

2022 ALUCA Turks Life Insurance Scholarship 2nd Runner-Up

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Real-time health-and-fitness data. Are Life Insurers keeping pace?

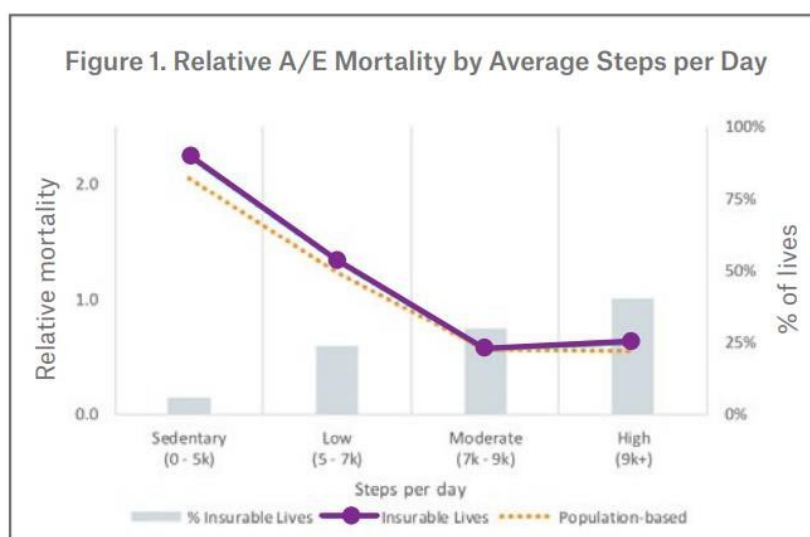
It is obviously in the interests of both Life Insurers and their clients for clients to do everything they can do to maintain and improve their health-and-fitness. Many Life Insurers have already embraced the concept of rewarding customers who make choices to reduce the risk of preventable illness and injury and tracking these choices has been made possible by sharing health data produced by wearables.

How far should Life Insurer's go in personalising their service, products, and pricing on the basis of all the new, real-time health-and-fitness data which can be readily accessible? Are customers expecting Life Insurer's to move faster on this than they already are? Alternatively, some customers may want Life Insurer's to butt out of their health-and-fitness lives. What are the pros and cons of LI's modifying their offerings on the basis of real-time health-and-fitness data and how it could transform life insurance?

Introduction

In this paper, I discuss the current approach on the use of real-time health-and-fitness data with Life Insurers (LI), and opportunities to maximise use of this data to enhance customer experience and uptake of services. I discuss the pros and cons of modifying offerings based on these opportunities, with an emphasis on ethical considerations.

The Covid-19 pandemic has resulted in a rapid shift towards virtual care. Wearables and real-time health-and- fitness data provide opportunities for objective statistics to drive personalised virtual care service offerings. A study conducted by PWC in 2016¹ found 55% of Australians owned a wearable health-and-fitness device. This market is expected to achieve a Compound Annual Growth Rate of 14.5% in Australia by 2026². A study conducted by Munich Re in 2018³ also found a direct link between steps-per-day and mortality rate in insurable lives, as is evidenced in the table below:



Reprinted from (Quah, J., 2018)

Additionally, in 2018 the Australian Bureau of Statistics found “67% of adult Australians were overweight or obese... 47% presented with one or more chronic health condition ... and 4.8 million Australians has a mental or behavioural condition”⁴. Further to this, only a minority of 15% of Australians aged between 16 to 64 met the Physical Activity Guidelines to achieve health benefits⁴.

Both the international and national data presented here postulates most insurable lives in Australia are not completing enough exercise to achieve health benefits, and this same population has opportunities to increase health benefits and reduce mortality rates by joining the rising trend of tracking real-time health-and-fitness data.

