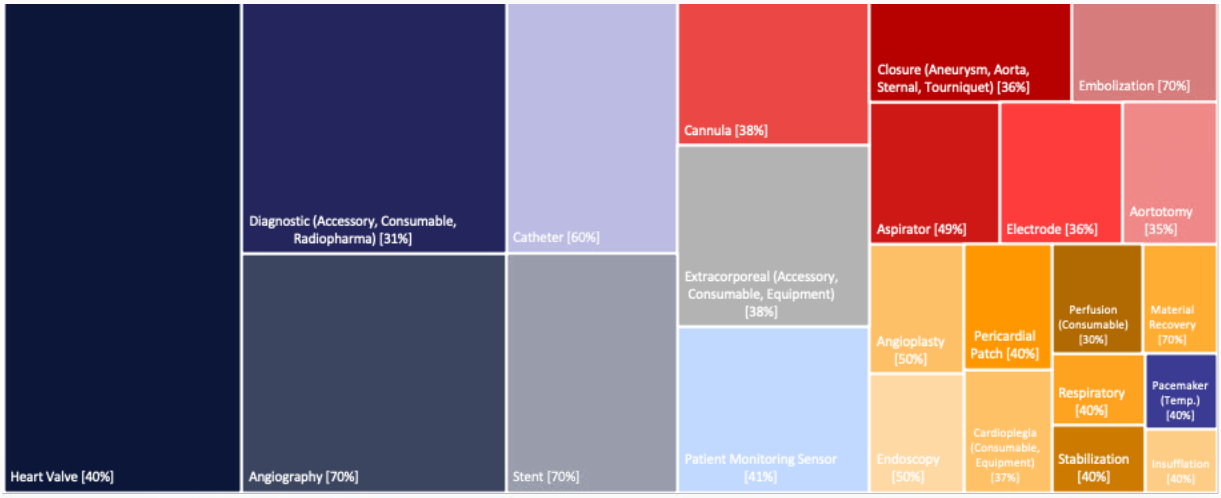
2 Outcome Mapping + Evidence Capture

3 Processing Mapping + Value Tracking

This provides an overview of what success will look like for a buyer and a supplier. Lastly, with mapped-out data and an integrated VBP workflow, buyers and suppliers can develop and manage the outcome-based contracts to drive value incentives.

- Vamstar AI extracts key criteria from tables within tender documents.
- Vamstar AI converts multi-language extracts in one common language for real-time comparison.
- Vamstar AI scans the image of the document in the pdf version.
- The proprietary technology converts the document into machine readable format.
- Machine formatted document is then translated using deep neural translation and field inserted in the main dataset for mapping.

The AI finds data, cleans it, and then presents it in accessible forms to interested parties—tasks that would be nearly impossible if done manually.



The Potential of VBP

All of these technological advancements are driving the potential for real-time, real world data analysis and implementation of VBP. Those already using VBP are being rewarded by the process. In their paper, MedTech Europe explained that 'procurers are seeing improved patient outcomes and lower total costs of care' and that 'companies that embrace value-based procurement are reporting higher success rates in tenders and helping to shape the design of tenders' (p. 2).

And as mentioned at the beginning of this paper, MEAT-based VBP criteria are being heavily weighted in certain product segments, including cardiovascular disease. A search for the term 'cardiovascular disease' in Vamstar's AI platform produces a useful example of VBP's increased usage.

This chart shows the analysis of nearly 300 lots for MEAT-based VBP criteria, relating to the years 2020 and 2021, in the EU5. The share of quality criteria is relatively high in tenders related to cardiovascular disease, being at 48% in 2020 (42% as of October 2021). Quality expectations are anticipated to continue increasing again at the end of this year. Thus, although MEAT-based VBP features in only small share of all European contracts, it is far more prevalent in specific regions of Europe and in specific medical segments.

Vamstar and Tangible Benefits

Through our operation, Vamstar can increase market visibility and improve commercial forecasting capabilities. These are achieved through our marketplace tracking and matching, real-time market intelligence, and our use of AI for faster contracting.

