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Consultation Response

Pricing Framework for Australian Public Hospital Services 2023–24

Prepared by Stryker South Pacific

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About Stryker

Stryker is one of the world's leading medical technology companies and, together with its customers, is driven to make healthcare better. The company offers innovative products and services in Medical and Surgical, Neurotechnology, Orthopaedics and Spine that help improve patient and hospital outcomes.

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Summary

Stryker supports the overall approach of the Independent Hospital Pricing Authority (IHPA) to the implementation of the Addendum to the National Health Reform Agreement with the aim of developing and refining the national activity-based funding (ABF) system.

Stryker supports IHPA's role in health funding reform under the Addendum particularly relating to improving efficiency in the health system through a shift in focus from paying for volume of services to paying for value and patient outcomes.

Throughout this consultation response Stryker has provided a series of recommendations aligned with IHPA's guiding principles, particularly those associated with;

> **Fostering clinical innovation:** Pricing of public hospital services should respond in a timely way to introduction of evidence-based, effective new technology and innovations in the models of care that improve patient outcomes.
>
> **Promoting value:** Pricing supports innovative and alternative funding solutions that deliver efficient, high quality, patient-centred care.

Additionally, Stryker has suggested that IHPA's role in providing advice to all health ministers on evaluating existing and new safety and quality reforms should include the safety of healthcare staff as a key consideration and measure of success.

Further recommendations and feedback on the drafted framework are provided below.

Consultation Commentary

Section 5.1.1: AR-DRG Version 11.0

Question
Are there any barriers or additional considerations to using AR-DRG Version 11.0 to price admitted acute services for NEP23?

IHPA Commentary / Proposal
For NEP23 IHPA proposes to use AR-DRG Version 11.0 to price admitted acute patient services, without a shadow pricing period.

Stryker's Comments
Stryker agrees with IHPA's proposal to utilise AR-DRG Version 11.0 to price admitted acute patient services for NEP23.

Section 6.2: Adjustments to the national efficient price

Question
Are there any adjustments IHPA should prioritise investigating to inform the development of NEP23?

What cost input pressures that may have an impact on the national pricing model and are not included in the NHCDC should be considered in the development of NEP23?

Stryker's Comments
COVID-19 has had a significant impact on Australia's public health system. Every aspect of the treatment pathway has been affected, including delays in access to specialist consultation and blow-outs in elective surgery waiting lists. The increased utilisation of innovative medical technology should be considered to assist with health system recovery and to enhance long term sustainability. The significant backlog of elective surgeries may see public hospitals prioritizing specific procedures, ultimately impacting the "normal" casemix and resulting funding.

Stryker's robotic-arm assisted arthroplasty device, Mako, provides surgeons with an innovative intervention for hip and knee replacement procedures. Clinical studies have shown that Mako reduces length-of-stay and episode-of-care costs, results in improved patient outcomes and experiences and decreases the chance of revision surgeries. Mako represents a medical device technology capable for addressing concerns of rising orthopaedic waiting lists and procedural costs.

Recommendation: Stryker recommends that IHPA investigate adjustments associated with the increased utilisation of innovative high-cost technologies. Such technologies have the potential to reduce elective surgery waiting lists and mitigate the impact of increased cost input pressures associated with public hospitals performing more than usual elective procedures.

Section 7.4: New high cost, highly specialised therapies

Question
What other considerations should IHPA have in investigating innovative models of care and exploring trials of new and innovative funding approaches?

IHPA Commentary / Proposal

IHPA is currently undertaking a comprehensive review of the Impact of New Health Technology Framework. In response to previous feedback from jurisdictions and other key stakeholders, IHPA will expand the scope of the Impact of New Health Technology Framework to shift away from being focused on the assessment of new health technologies in the admitted patient setting. The updated Impact of New Health Technology Framework will also include a streamlined process for the timely assessment of new health technologies and outlines the classification development mechanisms and impact of new health technologies on all patient service categories.

Stryker's Comments

The Independent Hospital Pricing Authorities (IHPA) *Impact of New Health Technologies* Framework is aimed at interventions not specific technologies. As such, interventions which are approved through this process, which have undergone extensive clinical assessment, result in the creation of a classification code. However, this code is not limited in use and all products matching the 'type' of classification, irrespective of clinical outcomes and cost-effectiveness, are able to utilize this grouping, receive the associated funding amount, and impact the subsequent cost-data collection.