¹ Bothun, D., & Lieberman, M. (2016). PWC The Wearable Life 2.0: Connected living in a wearable world - Consumer Intelligence Series. Retrieved 6 October, 2022, from <https://www.pwc.com/us/en/industry/entertainment-media/assets/pwc-cis-wearables.pdf>

² Mordor Intelligence. (2022). Australia wearables market – Growth, trends, covid-19 impact and forecasts (2022 – 2027). Retrieved October 3, 2022, from <https://www.mordorintelligence.com/industry-reports/australia-wearables-market>

³ Quah, J. (2018). Munich American Reassurance Company - The future is now: wearables for insurance risk assessment. Retrieved October 3, 2022, from https://www.munichre.com/content/dam/munichre/marc/pdf/wearables/the-future-is-now/The_Future_is_Now_Wearables_for_insurance_risk_assessment.pdf/_jcr_content/renditions/original/The_Future_is_Now_Wearables_for_insurance_risk_assessment.pdf

⁴ Australian Bureau of Statistics. (2018). Australian Health Survey: first results, 2017-18. Retrieved 6 October, 2022, from <https://www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey-first-results/latest-release>

This presents a unique opportunity for LI's to adopt a new way of collaborating with customers by shifting focus from risk-analysis to digital prevention, with a goal to increase customer confidence in products, enhance prevention-based services, and provide insight management⁵.

Opportunities for Products and Pricing

With the current popularity of wearables set to increase further⁶, there is a scope for LI's to utilise objective data on physical activity to review current underwriting practices; promote early intervention and return to health services; and broaden reach of insurable customers⁷. However, this also raises questions for debate that LI's must grapple with around changes to processes and procedures, as outlined in the following paragraphs.

Validity and storage of data

There has been extensive research on the technological inaccuracies of activity trackers⁸. Most evidence suggests statistics on step-count are predominately accurate and unlikely to be fraudulent, whereas statistics on energy expenditure and sleep are less reliable^{9,10}. Additionally, step-count is the most consistently tracked data across all wearables and health-and-fitness applications based on review of the top six health-and-fitness wearables in the Australian Market¹¹. This is significant as steps-per-day is also directly linked to mortality risk, along with other health indicators¹².

Additionally, wearable activity-trackers have been found to be successful in promoting increased physical activity and reduction in weight, with sustainment of at least six-month post initial use¹³. Smartphone Applications were found to have a statistically higher accuracy of tracking steps-per-day than wearables, however both Smartphones and wearables were noted to have accuracy¹⁴.

It behoves LI's to only use data that is valid and reliable. As step-count is the most consistent and statistically reliable data and is also linked to increased physical activity for health benefits, LI's could utilise step-count to develop products and policies. This is explored further in this paper.

Given the validity of data in wearables and Smartphone Applications, insurers then need to consider their capacity to store data safely. This is explored further under *Customer Expectations* around privacy.

⁵ Howlett, B., Rajan, M., & Soh, P. C. (2017). PWC - Future of Life Insurance in Australia: Profitable growth in challenging times. Retrieved 6 October, 2022, from <https://www.pwc.com.au/insurance/future-of-life-insurance-mar17.pdf>

⁶ Mordor Intelligence. (2022). Australia wearables market – Growth, trends, covid-19 impact and forecasts (2022 – 2027). Retrieved October 3, 2022, from <https://www.mordorintelligence.com/industry-reports/australia-wearables-market>

⁷ Quah, J. (2018). *Munich American Reassurance Company - The future is now: wearables for insurance risk assessment*. Retrieved October 3, 2022, from https://www.munichre.com/content/dam/munichre/marc/pdf/wearables/the-future-is-now/The_Future_is_Now_Wearables_for_insurance_risk_assessment.pdf/_jcr_content/renditions/original/The_Future_is_Now_Wearables_for_insurance_risk_assessment.pdf

⁸ Yang, R., Shin, E., Newman, M.W., & Ackerman, M.S. (2015). When fitness trackers don't 'fit'. Proceedings of the 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing, 623–634. Retrieved October 5, 2022, from <https://dl.acm.org/doi/10.1145/2750858.2804269>

⁹ Evenson, K. R., Goto, M. M., & Furberg, R.D. (2015). Systematic review of the validity and reliability of consumer-wearable activity trackers. *International Journal of Behavioural Nutrition and Physical Activity*, 12, 1-22. Doi: 10.1186/s12966-015-0314-1

¹⁰ Ridgers, N.D., & Lai, S.K. (2018). Use of wearable activity trackers for physical promotion. In Acevedo, E. O., *The Oxford Encyclopedia of Sport, Exercise and Performance Psychology*. Oxford UK. Oxford University Press