By matching tenders, VBP, and other contracting opportunities at local, regional, and national levels in 80+ countries, Vamstar makes the connection between buyers and suppliers much easier. Our real-time market intelligence enables payer and demand insights to drive the value story. Our automatic quarterly market reports help with the optimization of forecasting assumptions. Combined, these improve commercial forecasting for buyers and suppliers. In addition, our AI enables faster contracting. The combined TPQ (Tender, Price, Quote), CPQ (Configure, Price, Quote) and VBP systems are AI-based and so allow contracts to be configured quickly. This streamlines the value driven engagement with the stakeholders.

Conclusion

This white paper highlights the importance and benefits of using MEAT-based VBP criteria in procurement. Contracts with these criteria have the potential to produce the best outcomes for buyers, suppliers, and patients. Despite this, achieving VBP is a process with barriers. A lack of automated systems slows procurement and prevents the most suitable contracts from being formed. In addition, not all tenders with non-profit criteria are termed 'VBP' tenders. As such, they are not easily identifiable. To solve both issues, Vamstar's AI-driven healthcare and life sciences marketplace is indexing the criteria on its platform. The system dissects the entire contracting landscape in a way that recognizes when VBP is possible and extracts a template to implement a win-win VBP contract.

Pricing pressures, increasing competition, procurement complexity, and regulatory hurdles are intensifying across the medtech sector and Vamstar estimates that there is 5% revenue leakage across the industry due to these headwinds. Further, the convergence of pricing, regulatory, and other market forces is placing additional pressure on the performance of the medtech industry—compelling companies to do more with less. Current legacy systems, data platforms, and commercial processes within supplier organizations are not built for the emerging landscape. To maximize the market opportunity and drive value through innovation, medtech companies need to transform their commercial model and leverage data and decision-support technologies to build best-in-class commercial capabilities. Companies must address the shift towards value-based healthcare by focusing on data mapping, demand shaping, targeted engagement, and expanded price-value proposition while ensuring that there is a significant improvement in the overall cost structure.

As the largest healthcare marketplace bidding platform, Vamstar is uniquely placed to assist companies with navigating VBP. Vamstar's marketplace aggregates $2 trillion of demand for healthcare products and services using machine learning, providing real-time market insights to enable faster bidding.

About the Writers

Shane Walker

Research Director at VAMSTAR

Mr. Shane Walker serves as director for Vamstar's healthcare market research portfolio, which provides a unique perspective on the healthcare ecosystem by incorporating traditional business analysis with the latest data collection techniques and Vamstar's novel, AI-based, procurement insight. Mr. Walker has more than fifteen years of experience conducting industry research, business analysis, and strategy development. He has worked closely with a wide range of clients, including large end-equipment and semiconductor manufacturers, software developers, and start-ups, and continues to be actively engaged in the investigation of technology being developed to improve care outcomes. Prior to joining Vamstar, he served as research director and principal analyst for healthcare technology at IHS Markit, operated his own consultancy, and spent several years in the computer software sector as a sales director for a leading CAD developer. Mr. Walker received his Bachelor of Arts from the University of West Florida, and an MBA in Corporate Finance from St. Edward's University, Austin, Texas. He is based in Los Angeles, California.

Praful Mehta

CEO at VAMSTAR

Praful Mehta is the co-founder and CEO of Vamstar. He has more than 16 years of experience in helping pharmaceutical and medical device companies create effective commercialisation strategies across different therapeutic areas. Mr. Mehta has been a longtime advisor to senior teams on the issues of market access strategies, sourcing and procurement, launch planning, landscape assessments, market competitiveness, and lifecycle planning. He has significant project experience in working with the BRIC-MT and EU-5 nations, as well as the United States and Japan. Mr. Mehta has been interviewed and quoted in various journals, print media, blogs and leadership forums within the industry. Prior to working at Vamstar, Mr. Mehta was a Senior Principal at IHS Markit, where he developed the company's core market access, pricing and reimbursement, and forecasting capability for different healthcare markets. Mr. Mehta also led various project teams at GlaxoSmithKline Pharmaceuticals and Johnson & Johnson.

