dorsaVi sensors increase productivity, reduce costs, and provide clinical efficacy

Results published in peer-reviewed journal BMC Musculoskeletal Disorders

Key points:

- **Together with the randomised clinical trial, this new health economic evaluation concludes that treating back pain patients with ViMove and guideline-based care is both more clinically effective and economically efficient, than guideline-based care treatment alone.**
- **Productivity improvements were the greatest contributor to the relative economic efficiency of ViMove treatment.**
- **The overall cost saving across a 12-month period (improved productivity and reduced non-trial costs after accounting for increased trial costs) was $4,781 per patient.**
- **Over 60% of patients treated with ViMove experienced a clinically meaningful reduction in pain and reported feeling very much or much better compared with only 20% of patients treated with guideline-based care alone.**

Melbourne, Australia – 18 January 2017: dorsaVi Ltd (ASX: DVL) today shares the details of a new publication investigating the economic impact of using wearable technology and biofeedback to provide treatment for low back pain. This health economic evaluation was conducted concurrently with the randomised clinical trial which was published in 2015[i]. Together, the studies demonstrate that monitoring and treating low back pain patients with wearable motion-sensor biofeedback devices (ViMove) from dorsaVi, was more clinically effective and economically efficient than standard care.

The clinical evaluation of the study previously reported that patients treated for low back pain with ViMove showed significant improvement in pain and activity limitation at 10 weeks. These gains were sustained or improved after 12 months. Those treated with ViMove were three times more likely to have a clinically relevant reduction in pain (68% of patients treated with ViMove compared with 21% of patients treated with guideline-based care alone after 12 months) and 2.5 times more likely to increase activity levels as compared with patients treated using guideline-based care only. The second paper to be generated from this study, the health economic evaluation, was published online in the leading medical journal BMC Musculoskeletal Disorders. The paper was authored by Professor Terry Haines and Dr Kelly-Ann Bowles of Monash University and Monash Health and is available at http://bmcmusculoskeletdisord.biomedcentral.com.

The health economic analysis specifically evaluated the cost of delivering the ViMove intervention, the cost of other health care utilised, and patient productivity. Productivity was measured during 3, 6 and 12-month follow-up assessments using industry classifications and participant self-reporting of their ability to do their normal work with their present level of pain. The results showed that while the cost of providing the ViMove intervention was greater than providing the guideline-based intervention, the ViMove group used fewer non-trial medical and therapy resources. In terms of productivity, the ViMove intervention patients became significantly more productive over the 12-month follow-up period. In summary, there was a net saving of $4,781 over 12 months per patient treated with ViMove sensor technology, instead of guideline-based care alone.

"This evaluation has identified that motion-sensor biofeedback intervention using the ViMove system was both more effective and less costly overall than the control from the societal perspective. The lower overall societal cost was driven by improved productivity in the intervention group, which is important because productivity losses are a key cost driver in low back pain. Rarely are health care interventions found to be both more effective and less costly overall," said Professor Haines.

Low Back Pain has an enormous monetary impact on developed nations globally. In the United States alone, total costs related to low back pain exceed US$100 billion per annum.[ii] The condition can have a profound financial impact on individuals but also has an impact on society, including a reduction in paid occupational activity and an increased usage of health services. Insurers and other payers are looking for effective treatments which can reduce this significant economic burden and improve patient wellbeing.

These two publications provide evidence that the addition of the ViMove motion-sensor biofeedback treatment approach to standard care is a dominant intervention, delivering a more clinically effective and economically efficient solution to chronic low back pain. This approach appears to be a viable means of management of sub-acute and chronic low back pain.

The randomised controlled trial together with the health economics assessment are core components of dorsaVi's reimbursement strategy.

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For more information or to arrange an interview, contact:

MEDIA
Megan Connell
dorsaVi
0416 116 526
mconnell@dorsavi.com

INVESTOR
Rebecca Wilson
Buchan Consulting
0417 382 391
rwilson@buchanwe.com.au

About dorsaVi

dorsaVi (ASX:DVL) is an ASX company focused on developing innovative motion analysis device technologies for use in elite sports, occupational health and safety, and clinical applications. dorsaVi believes its wearable sensor technology enables – for the first time – many aspects of detailed human movement and position to be accurately captured, quantified and assessed outside a biomechanics lab, in both real-time and real situations for up to 24 hours.

Our technology has applications across three sectors:

- **Clinical:** ViMove is transforming the management of patients by providing an objective assessment, monitoring outside the clinic and immediate biofeedback. ViMove is currently used by medical and physiotherapy practices in Australia and the United Kingdom and is now available in the United States following FDA 510K clearance.

- **Elite Sports:** ViPerform is allowing coaches and medical teams managing elite athletes and teams to screen athletes and provide objective evidence for decisions on return to play, measure biomechanics and provide immediate biofeedback out on the field, tailor, and track training programs and optimise technique and peak performance. ViPerform is being used by AFL and NRL clubs and the Australian Institute of Sport (AIS) in Australia. In the UK, Barclays Premier League (EPL), U.S. based sports clubs including the National Basketball Association

(NBA) and the National Football League (NFL), and various Olympic teams and athletes internationally.

- **OHS**: We combine innovation, measurement, and quality to reduce workplace incidents, costs, meet compliance and improve brand reputation. ViSafe enables employers to assess the risk of injury for employees as well as test the effectiveness of proposed changes to workplace design, equipment or methods based on objective evidence. ViSafe has been used by major corporations including Sodexo, London Underground, Vinci Construction, Crown Resorts, Caterpillar (US), Monash Health, Coles, Woolworths, Toll, Toyota, Orora (formerly Amcor), Crown and BHP Billiton. Australian Workplace Compliance delivers risk mitigation through compliance to OHS, Quality Management Systems, Company Policy and Process.

  Further information is available at www.dorsavi.com.

[i] The effect of changing movement and posture using motion-sensor biofeedback, versus guidelines-based care, on clinical outcomes of people with sub-acute or chronic low back pain – a multicentre, cluster-randomised placebo-controlled, pilot trial, Peter Kent, Robert Laird and Terry Haines. BMC Musculoskeletal Disorders, 29 May 2015 16:131

[ii] Estimating Cost of Care for Patients With Acute Low Back Pain: A Retrospective Review of Patient Records, William Thomas Crow, DO; David R. Willis, DO, MBA. The Journal of the American Osteopathic Association, April 2009, Vol. 109, 229-233.