



# THE BURGEONING EQUIPMENT CRISIS IN IRISH HOSPITALS AN ACCIDENT WAITING TO HAPPEN





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This industry white paper been prepared for IMSTA by David French, of Delta C Health Solutions Ltd, in association with IMSTA's Market Access Group and Platinum Members'

IMSTA, the industry representative body for manufacturers and distributors of medical equipment, commissioned this report on the state of medical equipment management throughout the Irish health service, in response to concerns expressed by the Health Service Executive, Department of Health, Irish Hospital Consultant Association, State Claims Agency and industry.

# 1.

## **Key Findings**

- + A significant public health risk exists from continuing to utilize ageing / obsolete medical equipment for the diagnosis and treatment of disease in Ireland.
- + The current haphazard approach to equipping Irish hospitals is failing, with a backlog of ageing, inefficient medical equipment, running into hundreds of millions of Euro, growing waiting lists, increasing patient cancellations and growing medical negligence claims.
- + If unaddressed, the government will continue to pay out increasingly large amounts to settle negligence claims associated with ‘faulty medical equipment / devices’ through the State Claims Agency, instead of investing in urgent infrastructure and mitigating risk in critical clinical programmes.
- + The HSE commissioned two separate reports in 2016 from Grant Thornton Ireland and Crowe Horwath Ireland seeking to alleviate the crisis, but nothing has been done.
- + The ‘do nothing’ scenario is not an option and the situation will likely get worse with a growing backlog of medical equipment creating an even greater public health risk.

## 2. **Executive Summary**

This white paper proposes the introduction of a national strategy for the management of medical equipment. A national strategy will ensure that all healthcare establishments have an ongoing rolling programme for and access to high quality equipment to support modern healthcare delivery.

The current approach is failing, with a backlog of ageing, inefficient medical equipment, running into hundreds of millions of Euro, growing waiting lists, increasing patient cancellations and growing medical negligence claims.

The Department of Health's 2017 Midterm Capital Review submission to the Dept. of Public Expenditure and Reform states; "There is a well-established and documented position on urgent infrastructure and critical clinical risk programmes. There is a very significant deficit in the clinical equipping area and it is essential that a national approach is taken to replacement and that a structured replacement programme is adequately funded. It is imperative that the backlog is addressed in order to achieve a steady state where a consistent and predictable level of spending ensures that all critical equipment is replaced prior to that particular piece of equipment becoming unreliable or the technology becoming obsolete".

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**There is a very significant deficit in the clinical equipping area.**

The State Claims Agency, part of the National Treasury Management Agency, published an important report in 2017 analysing clinical incidents, claims and costs for the period 2010 to 2014 inclusive. A significant finding was that 'Failure / Faulty Medical Device / Equipment' was the third most common clinical incident recorded.

The Irish Hospital Consultants Association warned in a submission to government in 2017 that there is clear evidence that acute hospitals are "beginning to fail", in part due to ageing and obsolete equipment that needs to be replaced.

The public health risk is such that unless addressed, the problem of ageing medical equipment will soon become unsustainable creating a system with an equipment back-log of over half a billion Euro, spiralling medical negligence claims and growing waiting lists.

## 3. Background

### The problem facing Medical Equipment

The Irish healthcare system has an ageing stock of medical equipment, with a significant backlog. For several years, the cost of medical equipment needing replacement has been greater than the annual capital budget. Procurement should be driven at hospital level, focusing on managing equipment according to effectiveness and efficiency, rather than trying to retain obsolete equipment because that is seen as the cheapest approach. Centralised purchasing of the cheapest equipment may ignore local equipment needs. Tight capital budgets are cited as the main reason for this, yet this approach to medical equipment cannot address the issue and only increases the problem for future years.