¹¹ Mordor Intelligence. (2022). Australia wearables market – Growth, trends, covid-19 impact and forecasts (2022 – 2027). Retrieved October 3, 2022, from <https://www.mordorintelligence.com/industry-reports/australia-wearables-market>

¹² Quah, J. (2018). *Munich American Reassurance Company - The future is now: wearables for insurance risk assessment*. Retrieved October 3, 2022, from https://www.munichre.com/content/dam/munichre/marc/pdf/wearables/the-future-is-now/The_Future_is_Now_Wearables_for_insurance_risk_assessment.pdf/_jcr_content/renditions/original/The_Future_is_Now_Wearables_for_insurance_risk_assessment.pdf

¹³ Ferguson, T., Olds, T., Curtis, R., Blake, H., Crozier, A. J., Dumuid, D., Kasai, D., O'Connor, E., Virgara, R., & Maher, M. (2022). Effectiveness of wearable activity trackers to increase physical activity and improve health: A systematic review of systematic reviews and meta-analyses. *The Lancet Digital Health*, 4, 615 to 626. Doi: 10.1186/s12966-015-0314-1

¹⁴ Case, M. A., Burwick, H.A., Volpp, K. G., & Patel, M. S. (2015). Accuracy of smartphone applications and wearable devices for tracking physical activity data. *JAMA*, 313 (6), 625-626. doi:10.1001/jama.2014.17841

Underwriting

There is an opportunity to develop new pricing models for policies and renewals, and also fast-track underwriting for customers who provide health-and-fitness data. Some studies propose LI's could assess heart-rate, sleep quality, and step-count alongside traditional underwriting measures of risk classification^{12,15}, however we have explored above that step-count is the most statistically relevant data for both data validity and health benefits.

There is also the question of whether health-and-fitness data should be mandated as part of application processes in Australia. In America, John Hancock Life Insurance added tracking of real-time health-and-fitness data to all its new policies from 2018¹⁶, and in 2021 this provider was rated fourth highest of the top twenty- one LI's in America in terms of its capacity to meet customer needs¹⁷.

This presents some favour to the argument, however adding health-and-fitness data to all underwriting processes also presents a risk of insurers being seen to favour low-risk applications to mitigate their own financial risk portfolio¹⁸. To this point, LI's must also consider the legalities of being fair and reasonable to customers, and rights to data under Financial Services Council (FSC) Code 5, Duty of Disclosure¹⁹. This also aligns to ASIC 633 and 696 recommendations for TPD Claims on how LI's collect and analyse data²⁰, and to the argument for underwriting to be more inclusive²¹ under FSC Code 7¹⁹ for Customers Requiring Additional Support (CRAS). This is explored further under *Ethical Considerations*.

Given underwriting consent is being limited to clinical notes in the updated FSC Code in 2023²², there is a strong argument for LI access to real-time health-and-fitness data to be limited to opt-in consent. This aligns with *Customer Expectations* which is explored further in this paper.

Prevention and early intervention

Once LI's have a real-time health-and-fitness data offering, there are then the questions of a) what to do with this data to inform risk-management offerings, b) identifying the needs of existing customers²³, and c) maintaining customer engagement towards healthy behaviours.

There is evidence to suggest customers prefer a rewards-based program to inspire proactive and sustainable behavioural change and healthy lifestyle choices^{21,24}. This is reflected in rewards systems that have already been implemented across some Australian LI's, including reductions in premiums, free wearables, and shopping rewards to maintain customer engagement in healthy behaviours. This is explored further under *Customer Expectations*.

¹⁵ Riskinfo. (2016). Wearable Technology and Life Insurance. Retrieved October 3, 2022, from <http://magazine.riskinfo.com.au/24/wearable-technology-and-life-insurance/#.YzoDd3ZBxPZ>

¹⁶ BBC News. (2018, September). John Hancock adds fitness tracking to all policies. *BBC News*. Retrieved October 3, 2022, from <https://www.bbc.com/news/technology-45590293>

¹⁷ John Hancock. (2021). John Hancock – Q4 At a Glance [Fact Sheet]. John Hancock. Retrieved October 7, 2022 from https://www.johnhancock.com/content/dam/onejohnhancock/pdfs/2020_Q4_FactSheet.pdf

¹⁸ Coughlan D. (2021). Physical activity and the insurance industry. *BMJ Open Sport & Exercise Medicine*, 6, 1-3. doi:10.1136/bmjsem-2021-001151