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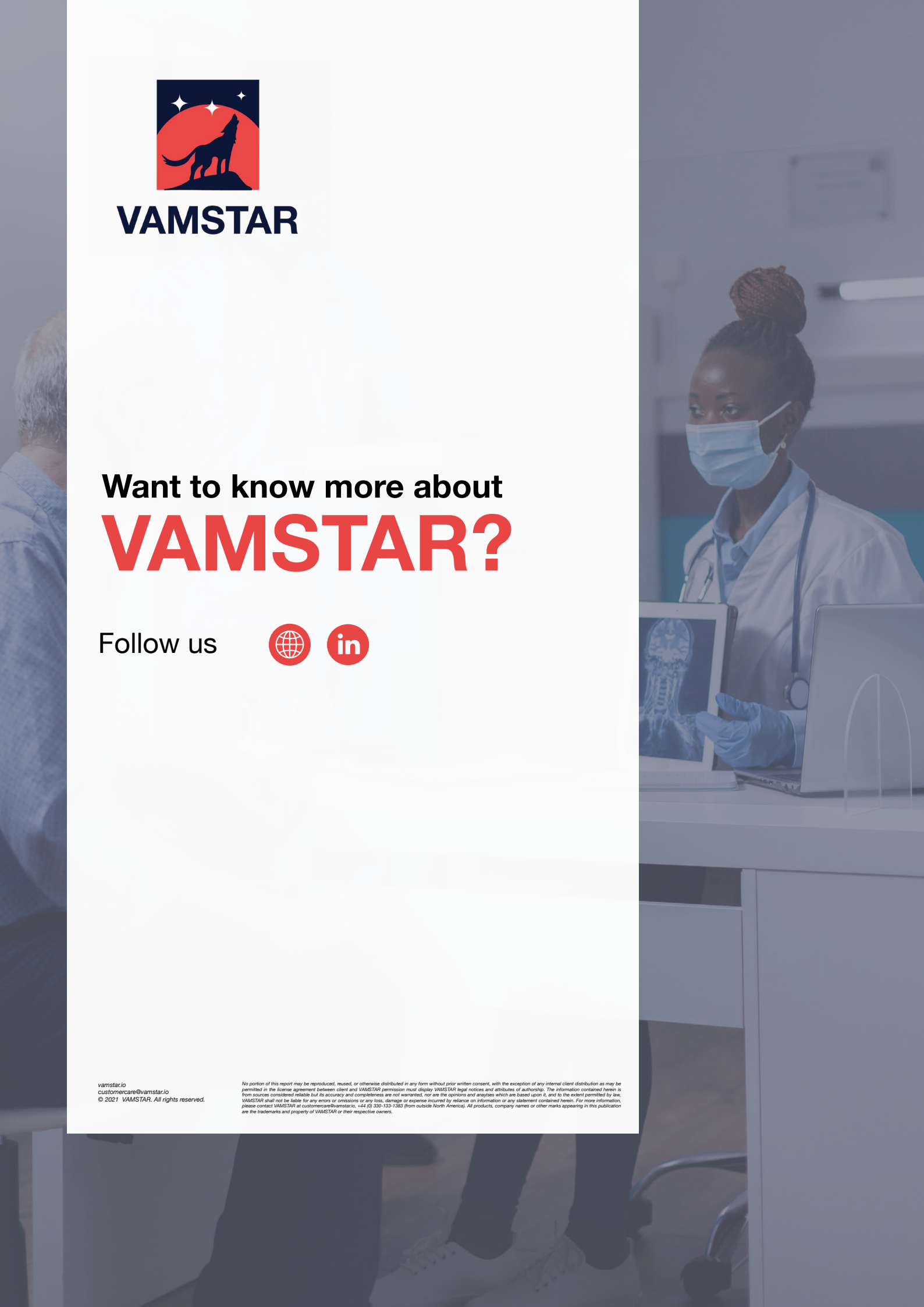

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