A feature of medical equipment is the pace of innovation. In the last couple of decades of the twentieth century, equipment lifecycles were still up to twenty years. The 21st Century has seen a marked decrease in lifecycles, with technological improvements that drive patient outcomes at the centre of innovation. These benefits have improved efficiency (that allows for higher patient volumes) and improved performance, enabling operators to treat patients more effectively and safely. The absence of an adequate replacement strategy means that the healthcare system risks sub-optimal patient outcomes at a higher cost – a problem that will escalate as the backlog increases.

The current approach employs a system whereby each hospital puts forward a list of equipment it would like to purchase based on its risk and needs assessment and dominated by the age of equipment. Financial allocations are ultimately based on the budget, tending to allocate funds for the highest risk category. There is currently a long lead time between the bids being put forward and the financial approvals. In the interim the priorities of each hospital may have changed.

The budget for this annual cycle is based on a historic needs assessment. It is not clear whether this needs assessment is still applicable to current requirements. This static approach has ‘locked-in’ the budget based on a financial value rather than a ‘live’ needs assessment. To ensure the best outcomes, equipment replacement plans should be both forward-looking and dynamic.

A key aim of successful healthcare systems is outstanding patient outcomes. Ageing equipment is a block to this because of the lower efficiency and effectiveness of older equipment. The current strategy encourages lower productivity through maintenance of older equipment. Patients ultimately suffer, as fewer can be treated. Older equipment has less reliability, increasing downtime leading to higher cancellation rates. Older equipment also has less connectivity which impedes integration with other systems. Staff can also suffer through, for example, higher radiation doses from X-Ray exposure. In Ireland, there is an annual average of 1,120 incident reported that are related to equipment failure. The average payout per finalised claim (2016 - 2018) is €77,000.<sup>1</sup>

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A key aim of successful healthcare systems is outstanding patient outcomes. Ageing equipment is a block to this because of the lower efficiency and effectiveness of older equipment.

<sup>1</sup> Figures from the State Claims Agency are showed in Appendix I

This paper argues that a national medical equipment strategy will address several issues. At its highest level, the problem that needs addressing is one of enabling a strategy to appropriately identify the replacement needs for existing equipment, ensuring that each hospital can optimise efficiency, and that a structured replacement programme is adequately funded

A national strategy would also enable each hospital to purchase medical equipment in a timely manner and whilst the procurement strategy should have oversight over procurement, local decision-making should be encouraged.

### **Why does the problem persist?**

Ireland's fiscal rules are very clear on capital allocation and it is easy to view these fiscal rules as the key problem. This paper goes beyond this view by identifying other factors which contribute to the problem.

### **Fiscal Rules**

One aim of the HSE is to work within its capital allocation, supporting the Irish economy and staying within the fiscal rules. Whilst the fiscal rules are a consideration in the decision-making process for replacement of medical equipment, they are not as crucial as they appear.

### **Cost of Medical Equipment**

Medical equipment, like most fixed assets, should be costed and valued over its useful life. Typically, c. 50% of the cost is classified as capital, being charged up-front, and c. 50% of the cost is applied annually as a service charge to ensure ongoing operation of the equipment, being classified as revenue costs.

There is generally a relatively fixed attitude towards purchasing behaviour and variations to the costing tend to be based on cash-flows e.g. lease or loan, which spreads the capital cost over time, but will be more expensive. Variations to costing tend not to be based on risk -sharing, due to perceived complexities.

An alternative measure of cost is the 'unit cost' of activity. For evaluation purposes, a piece of equipment that has a price of €50,000 and can treat 5,000 patients per annum could be considered to have the same unit cost as similar equipment that has a price of €100,000 and can treat 10,000 patients per annum.

### **Lack of Engagement**

Procurement is generally a transactional process between HSE and suppliers where the limitations on the ability to negotiate are defined by a lack of mutual understanding and future aims of each party. The success of procurement is usually measured by the ability to reduce the unit price, e.g. 5% reduction in cost price is seen as success. Suppliers' sales resource is relatively scarce and will be focused on regions where the supplier has the greatest expectation of achieving sales. The ability to engage is therefore decreased by the current model. Several major suppliers serve Ireland with a peripheral sales force e.g. UK & Ireland.