¹⁹ Financial Services Council. (2019). *Life Insurance Code of Practice*. Retrieved October 3, 2022, from <https://fsc.org.au/resources/1695-life-insurance-code-of-practice-with-appendix>

²⁰ Australian Securities & Investments Commission. (2021). *Report 696 TPD insurance: Progress made but gaps remain*. Retrieved October 3, 2022 from <https://download.asic.gov.au/media/5vdlitqm/rep696-published-2-august-2021.pdf>

²¹ Quah, J. (2018). *Munich American Reassurance Company - The future is now: wearables for insurance risk assessment*. Retrieved October 3, 2022, from https://www.munichre.com/content/dam/munichre/marc/pdf/wearables/the-future-is-now/The_Future_is_Now_Wearables_for_insurance_risk_assessment.pdf/_jcr_content/renditions/original/The_Future_is_Now_Wearables_for_insurance_risk_assessment.pdf

²² Financial Services Council. (2022). *New Life Code Vs. Current Code: Key improvements in the New Life Insurance Code of Practice*. Retrieved October 3, 2022, from <https://fsc.org.au/resources/2488-fsc-code-of-practice-2022-final/file>

²³ Riskinfo. (2016). Wearable Technology and Life Insurance. Retrieved October 3, 2022, from <http://magazine.riskinfo.com.au/24/wearable-technology-and-life-insurance/#.YzoDd3ZBxPZ>

²⁴ Coughlan D. (2021). Physical activity and the insurance industry. *BMJ Open Sport & Exercise Medicine*, 6, 1-3. doi:10.1136/bmjsem-2021-001151

Additionally, a study by Bothun and Lieberman (2016)²⁵ found two-thirds of consumers valued technology being adopted by their employers and expressed a desire for their employer to fund their health-and-fitness wearables. Further, Paluch and Leibman (2019) found there was a clear interest in insurers funding health-and- fitness trackers²⁶. This is explored further under *Customer Expectations*.

Lastly, a 2019 study of the *Get Healthy at Work* workplace health promotion program in Australia²⁷ found workplace health promotion programs have potential to impact health outcomes in the workplace, however government or private agencies play a key role in incentivising and driving these programs.

There is an opportunity here for LI's to work closely with corporate employers to incentivise preventative health behaviours by considering provision of health-and-fitness wearables, and development of data-driven prevention and early intervention education packages to reduce absenteeism and incidence of claims.

When a customer is claiming

If LI's adopt policies which enable use of customer real-time health-and-fitness data, this can provide opportunities to meet FSC Code 8.26²⁸ on how LI's support customers at claim time. This includes considering how to use data to the advantage, not disadvantage, of the customer. This may be achieved by utilising the data to target specific and tailored service offerings for the customer in the early stages of a claim.

During claim time, there is scope for LI's to collaborate more closely with key external stakeholders to enhance the customer experience. One example of this could involve linking real-time health-and-fitness data from the individual customer and broader customer cohort to the effectiveness of internal and external return to health, wellness, and work products. Logically, this could then in turn promote best practice rehabilitation and injury management. The issue of *privacy* here is explored further under *Customer Expectations*.

Customer Expectations

Evidence has been presented in this paper that customers want their employers to pay for wearables and are more likely to share their real-time health-and-fitness data if they are incentivised by rewards. This is particularly true for millennials²⁹.

This is significant for the LI industry, as millennials (approximate age of 26 to 41) will make up 75% of the global insurable workforce by 2025³⁰. Studies have found the millennial population highly values digital technology and its capacity to produce significant data about their health³¹. A 2020 study by Statistica Research Department³² estimated over two million sports-playing Australian's aged between

²⁵ Bothun, D., & Lieberman, M. (2016). *PWC The Wearable Life 2.0: Connected living in a wearable world - Consumer Intelligence Series*. Retrieved 6 October, 2022, from <https://www.pwc.com/us/en/industry/entertainment-media/assets/pwc-cis-wearables.pdf>

²⁶ Paluch, S & Tuzovic, S. (2019). Persuaded self-tracking with wearable technology: Carrot or stick? *Journal of Services Marketing*, 33 (4), 436-448.