The classification process (once the application is approved) takes up to 7-years for complete implementation. During this period costing data is collected to determine the associated funding amount. The data that is collected is primarily based on inpatient episode-of-care and running costs of the associated technologies and does not accurately consider the associated capital equipment cost.

Innovative and cost-effective technologies typically demonstrate a reduction in the index episode-of-care costs, when compared with existing traditional first-line comparators (this is generally the core intervention within the public system). As such, within the data collection period the device would demonstrate cost saving data, effectively illustrating that less funding is required when compared to traditional technology (dependent on the influence the technology's running costs has to the funding amount).

The resulting impact is that innovation and access to new life-saving medical technologies is likely to reduce due to;

- Hospitals may be reluctant to use new and costly technologies until the activity and episode-of-care based funding system is updated to account for the capital investment or additional costs.
- Hospitals are unlikely to use technologies that reduce the episode-of-care cost as this will reduce their funding over time.
- Most funding mechanisms where technology is embedded in a bundled payment can potentially hinder adoption of new technologies that increase costs.

Recommendation: Stryker recommends that as part of IHPA's review of the *Impact of New Health Technology Framework* and proposed streamlining process that a pathway for the assessment of specific technologies, rather than generalised interventions, is investigated. Additionally, Stryker proposes that IHPA investigate whether the current framework and cost-data collection mechanism accurately captures the true costs to implement and maintain high-capital investment technologies. Lastly, Stryker recommends that in addition to assessing interventions for inclusion under ABF, the Impact of New Health Technologies framework should be utilised as a mechanism for providing funding recommendations to the HMM. This is in alignment with IHPA's role under the Addendum.

Section 8.2: Investigation of alternate funding models

Question

What changes, if any, to the national pricing model should IHPA consider to account for innovative models of care and services related to virtual care?

Stryker's Comments

Patient access to clinically proven, innovative, and emerging technologies, such as robotically assisted partial knee arthroplasty is disproportionately more accessible to Australia's private patients. Public hospital funding does not support the adoption of high capital investment technologies, particularly when these technologies are cost-effective and have the potential to reduce episode of care funding.

Partial knee arthroplasty (PKA), also termed unicompartmental knee arthroplasty (UKA) when associated with a single compartment, has been performed for isolated single compartment knee osteoarthritis since the 1970's[1]. When compared to total knee arthroplasty (TKA), studies have shown that PKA patients experience greater retention of normal knee kinematics, accelerated recovery, and reduced post-operative morbidity. However, despite the volume of evidence demonstrating the benefits of PKA this procedure has not become widely accepted due to the difficulty of accurately positioning the implant. As a result, it is not uncommon for patients eligible for a PKA to undergo a TKA, particularly within Australia's public system.

Typically, when PKA's are performed in Australia's public system they are done so using a manual or navigated surgical technique in conjunction with an Oxford (ctd) prosthesis. The associated three-year survivorship for this implant is 94.2%[2] with a corresponding 5.8%[2] revision rate.

Comparatively, within the private system, partial knee procedures are more commonly performed with robotic assistance, such as Stryker's Partial Knee Robotic platform - Mako. Mako utilises CT-based 3D modelling of bones to determine the optimum size and position of an implant and allows highly skilled surgeons to create individualised surgery plans for patients based on their specific diagnosis and anatomy. Mako's haptic boundaries, determined by a patient's individual plan, allow surgeons to accurately remove targeted bone whilst minimising the impact of surrounding bone and soft tissues.

Clinical studies have shown that Mako has the potential to produce accurate and reproducible component placement in accordance with preoperative plans[3] and to reestablish soft tissue balance[4]. As such, the Mako PKA robotic-assisted surgical technique provided in conjunction with Stryker's Restoris MCK prosthesis has a three-year survivorship of 97.2%[2] with a corresponding 2.8%[2] revision rate.

Currently Mako partial knee procedures with Restoris MCK are predominately available to private patients in a private hospital setting. The demonstrated differences in implant survivorship and benefits of PKA vs TKA (above) provides a clear example of the differing patient outcomes as a result of access within the public and private systems and the link this has to the adoption of innovative technologies.

Recommendation: Stryker proposes part of IHPA's investigation into innovative and alternative funding models, particularly bundled payments, includes the funding of specific technologies with demonstrated clinical outcomes associated with a unique patient diagnosis. A funding model of this nature allows public hospitals to invest in high-cost innovative technologies without impacting activity-

[1] Ollivier M, Abdel MP, Parratte S, Argenson JN. Lateral unicondylar knee arthroplasty (UKA): contemporary indications, surgical technique, and results. Int Orthop

[2] AOANJRR. Hip, Knee & Shoulder Arthroplasty: 2021 Annual Report, Adelaide; AOA, 2021.