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### 3. **Background** (continued)

National frameworks act as barriers to entry, further reducing engagement. This becomes an increasing problem the longer a framework has existed and framework lifecycles should aim to reflect the pace of innovation. For suppliers outside a framework, there is very little opportunity to introduce new equipment into the market until that framework expires. Even for existing suppliers, there can be uncertainty about frameworks, especially where price is the highest weighting.

#### **Capital Allocation Bidding Process**

Fixed budgets create an annual planning cycle based on short-term needs assessments at local level. Each hospital is required to submit their 'bids' for capital allocation annually. Having spoken to several hospitals, it is evident that the value of bids is significantly higher than their final allocation (and can be up to ten times higher). This process is based on perceptions of priorities based on several factors, including clinicians personal influence within a hospital. Age of equipment is another main factor.

#### **Indirect Costs**

The adverse impact on patients due to older equipment is tolerated for several reasons. There is a sense that healthcare is 'free' (at the point of access), resulting in increased propensity to tolerate inefficiency. From an outcomes perspective, the absence of a national strategy means there is little comparative performance data on care pathways. This can lead to inertia whereby a persistent problem becomes the normal state, through 'inefficiency creep'. Failure to manage performance through metrics also means that medical negligence claims tend not to be considered when appraising medical equipment. Efficiency and productivity benchmarking should be a priority of any investment decision.

#### **Lack of National Guidance**

Procurement strategies, which are fundamental to pathway efficiency, are inconsistent. Where hospitals have discussed innovative methods of procurement, these have become protracted. Feedback from industry is that hospitals believe they must seek national guidance before proceeding. It is not clear who a mandate is required from, or indeed if it is required at all. For hospitals, this exacerbates the mounting problem as they feel unable to enter into these solutions. For suppliers, this creates uncertainty and confusion. Local procurement tends to be risk averse and this applies in the absence of national guidance. Risk-taking is not common and this can lead to procurement being delayed or abandoned either because Procurement do not possess the resources to deliver or the local expertise.

Managed services are an example of where local discussions have stalled due to the absence of national guidance. This arrangement requires protracted discussion and stakeholder engagement as they tend to become bespoke, tailored to the needs of each individual hospital. Managed services can offer a range of benefits to hospitals including funding and management of capital equipment. National guidance that hospitals can appraise managed services and other innovative options offered by industry would help hospitals develop more robust business cases.

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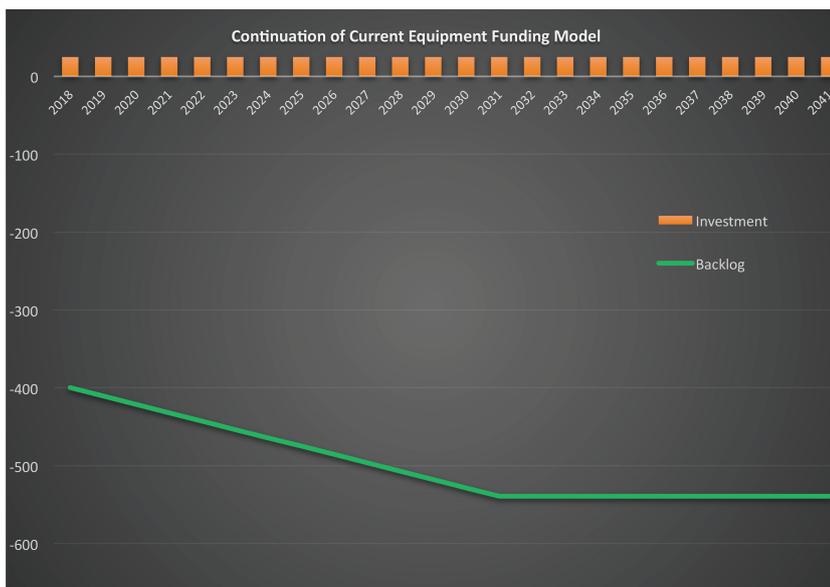
**The adverse impact on patients due to older equipment is tolerated.**

## 4. The Risk of Doing Nothing

The common challenge for all healthcare systems in the advanced world is to become more efficient. For every clinical pathway, this means treating more patients for less, or the same money. It is imperative therefore that clinical pathways have the opportunity to become efficient. There is evidence that the most efficient healthcare systems produce the best outcomes and have the lowest unit cost. In a system that faces growing demographic pressures, this is a key concept.