²⁷ Crane, M., Bohn-Goldbaum, E., Lloyd, B., Rissel, C., Bauman, A., Indig, D., Khanal, S., & Grunseit, A. (2019). Evaluation of Get Healthy at Work, a statewide workplace health promotion program in Australia. *BMC Public Health*, 19, 183. <https://doi.org/10.1186/s12889-019-6493-y>

²⁸ Financial Services Council. (2019). *Life Insurance Code of Practice*. Retrieved October 3, 2022, from <https://fsc.org.au/resources/1695-life-insurance-code-of-practice-with-appendix>

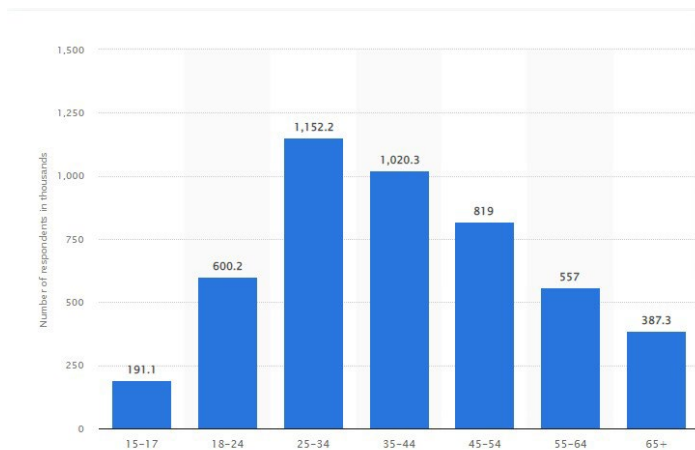
²⁹ Bothun, D., & Lieberman, M. (2016). *PWC The Wearable Life 2.0: Connected living in a wearable world - Consumer Intelligence Series*. Retrieved 6 October, 2022, from <https://www.pwc.com/us/en/industry/entertainment-media/assets/pwc-cis-wearables.pdf>

³⁰ Howlett, B., Rajan, M., & Soh, P. C. (2017). *PWC - Future of Life Insurance in Australia: Profitable growth in challenging times*. Retrieved 6 October, 2022, from <https://www.pwc.com.au/insurance/future-of-life-insurance-mar17.pdf>

³¹ Lupton, D. (2018). 'Better understanding about what's going on': Young Australians' use of digital technologies for health and fitness. *Sports, Education and Society*. 25 (1), 1 -13. Retrieved 6 October, 2022 from <https://doi.org/10.1080/13573322.2018.1555661>

³² Statistica Research Department. (2022). Total number of adults using apps for tracking activity or training in Australia in 2020 by age group. Retrieved October 5, 2022, from <https://www.statista.com/statistics/1008156/australia-number-of-sport-tracking-activity-or-training-apps-adult-users-by-age-group/>

25 and 44 tracked their health-and-fitness data. This is further detailed for other age groups in the table below:



Reprinted from (Statistica Research Department, 2020)³².

Furthermore, since the Covid-19 pandemic there has been a significant movement towards digital health infrastructure in Australia. The Reimagining Healthcare Consumer Survey (2022)³³ found 80% of Australians would consider sharing their real-time health-and-fitness data for virtual care.

PWC Whitepaper, *Future of Life Insurance in Australia* (2017)³⁴, also found growth in the LI industry would align with those insurers who produced innovative customer products and addressed product affordability challenges for customers.

To this point, the top four Australian LI's rated by market-share in 2022³⁵ have aligned with customer expectations presented in this paper and have, or have had, some form of incentivisation around real-time health-and-fitness data tracking such as discounts on premiums or rewards. In order of largest market share by insurer, this includes TAL's Health Sense App³⁶; AIA's Vitality program³⁷; Zurich's LiveWell App³⁸; and MLC's On Track program³⁹.