[3] Bell SW, Anthony I, Jones B, MacLean A, Rowe P, Blyth M. Improved Accuracy of Component Positioning with Robotic-Assisted Unicompartmental Knee Arthroplasty: Data from a Prospective, Randomized Controlled Study. J Bone Joint Surg Am.

[4] Plate JF, Mofidi A, Mannava S, Smith BP, Lang JE, Poehling GG, Conditt MA, Jinnah RH. Achieving accurate ligament balancing using robotic-assisted unicompartmental knee arthroplasty. Adv Orthop.

based payments. Additionally, this funding model could be provided to targeted sites which experience high volumes of the specific diagnosis to help validate the clinical and cost-effectiveness of the technology prior to national funding (if successful).

Section 9.3 and 9.4: Hospital acquired complications & Avoidable hospital readmissions

IHPA Commentary / Proposal

A HAC is a complication that occurs during a hospital stay and for which clinical risk mitigation strategies may reduce (but not necessarily eliminate) the risk of that complication occurring. The funding adjustment for HACs reduces funding for any episode of admitted acute care where a HAC occurs. This approach incorporates a risk adjustment model and recognises that the presence of a HAC increases the complexity of an episode of care or the length of stay, driving an increase in the cost of care.

Unplanned hospital readmissions are a measure of potential issues with the quality, continuity and integration of care provided to patients during or subsequent to their initial hospital admission. An avoidable hospital readmission occurs when a patient who has been discharged from hospital (the index admission) is admitted again within a certain time interval (the readmission), and the readmission is clinically related to the index admission and has the potential to be avoided through improved clinical management and/or appropriate discharge planning in the index admission.

From 1 July 2021, IHPA has implemented a funding adjustment for avoidable hospital readmissions and involves the application of a risk adjusted NWAU reduction to the index episode, based on the total NWAU of the readmission episode, to apply where there is a readmission to any hospital within the same jurisdiction.

Stryker's Comments

Stryker is supportive of IHPA's implementation of funding adjustments for hospital acquired complications and avoidable hospital readmissions. Stryker is a provider of in-hospital medical technology targeted at reducing pressure injuries, falls and fall-related injuries and has firsthand experience of the impact these technologies have on patient experiences and outcomes.

Recommendation: Stryker proposes that in addition to implementing adjustments that reduce episode-of-care payments associated with HAC's and avoidable readmissions that a funding increase / NEP adjustment be provided to hospitals as an incentive to actively implement technologies targeted at pro-actively reducing hospital acquired complications and avoidable readmissions.

Section 9.5: Evaluation of safety and quality reforms

IHPA Commentary / Proposal

Clause A174 of the Addendum stipulates that IHPA, the Commission, and the Administrator of the National Health Funding Pool (the Administrator) (the national bodies) will work with jurisdictions, and other related stakeholders to establish a framework to evaluate safety and quality reforms against the following principles:

- reforms are evidence based and prioritise patient outcomes
- reforms are consistent with whole-of-system efforts to deliver improved patient health outcomes
- reforms are transparent and comparable
- reforms provide budget certainty.

Stryker's Comments

Establishing a framework to evaluate safety and quality reforms within Australia's public health system should consider the health outcomes of healthcare professionals in their working environment as key principle.

Stryker has been a strong supporter of the International Council on Surgical Plume and supply products that mitigate the risk of exposure of theatre staff and patients to surgical smoke. An increasing number of global organisations are scrutinising the potential hazards of surgical smoke and the importance of waste management. These include governments, workplace safety groups, clinical societies, and quality organisations responsible for healthcare standards and accreditation. Groups around the world have found the data compelling enough to warrant action, resulting in guidelines – and laws in some countries – to better protect theatre staff and patients.

However, the adoption of these emerging waste management technologies is limited as current capital funding models are targeted towards supporting existing technologies that align with current activity and episode-of-care funding arrangements. Future models should consider further incentivising the implementation technologies centred around safety and quality, which whilst may be more expensive, provide clear health benefits through innovative waste management.

Recommendation: Stryker proposes that the principles for establishing a framework to evaluate safety and quality reforms should additionally prioritise a safe working environment for healthcare staff. Additionally, as part of establishing safety and quality reforms IHPA should engage relevant stakeholders to understand the impact device-based technologies can have on improving patient and staff outcomes.