Healthcare funding in recent years has been relatively flat with a medical equipment capital budget of circa €25m being the norm. The capital equipment budget is less than 0.2% of the revenue budget. It is estimated that across Ireland, the medical equipment asset base is at least €700m and that annual under-investment has created a replacement back-log of around €400m (equal to 16 years of the current annual capital budget). The graph below demonstrates the impact up to 2041 of doing nothing beyond applying €25m investment.

Annual under-investment has created a replacement back-log of around €400m - equal to 16 years of the current annual capital budget.



With the starting point currently at €400m backlog, it becomes clear that without new investment or a new model, Irish healthcare will soon be facing a perpetual decline within the next seven years.

The impact of this legacy is reducing operational efficiency through reduced uptime, increased cancellations, longer procedures and lack of access to contemporary technology. The maintenance and repair costs will be higher and ultimately suppliers may not be able to maintain equipment due to obsolescence. Whilst the capital budget is maintained, the revenue budget will become more and more stretched.

The cost of medical negligence claims associated with equipment is put at €5m per annum. Medical negligence is one of the measures of patient safety and outcomes. These payments are direct costs to patients and should be considered in any investment decision.

## 4. The Risk of Doing Nothing (continued)

The 'do-nothing' option is not necessarily the lowest cost. It can be the lowest cost in terms of capital budget (helping compliance with the fiscal rules) but adds significant cost to the revenue budgets (whether budgets of healthcare or elsewhere). Overall however, doing nothing accelerates a worsening of patient experience and unplanned cost.

Unless addressed, the problem will eventually become unsustainable without massive unplanned funding by 2025, creating a system with a perpetual equipment back-log of over half a billion Euro, significant medical negligence claims and growing waiting lists. This is without considering demographic growth projected at 20% over the next twenty years and the impact of an ageing population.

### What is required?

Recognition of the extent of the problem is fundamental to developing a sustainable strategy for management of equipment. The following graph demonstrates how €100m is required per annum into perpetuity to maintain a €700m portfolio of medical equipment efficiently.



Over the initial seven years, the additional investment will support an accelerated investment program to address the current backlog. Based on an average seven-year cycle, by the middle of the next decade, there should be no backlog. Sustaining investment at €100m per annum (15% of asset value) will ensure a well-maintained equipment portfolio.

This paper does not recommend addressing the whole €400m issue in one go. Significant tranches of equipment in the past have given a period of false optimism and belies that fact that in about seven years, another €400m would be required i.e. such an approach would lead to the same situation and that is not a well-managed approach.

It should be noted that investment at the rate of €100m per annum over the period 2019 – 2025 is equal to around 0.63% of the annual revenue budget. This paper recommends linking additional equipment investment to productivity gains within hospitals; 0.63% improvement is well within the expectation of manufacturers targets.

Doing nothing accelerates a worsening of patient experience and unplanned cost.

## 5. **Proposed solution**

### **What needs to be reformed?**

The purpose of reform is to provide a long-term safe and effective healthcare system for patients, ensuring better outcomes than can be achieved under the current model. The White Paper is not advocating a medical equipment replacement strategy for its own sake – technological innovation supports improved pathways, better outcomes and health care at the lowest possible cost.

Of equal importance is that medical equipment is identified as a clinical asset – a good replacement plan will promote efficient pathways and good outcomes. The obverse is true of a poor replacement plan.