³³ Baxby, L., Bennett, S., Watson, P., Judd, R., Puri, A., Chinthamuneedi, M., Norman, R., Robinson, S., Thomas, E., Wells, L., Nesbitt, J., & Shaw, T. (2022). *Deloitte Whitepaper - Australia's Health Reimagined: The Journey to a connected and confident consumer*. Retrieved October 2, 2022, from <https://www2.deloitte.com/content/dam/Deloitte/au/Documents/life-sciences-health-care/deloitte-au-lshc-australias-health-reimagined-report-02032022.pdf>

³⁴ Howlett, B., Rajan, M., & Soh, P. C. (2017). *PWC - Future of Life Insurance in Australia: Profitable growth in challenging times*. Retrieved 6 October, 2022, from <https://www.pwc.com.au/insurance/future-of-life-insurance-mar17.pdf>

³⁵ Rosanes, M. (2022). Australia's top life insurance providers in 2022. *Insurance Business Australia*. Retrieved October 3, 2022 from <https://www.insurancebusinessmag.com/au/news/breaking-news/australias-top-life-insurance-providers-in-2022-404330.aspx>

³⁶ TAL. (2022). TAL Health Sense. Retrieved. October 7, 2022, from https://www.tal.com.au/insurance-products/tal-health-sense?mcode=TALC004&gclid=Cj0KCQjw-fmZBhDtARIsAH6H8qhkCfk2_rK6RD-9RLeOJZcDNGc19_tpB0kZXbg8bOZ-NLdCJL-uzK0gaAuHGEALw_wcB&gclidsrc=aw.ds

³⁷ AIA. (2022). AIA Vitality. Retrieved October 7, 2022 from <https://www.aia.com.au/en/individual/aia-vitality.html>

³⁸ Zurich. (2022). Welcome to LiveWell. Retrieved October 7, 2022 from <https://livewell.zurich.com/>

³⁹ LifeInsuranceDirect. (2021). MLC On Track relaunched. Retrieved October 7, 2022 from <https://www.lifeinsurancedirect.com.au/companies/mlc/on-track/>

Whilst insurer market share does not have a direct correlation between customers desire for insurer uptake on real-time health-and-fitness data, it does suggest a customer desire to be represented by a LI who takes this into consideration in their products and pricing⁴⁰.

There is an opportunity here for LI's to listen to customer expectations and develop programs which incentivise real-time health-and-fitness data tracking. It is important to note, whilst LI customers value real-time health- and-fitness data tracking, there is an issue of trust. Opportunities to develop trust are explored below.

Protecting privacy

In review of customers' expectations on LI consumption of real-time health-and-fitness data, the continuous messaging was around privacy and data protection, and customer sensitivity to personal data use⁴¹.

Generally, customers raised concerns around the use and storage of their data, which aligns with the recommendations from ASIC 633 and 696 on expectation for LI's to enhance systems to safely store data and protect privacy⁴². This existing concern has been heightened by the 2022 Optus cyber-attack, which has spurred legislation to protect customers in the Financial Services Sector⁴³.

One study by Paluch and Tuzovic (2019)⁴⁴ found participants would consider sharing their data with insurers if it was for a limited time, however extended data collection posed abuse of data collection concerns. This may impact LI's capacity to analyse customer data on a larger scale and develop targeted products for customer needs, as discussed in *Opportunities for Products and Pricing*.

In terms of wearable health-and-fitness products, the privacy policies of the top six wearable health-and-fitness providers in the Australian market in 2022⁴⁵ all had a unified response on the customer having control with whom their data is shared with^{46,47,48,49,50,51}. This aligns with recommendations from the Australian Sports Commission on privacy and wearables⁵², and with the research on customer expectations in this paper.

The new Life Code which comes into effect in 2023 focuses on the entire customer experience⁵³. LI's interested in exploring use of customers' real-time health-and-fitness data should work with customers to address privacy concerns around use and storage of data, and provide clear and easy to understand communication around intention to use this data for customer health and customer financial benefit.

⁴⁰ Bothun, D., & Lieberman, M. (2016). *PWC The Wearable Life 2.0: Connected living in a wearable world - Consumer Intelligence Series*. Retrieved 6 October, 2022, from <https://www.pwc.com/us/en/industry/entertainment-media/assets/pwc-cis-wearables.pdf>

⁴¹ Paluch, S., & Tuzovic, S. (2017). Leveraging pushed self-tracking in the Health Insurance industry: How do individuals perceive smart wearables offered by insurance organisations? *In Proceedings of the 25th European Conference on Information Systems (ECIS)*, 2732-2743. Association for Information Systems.