Section 9.6: Avoidable and preventable hospitalisations

IHPA Commentary / Proposal

The Addendum also requires the national bodies to provide advice to HMM on options for the further development of safety and quality-related reforms, including examining ways that avoidable and preventable hospitalisations can be reduced.

Stryker's Comments

Revision arthroplasty procedures should be considered as avoidable and preventable hospitalisations. As outlined in AOANJRR[5] the utilisation of demonstrated clinically superior prostheses reduces the instances of revision procedures. Revision surgeries are typically more costly than the original procedures, result in increased patient bed days (as below) and often result in inferior patient outcomes.

NATIONAL HOSPITAL COST DATA COLLECTION
COST WEIGHTS FOR AR-DRG VERSION 10.0, Round 24 (2019-20)

DRG	DRG Description	Seps	ALOS	Total Cost
I33A	Hip Replacement for Non-Trauma, Major Complexity	1,744	7.4	$29,312
I33B	Hip Replacement for Non-Trauma, Minor Complexity	7,878	3.7	$20,412
I31A	Revision of Hip Replacement, Major Complexity	516	20.2	$58,167
I31B	Revision of Hip Replacement, Intermediate Complexity	578	10.5	$37,940
I31C	Revision of Hip Replacement, Minor Complexity	501	6.7	$27,514
I04A	Knee Replacement, Major Complexity	2,158	7.0	$26,670
I04B	Knee Replacement, Minor Complexity	10,823	3.9	$19,784

[5] AOANJRR. Hip, Knee & Shoulder Arthroplasty: 2021 Annual Report, Adelaide; AOA, 2021: 1-474.

I32A	Revision of Knee Replacement, Major Complexity	479	19.5	$55,231
I32B	Revision of Knee Replacement, Minor Complexity	668	7.7	$29,969

DRG Description	Seps	Avg. Total Cost*
Hip Replacement for Non-Trauma	9,622	$22,025
Revision of Hip Replacement	1,595	$41,208

Knee Replacement	12,981	$20,929
Revision of Knee Replacement	1,147	$40,519

***Calculated by multiplying Seps*TotalCost for each AR-DRG, for an ADRG Total Cost and then dividing by ADRG Total Seps.**

To quantify potential reductions in hospitalisation and associated health system savings, Stryker has modelled the utilisation of the Stryker Exeter V40 hip prosthesis and Triathlon CR knee prosthesis against all other hip and knee prostheses, as captured in the AOANJRR. These two prostheses have been the most commonly used[5] and the best performing[5] prostheses within Australia.

Comparison of Revision Surgery Costs to Australian Public Healthcare System – Total Hip and Knee Replacements						
Product	**Actual Procedures[6]**	**Actual Revisions[6]**	**Revision Rate[6]**	**Adjusted Procedures for modelling**	**Resulting No. of Revisions**	**Theoretical Cost to Public System (Avg. Revision Cost * No. Revisions)**
Exeter V40	121,006	4,277	3.5%	10,000	350	$14,423,073
Other Total Hip	456,457	20,047	4.4%	10,000	440	$18,131,863
Triathlon CR	129,227	3,002	2.3%	10,000	230	$9,391,299
Other Total Knee	717,862	31,509	4.4%	10,000	440	$17,828,225

The example above shows that in a cohort of 10,000 hip and knee replacement surgeries, which closely represents the number of total knee (ADRG I04) and total hip (ADRG I33) replacement separations in the NHCDC for Round 24 (2019-20), the sole use of Triathlon and Exeter has the potential to **prevent 300 hospitalisations** for revision surgeries, avoid **3,771** patient bed days and save **$12M+** in theoretical costs to the public health system per year, when compared to utilisation of alternative prostheses.

Stryker recognises that one specific best performing prosthesis, may not always be the best choice for a particular patient based on contributing factors such as diagnosis, lifestyle, and anatomy. However, incentivising the use of high-performing prostheses across joint replacement procedures, using the AOANJRR as a reference, represents an opportunity to reduce avoidable and preventable hospitalisations and generate significant savings to Australia's public health system.

Recommendation: Stryker proposes the IHPA conducts further investigation into the impact that the increased utilisation of high-performing prostheses could have on reducing revision rates and by extension avoidable and preventable hospitalisations. As a national body and under the Addendum IHPA could provide advice to HMM on options for incentivising the use of clinically superior prostheses in Australia's public healthcare system as means to reduce avoidable and preventable hospitalisations as part of safety and quality-related reforms.

[6] Stryker Generated AOANJRR AIRS Reports: STR 7085 & 7086, July 2022.