This paper focuses on reform of thinking – creation of a national level strategy which creates an effective framework for local procurement, a focus on supplier engagement that releases financial benefits. This framework will allow for quicker and rigorous decision-making at local level which will give confidence to suppliers.

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**The purpose of reform is to provide a long-term safe and effective healthcare system for patients.**

### **National Strategy**

A national strategy for reform must be consistent with government policy and this white paper advocates continued adherence to the fiscal rules. Within this financial framework, national guidance will allow local decision-making that benefits clinical pathways in hospitals across Ireland. A national strategy will also give suppliers greater confidence that the Irish medical equipment market can deliver long-term benefits for them.

### **Greater Stakeholder Engagement**

The implementation of a national strategy will support an engagement process that will allow negotiations to go ‘beyond transactions’. It is extremely important that manufacturers / suppliers are on-board with the challenges and able to tailor their own strategies to the needs of Irish healthcare. Engagement and communication are vital components of understanding that can lead to risk mitigation strategies, which are invariably cheaper. The role of the HSE and national Procurement as a sponsor of reform cannot be overstated as reform must be based on clarity of message and ensuring there is a streamlined compliant process for delivering new equipment into hospitals. The HSE must be focused and responsive to hospitals’ needs and the pace of technology.

### **Bidding Process**

The objective of reform should be to reduce the effective short-term burden of equipment requirements. Currently there is a short-term bidding process that always results in an under-allocation of needs. A focus on a long-term approach will give a national overview of the requirements of each establishment. This is required to ensure that the benefits of engagement are fully understood by both the state and industry. To ensure there is national oversight of equipment needs, the model should facilitate local responsibility supported by national guidance.

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## 5. **Proposed solution** (continued)

### **New Approach to 'Cost' and 'Value'**

The current disparity between a hospital's ability to purchase and a supplier's ability to sell is also dependent upon the approach to cost and ownership.

It is reasonable to assume that if the capital allocation doubled, the amount spent would double. It is also reasonable to assume that if the price of medical equipment halved, the volume purchased would double. This is a philosophy that is fundamental to sustainable solutions. The ability of suppliers to 'set' prices and offer 'deals' is dependent upon their long-term understanding of likely sales opportunities. Suppliers' approach to the 'full-life' costs may be flexible if they have reasonable assurance of access to a bigger market and if they are willing to take a risk in the anticipated outcomes. This approach can reduce the capital cost whilst giving hospitals earlier access to new medical equipment.

Hospitals working on fixed budgets, especially in periods of austerity, tend to use creative accounting as a means of balancing the books. In the short-term, cost avoidance and extending the useful life of equipment are two commonly used techniques. These methods simply build up a long-term issue that usually manifests itself in a cash problem. Reform must ensure that hospitals are incentivised not to adopt such accounting practices. The new tariff (Activity Based Funding) can disincentivise these practices by 'rewarding' investments that consider long-term solutions. Central guidance on how to deal with accounting for capital equipment would act as a positive driver of behaviour.

The new model should therefore consider how hospitals and suppliers can work together to ensure that equipment replacement is considered as an investment rather than a sale or purchase. See Appendix II.

## 6. **How can Industry help?**

Ireland has a strong healthcare manufacturing and research/innovation base and judging by the increasing backlog, the nation is not leveraging the benefits of the intensive medtech investment in this sector. Leveraging this capability through smarter relationships with key stakeholders and greater engagement with industry is surely worth considering.

As noted, the key frustrating factor here is the price of equipment. Greater engagement will allow suppliers and hospitals to construct financial models that are less reliant on purchase price and more reliant on value. It is abundantly clear that if the current model on pricing is not flexed and the fiscal rules remain in place, nothing will change.

Reform would embrace industry as part of the solution. For this to happen, procurement needs to have different measures of success. Transactional negotiations tend to be adversarial. Relationship negotiations, which this paper is advocating, are collaborative. This would require national procurement guidance to local procurement teams. Note IMSTA's 2015 publication '*New Approaches for procuring effective healthcare solutions*'.