⁴² Australian Securities & Investments Commission. (2021). *Report 696 TPD insurance: Progress made but gaps remain*. Retrieved October 3, 2022 from <https://download.asic.gov.au/media/5vdlitqm/rep696-published-2-august-2021.pdf>

⁴³ Bahr, J. (2022, 6 October). Optus data breach: What are the new laws for telcos after a cyber attack? SBS News. Retrieved October 7, 2022, from <https://www.sbs.com.au/news/article/optus-data-breach-what-are-the-new-regulations-for-telcos-following-cyberattack/fegmvnk5t>

⁴⁴ Paluch, S & Tuzovic, S. (2019). Persuaded self-tracking with wearable technology: Carrot or stick? *Journal of Services Marketing*, 33 (4), 436-448.

⁴⁵ Mordor Intelligence. (2022). *Australia wearables market – Growth, trends, covid-19 impact and forecasts (2022 – 2027)*. Retrieved October 3, 2022, from <https://www.mordorintelligence.com/industry-reports/australia-wearables-market>

⁴⁶ Apple Australia. (2022). Privacy. Retrieved October 3, 2022, from <https://www.apple.com/au/privacy/>

⁴⁷ Fitbit. (2022). Fitbit Legal: Privacy Policy. Retrieved October 3, 2022, from <https://www.fitbit.com/global/au/legal/privacy-policy>

⁴⁸ Garmin. (2022). Garmin Privacy Policy. Retrieved October 3, 2022, from <https://www.garmin.com/en-AU/privacy/global/>

⁴⁹ Microsoft AU. (2022). Data Management at Microsoft. Retrieved October 3, 2022, <https://www.microsoft.com/en-au/trust-center/privacy/data-management>

⁵⁰ Samsung AU. (2022). Privacy. Retrieved October 3, 2022, from <https://www.samsung.com/au/info/privacy/>

⁵¹ Sony AU. (2022). Sony - Privacy Policy. Retrieved October 3, 2022, from <https://store.sony.com.au/privacy-policy.html>

⁵² Australian Sports Commission. (2020). *General privacy advice on using wearables*. Retrieved October 3, 2022, from <https://www.ais.gov.au/ati/general-privacy-advice-on-using-wearables>

⁵³ Financial Services Council. (2022). *New Life Code Vs. Current Code: Key improvements in the New Life Insurance Code of Practice*. Retrieved October 3, 2022, from <https://fsc.org.au/resources/2488-fsc-code-of-practice-2022-final/file>

Clear and specific consent should also be considered. As per the Privacy Act (1988)⁵⁴, consent cannot be assumed just because the customer is aware of a product in their policy.

Opt-in

The second clear customer expectation when considering the provision of real-time health-and-fitness data to LI's was an opt-in service versus a mandated service.

Whilst studies have found customers are willing to share their health-and-fitness data with other organisations^{55,56}, customers have noted a clear interest in maintaining control when participating in health programs that involve their personal data⁵⁶. Customers also reported concern they would be penalised if their data didn't reflect daily health-and-fitness activity⁵⁷. Insurers should then consider the service as an opt-in service, and should further consider how to incentivise, not penalise, participants.

Individualised service

The third clear customer expectation was a unique and individualised service. Customers valued being able to choose their own real-time health-and-fitness trackers⁵⁸ based on device design and controllability⁵⁹.

LI's should then consider building platforms that support customer preference to bring their own device, as well as consider incentivising participation by funding devices for customers who cannot bring their own device.

Additional ethical considerations

Non-discrimination and CRAS

When offering products around real-time health-and-fitness data, LI's should also consider how to offer this service on a non-discriminatory basis, and how to include CRAS customers under FSC Code 7⁶⁰.

A study by Knight and Bidargaddi (2018) on wearables use with mental health conditions found regular monitoring and provision of real-time health-and-fitness data to treating parties assisted in improving care for customers⁶¹. There is scope to consider the validity of this across all CRAS customers, and an opportunity for LI's to develop a platform that supports CRAS clients to access timely health services and interventions based on real-time health-and-fitness data.

⁵⁴ Australian Government. (1988) Privacy Act. Retrieved October 3, 2022, from <https://www.legislation.gov.au/Details/C2018C00292>

⁵⁵ Coughlan D. (2021). Physical activity and the insurance industry. *BMJ Open Sport & Exercise Medicine*, 6, 1-3. doi:10.1136/bmjsem-2021-001151

⁵⁶ Paluch, S & Tuzovic, S. (2019). Persuaded self-tracking with wearable technology: Carrot or stick? *Journal of Services Marketing*, 33 (4), 436-448

⁵⁷ Quah, J. (2018). *Munich American Reassurance Company - The future is now: wearables for insurance risk assessment*. Retrieved October 3, 2022, from https://www.munichre.com/content/dam/munichre/marc/pdf/wearables/the-future-isnow/The_Future_is_Now_Wearables_for_insurance_risk_assessment.pdf/_jcr_content/renditions/original./The_Future_is_Now_Wearables_for_insurance_risk_assessment.pdf

⁵⁸ Alley, S., Schoeppe, S., Guertler, D., Jennings, C., Duncan, M.J., & Vandelanotte, C. (2016). Interest and preference for using advanced physical activity tracking devices: Results of a national cross-sectional survey. *BMJ Open Sports and Exercise Medicine*, 6, 1-8. doi:10.1136/bmjopen-2016-011243

⁵⁹ Paluch, S., & Tuzovic, S. (2017). Leveraging pushed self-tracking in the Health Insurance industry: How do individuals perceive smart wearables offered by insurance organisations? *In Proceedings of the 25th European Conference on Information Systems (ECIS)*, 2732-2743. Association for Information Systems.

⁶⁰ Financial Services Council. (2019). *Life Insurance Code of Practice*. Retrieved October 3, 2022, from <https://fsc.org.au/resources/1695-life-insurance-code-of-practice-with-appendix>

⁶¹ Knight, A., & Bidargaddi, N. (2018). Commonly available activity tracker apps and wearables as a mental health outcome indicator: A Prospective observational cohort study among young adults with psychological distress. *Journal for Affective Disorders*, 236, 31-36. Retrieved October 6, 2022, from <https://doi.org/10.1016/j.jad.2018.04.099>

As virtual care and digital health technologies advance in Australia, LI's also need to consider how to utilise digital tools to enhance opportunities for customers to access health and wellbeing services; not provide new barriers⁶². Deloitte's 2022 Whitepaper on *Australia's Health Reimagined*⁶² found 17% of Australians experienced technical difficulties with virtual healthcare. It is important for LI's to consider how not to discriminate with this population on claim⁶³, and how to avoid penalising customers with lack of real-time health-and-fitness data.

Conclusion

Real-time health-and-fitness data creates opportunities for both the customer and the LI. From the research presented in this paper, it is evident customer expectations align strongly with the provision of opportunities to discount premiums or be rewarded for positive health behaviour. This in turn supports healthy behavioural change and maintenance in customers, which benefits a reduction in absenteeism at work and reduced incidence of claims.

However, customers have also raised concerns around protecting their privacy, and the storage and use of their personal data. Customer also prefer an opt-in service, and the ability to bring their own Smartphone Applications or wearables to LI offerings.

If these customer concerns are considered and resolved by LI's in the ways discussed in this paper, advantages for the LI could include access to real-time health-and-fitness data to design unique and tailored customer policies and products for underwriting; enhanced early-intervention and prevention services; and tailored claim support. The insurer must consider their capacity to house and protect this data; manage data risks; and ensure digitisation and new products advantage, not disadvantage, all customers, particularly customers requiring additional support.

⁶² Baxby, L., Bennett, S., Watson, P., Judd, R., Puri, A., Chinthamuneedi, M., Norman, R., Robinson, S., Thomas, E., Wells, L., Nesbitt, J., & Shaw, T. (2022). *Deloitte Whitepaper - Australia's Health Reimagined: The Journey to a connected and confident consumer*. Retrieved October 2, 2022, from <https://www2.deloitte.com/content/dam/Deloitte/au/Documents/life-sciences-health-care/deloitte-au-lshc-australias-health-reimagined-report-02032022.pdf>

⁶³ Henkel, M., Heck, T., & Göretz, J. (2018). Rewarding Fitness Tracking—The Communication and Promotion of Health Insurers' Bonus Programs and the Use of Self-tracking Data. *Social Computing and Social Media. Technologies and Analytics. SCSM 2018 Lecture Notes in Computer Science, 10914*, 28-49. Retrieved October 3, 2022, from https://doi.org/10.1007/78-3-319-91485-5_3

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