As part of a national strategy, the system must therefore move beyond transactional procurement by inviting industry to help shape a solution, which would involve a more suitable approach to financing of equipment and maintenance and ensuring that healthcare in Ireland had access to the latest technologies. A movement beyond a transactional relationship may enable industry to de-risk, allowing the facilitation of an enhanced replacement program which would expedite a solution.

One of the problems cited in researching this white paper was the lack of resource on the industry side, possibly due to the lack of engagement. A nationally-led strategy may help improve the level of engagement and facilitate solutions that are appropriate to hospitals and are affordable.

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**The nation is not leveraging the benefits of the intensive medtech investment in this sector.**

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## What steps should government take to reform the system?

Government reform should be embedded in a program to provide high quality healthcare which puts patients at the centre. This paper deliberately does not centre on an outcomes-based approach to healthcare, except identifying the principle that improved outcomes lead to lower unit cost and supports the concept.

The principle of doing ‘more for less’ should therefore be at the heart of any reform, on the basis that as outcomes improve, costs are driven downwards. One of the key measures of outcomes will be the medical negligence cost, particularly the cost attributed to medical equipment.

Steering reform towards improving outcomes will put more emphasis at local level on the determinants of those outcomes and should generate a solutions-orientated approach. This includes medical equipment being viewed as a driver for improvement rather than a cost.

The debate on outcomes is timely because of the new tariff payments system (ABF). It is important that reform includes a tariff that incentivises good behaviour and it is therefore crucial that payments reward good practice and disincentivise poor practice. For example, tariff ‘top-ups’ may be considered to reward investment in medical equipment that supports more efficient pathways by, for example, reducing surgical operating time, resulting in earlier discharge or reducing infection rates – all potential measures of improved outcomes.

An effective fiscal policy will consider the inter-relationships between the capital and revenue budgets and leverage the advantages of each. To that end, reform should be based on an understanding that investment in medical equipment can lead to savings on the revenue budget – savings that are therefore available to reinvest in healthcare.

The apparent complexity of the reforms mean that the model is best suited to a national strategy which offers advice at local level. Reform of the procurement model is a requirement to address future relationships between suppliers and hospitals, thereby ensuring that the system understands the need to build a financial model that is compliant with the fiscal rules. This paper does not advocate radical reform - this is not required for procurement, but equally it is important that the future model is open and transparent and ultimately continues to be compliant with OJEU<sup>2</sup> regulations.

The focus of reform is to move away from a one-dimensional transactional model which is based on lowest price being good, to a model consistent with the European Parliament’s 2014 Directive on public procurement, which encourages a more holistic perspective that factors in products’ quality and total life-cycle costs. Collaboration and engagement is the only way to realise such benefits.

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**Reform should be based on an understanding that investment in medical equipment can lead to savings on the revenue budget – savings that are therefore available to reinvest in healthcare.**

<sup>2</sup> Official Journal of the European Union

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## What could the current Government do in the short term to reduce the risks?

There are several options the government could do to help reduce the risks in the short-term, though the first stage of any recovery programme is to stem the problem – which may not be possible to fully address in the short-term.

For equipment that is in critical need, there is an OJEU regulation that allows exemption from protracted procurement in such circumstances. That said, procurement is not the problem, once-off funding should be provided in the first year to reduce the public health risk as soon as possible, contingent on an appropriate business case being made in the specific care area.

The National Development Plan announced in February 2018 allocated €700 million for replacing medical equipment over the next ten years. In the first instance, this funding should be ring-fenced. Making the commitment available earlier may be an option as it will allow the system to identify and replace equipment that is in critical need in the short term. We recommend DPER consider making €70 million available to the health system annually, thereby increasing the funding available for medical equipment to €95 million (€70M + the €25M annual funding), rounded to €100 million, as indicated earlier in this white paper.

Investing in health system infrastructure in this way will alleviate the current critical situation and ultimately resolve the problem in the longer term, as shown above.

The first stage of reform would be for the Government to facilitate a dialogue between the Departments of Health and Public Expenditure and Reform and industry to explore policy options.

Positive messages from government should result in a supportive attitude from HSE senior management and senior industry leaders that would facilitate the necessary reforms.

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**The first stage of reform would be for the Government to facilitate a dialogue between the Departments of Health and Public Expenditure & Reform and industry to explore policy options.**

## 9. Conclusion

Without reform, the Irish healthcare system is heading towards a perpetual €0.5bn medical equipment backlog. This is a potentially irreparable position for the economy as it has a direct implication for hospitals' ability to treat patients and an indirect implication for the well-being of the population. The magnitude of the issue transcends healthcare – it has become a financial issue for Ireland and, if not addressed, is likely to have serious consequences for the annual revenue spending on healthcare.

From a positive perspective, by addressing this funding issue through a new model, there will be positive benefits for patients and on the healthcare budget – ensuring that increased demand is absorbed into the current funding envelope. This is a model that should be driven by Finance.

Given the fiscal rules, a key driver of decision-making is related to cost and affordability of equipment. Under the current approach cost is measured on a transactional basis i.e. cost of equipment to the hospital. A national strategy to engage with suppliers should be focused on moving beyond the transactional, whereby suppliers could redesign their financial package to be aligned with Ireland's fiscal rules.

The introduction of an activity-based tariff is an ideal time to implement a national strategy as hospitals can be given incentives to drive behaviour. These incentives may include hospitals effectively self-financing medical equipment through savings created by more efficient care pathways. This would be an extremely effective approach given the expected increase in the population over the next twenty years coupled with more costly healthcare associated with an ageing population.

Stakeholder synergy is important to the success of any industry. A healthcare system with aligned incentives that produces optimal clinical and financial outcomes should be a key priority. This vision requires increased focus on supplier and stakeholder engagement to ensure that the available funding is utilised efficiently. The HSE can provide an operating framework that allows hospitals and suppliers to work mutually towards the national goal of an affordable and efficient healthcare system which delivers world-class outcomes for patients.

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**Unless addressed, the problem of ageing medical equipment will become unsustainable, creating a system with a perpetual equipment back-log of over half a billion Euro, significant medical negligence claims and growing waiting lists.**

**The 'do nothing' scenario is not an option.**

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**Stakeholder synergy is important to the success of any industry. A healthcare system with aligned incentives that produces optimal clinical and financial outcomes should be a key priority.**

## 10. Appendix I

### Clinical Care: Equipment Related Healthcare Incidents and Claims in Ireland

**Table 1: Clinical Care Incidents Occurred relating to Equipment Failure**

|                              | Date of Incident Occurred |       |       | Total        |
|------------------------------|---------------------------|-------|-------|--------------|
|                              | 2016                      | 2017  | 2018  |              |
| Number of Incidents Occurred | 1,054                     | 1,038 | 1,268 | <b>3,360</b> |

**Table 2: Clinical Care Claims Received relating to Equipment Failure**

|  | Claim Received Year |          |          | Total              |
|--|---------------------|----------|----------|--------------------|
|  | 2016                | 2017     | 2018     |                    |
| Number of Claims Received <sup>1</sup>                                       | 14                  | 6        | 6        | <b>26</b>          |
| Estimated Liability of Claims Received <sup>1</sup>                          | €2,791,246          | €615,000 | €690,000 | <b>€4,096,246</b>  |
| Average Estimated Liability per Claim Received <sup>1</sup>                  | €199,375            | €102,500 | €115,000 | <b>€157,548</b>    |
| Number of Claims Received relating to Birth Specific Procedures              | 4                   | 0        | 0        | <b>4</b>           |
| Estimated Liability of Claims Received relating to Birth Specific Procedures | €12,167,500         | €0       | €0       | <b>€12,167,500</b> |

**Table 3: Clinical Care Claims Finalised relating to Equipment Failure**

|                                  | Claim Finalised Year |          |          | Total             |
|----------------------------------|----------------------|----------|----------|-------------------|
|                                  | 2016                 | 2017     | 2018     |                   |
| Number of Finalised Claims       | 6                    | 13       | 8        | <b>27</b>         |
| Paid on Finalised Claims         | €578,061             | €674,528 | €828,937 | <b>€2,081,526</b> |
| Average Paid per Finalised Claim | €96,343              | €51,887  | €103,617 | <b>€77,094</b>    |

<sup>1</sup> Excluding birth specific procedures

Source of Data: National Information Management System. Report run date: 31.12.18. Above tables exclude Mass Action claims

## 11. Appendix II

### Whole Life Economic Costs explained

Reform should consider introducing a template to account for whole life costs in the local decision-making process. This approach gives a more rounded indication of the wider financial implications of decisions. Whole life costs would include medical negligence, the impact of downtime, patient cancellations, absence from work and further health complications.

This is beyond the scope of a local Procurement and finance teams and would require greater involvement at national level. A good business case will consider all these costs and benefits. Hospital business cases usually only consider the impact for the hospital, excluding for example, the cost to the economy of not treating patients. This is data that will be available nationally. Whole life costs should be assessed at national level i.e. on economic valuation, rather than cost to the individual hospital, as options whose investment is lower than the resultant economic cost, should be considered favourably. Whole life costs should be considered within the context of at least two equipment life-cycles.

To demonstrate this concept, the table below compares a hospital business case against the economic business case. The table assumes that the relative inefficiency of existing equipment costs the hospital 100 patients. The extra cost of maintaining the existing equipment is €100,000 Euro and the cost of the new equipment is €1m.

Under these assumptions the 'do nothing' option is the cheaper option for the hospital – encouraging the hospital to retain the asset. The cost of delayed patients is not important for the financial modelling to the hospital. Introducing an activity-based tariff will be a mitigating factor, but that alone is unlikely to offset the economic costs.

|   | Hospital Business Case<br>(Local Decision-Making) |                   | Economic Business Case<br>(National Decision-Making) |                   |
|---|---|-------------------|--|-------------------|
|   | Do Nothing  | New Equipment     | Do Nothing   | New Equipment     |
| Additional Patients Treatable           | 0   | 100               | 0  | 100               |
| Expenditure on Equipment                | €0  | €1,000,000        | €0   | €1,000,000        |
| Lost Patients /Increase in Waiting List | 200   | 0                 | 200  | 0                 |
| Unit Cost of Delayed Patients           | 0   | 0                 | €10,000  | 0                 |
| Economic Cost of Delayed Patients       |   |                   | €2,000,000)  |                   |
| <b>Total Cost of Decision</b>           | <b>€0</b>   | <b>€1,000,000</b> | <b>€2,000,000</b>                                    | <b>€1,000,000</b> |
| Overall Financial Effectiveness Rank    | Preferred Option                                  |                   | Preferred Option                                     |                   |

The unit cost of delayed patients is for illustrative purposes only and does not represent any disease pathway

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## 11. Appendix II

In the table, the different conclusions can be drawn depending upon how the options are being appraised. One of the limitations of the local business case is that 'downside activity' tends to be ignored, which makes the lower cost options appear to be more attractive. This paper advocates broader thinking in options appraisal to fully inform stakeholders of the implication of options.

The example above uses the cost of delayed patients in the economic business case. It is an accepted principle that delays to treatment increases the economic cost over time. So, where a procedure may cost €2,000, if delayed, additional costs are incurred due to drugs, absence from work and in many cases, leading to increased complexity of the planned procedure.

Healthcare already has examples of projects that are supported by innovative funding. There are examples of clinically managed services in Ireland, both publicly and privately and the volumes are growing across Europe. These can range from, for example, one operating theatre, to departments and whole hospital. Payments by hospitals are spread across the lifetime of the contract and because the payment is for a service provision, there is no capital expenditure incurred by the hospital. Another method employed is the free loan of medical equipment to hospitals, with payment related to the clinical consumables used.



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