

If its components are well designed and work together in concert, the move to a Social Union can bring benefits to all. Countries with higher standards will not need to fear downward convergence, and countries that need to catch up can be confident that their economic development will also be coupled with social development.

Popular support may be lacking for a United States of Europe but, with the right

arguments, it can be built up in favour of a Social Union. Such an initiative would restore the confidence in the capacity of European states to reconcile strong economic performance with a high level of social cohesion, and that this model can serve as an inspiration for others.

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# Reducing the global burden of chronic pain

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Stanford University, located between San Francisco and San Jose in the heart of California's Silicon Valley, is one of the world's leading teaching and research universities. Since its opening in 1891, Stanford has been dedicated to finding solutions to big challenges and to preparing students for leadership in a complex world.

The profound global burden of chronic pain is increasing as the world population ages, and particularly so for low and middle income countries.<sup>1</sup> Reducing the global burden of pain requires national policy and investment to develop coordinated local, national and international efforts to improve professional and public pain education; promotion of the biopsychosocial model of evidence-based pain care; technological infrastructure to collect better data and for treatment stratification and delivery; and the integration of patient-centered principles into policies and systems to ensure ethical and individualized care, patient protections, and careful attention to aging and disadvantaged populations.

## CHALLENGE

### **Undertreated pain contributes greatly to worldwide human suffering and economic burden**

About 20% of individuals worldwide are living with ongoing pain of some type, with greater incidence and prevalence of pain among older adults.<sup>2,3</sup> Chronic pain confers tremendous suffering to individuals and their families, and it is a leading cause of work-related disability. In the U.S. alone chronic pain costs the economy \$600 billion annually in medical costs and lost productivity – more than the total costs for

diabetes, heart disease and cancer combined.<sup>2,4</sup> Estimates for the Global Burden of Disease revealed that low back pain – the most common chronic pain condition worldwide – was the leading cause of years lived with disability in most countries and territories,<sup>1,5</sup> and in China it ranks as the second leading cause of years lived with disability.<sup>6</sup> Health policies must ensure support for economically sustainable solutions that address the growing pain treatment needs of the world population.

## »Such rigid policies have led to increased suffering for the most vulnerable of patients.«

### Is chronic pain its own disease or a symptom of something else?

In short: pain can be either or both. In May 2019 the World Health Organization (WHO) adopts the new version of the International Classification of the Diseases (ICD-11) with expanded diagnostics for chronic pain. Developed by a task force of the International Association for the Study of Pain (IASP), the new diagnostic categories distinguish between chronic primary pain as being its own disease, and chronic secondary pain as pain being the symptom of an underlying condition.<sup>7</sup> These categories allow for distinction, dual coding, improved classi-

fication, and development of targeted systems and policies.

### INVEST IN PAIN EDUCATION

#### Pain education is insufficient across all disciplines of healthcare

Improved pain care begins with the broad integration of dedicated content on evidenced-based multidisciplinary chronic pain treatment into health curricula across all professional disciplines, including nurses, physicians, psychologists, social workers, physical therapists, physician assistants, occupational therapists, and others. National pain strategies and policies are needed to prioritize and support healthcare professional pain education. Interprofessional curricula should emphasize the multidisciplinary models of care and include the biopsychosocial and patient-centered approaches. Expert-developed interprofessional pain curricula outlines are available from the IASP (<https://www.iasp-pain.org>).

#### Pain education is insufficient in public and consumer domains

Pain education is a basic intervention with demonstrated salutary effects. Population-level public health campaigns may decentralize medical information, increase awareness about pain and self-management strategies (thereby increasing access to basic pain care) and evidence-based treatment approaches.

### PROMOTE PAIN POLICIES THAT EMPHASIZE THE BIOPSYCHOSOCIAL TREATMENT MODEL TO REDUCE AND PREVENT CHRONIC PAIN

#### Disparities in pain remain problematic

To address disparities, the WHO social de-

terminants of health<sup>8</sup> should be integrated into the conceptualization and treatment models for national pain strategies.

#### A biomedical treatment approach is reductive and less effective

Pain is a psychosensory experience, and treatment response to a wide range of medical treatments may be optimized with comprehensive approaches that address the individual factors that impact pain.<sup>9</sup> Failure to address the individual psychosocial factors may perpetuate a purely biomedical pain treatment model, contribute to overmedicalization and treatment inefficiencies, promote poor opioid prescribing practices seen in Western nations, and poor health outcomes. A comprehensive approach equips healthcare providers and patients with evidence-based information and skills so patients may self-manage some symptoms and key aspects of pain – within the context of their broader medical care<sup>10</sup>. Identification of psychosocial factors should result in expanded access to care to address the whole-person needs, and never be used as a rationale for withholding pain treatment.

#### Technology is under-utilized

Technology, e-health, and digital systems may enhance access to care, particularly for remote populations and those in institutionalized care settings (e.g., older adult living or nursing facilities) where few specialized resources exist. Sustainable models of care will stratify resource needs and deliver targeted, in-person care to the patients with the greatest needs.

#### Prevention strategies are under-utilized

Human suffering, as well as the persis-

tence of pain, may be mitigated with early pain treatment. Policies should encourage early intervention and inclusion of behavioral medicine strategies.

### LEVERAGE TECHNOLOGY AND BIG DATA TO PHENOTYPE, STRATIFY AND DELIVER TREATMENTS

#### Current data on pain are poor

Poor data contribute to poor-quality pain care, perpetuate medical mistakes and financial inefficiencies, and compound human suffering. Better data on pain is needed to inform the development of improved policy and practice guidelines, and to characterize not just population-level needs, but also the needs of vulnerable “outliers” – patients with complex comorbidities, high-impact chronic pain, and unique care needs. Leveraging big data requires technological transformation and catchment of digital data generated in health care in real time – whether clinical, delivery process, short and long term outcomes, or financial. Such data “...should be compiled and protected as resources for managing care, capturing results, improving processes, strengthening public health, and generating knowledge.”<sup>11</sup> Learning health systems aggregate data in real time and can inform in real time how to best manage problems like chronic pain (see Table 1).<sup>11</sup> Learning health systems allow for deep phenotyping of patients, identification of therapeutic targets, monitoring of treatment response, aggregation of data nationally and internationally to inform best practices, efficiencies, and policies. Learning health systems may also be used to conduct large-scale pragmatic clinical trials, to efficiently conduct pain research on real-world patients, and for sustain-

able models that deploy cost-effective pain education and self-management digital interventions.<sup>9</sup> The Collaborative Health Outcomes Information Registry (CHOIR) is an open-source and free learning health system available internationally.<sup>12</sup>

**POLICIES MUST EMPHASIZE PATIENT-CENTEREDNESS**

**Alarming trends in rigid policies expose patients to harms**

Pain is an individual experience and response to treatment is variable. Policies should be flexible and allow for individual, patient-centered treatment approaches.

Without such flexibility, the medical system may unwittingly inflict further stigma and suffering on patients by forcing inappropriate care.<sup>13</sup> For instance, in the U.S., some organizations have addressed the need to reduce misprescribing of opioids in some patients by creating rigid policies that limit access to opioids for all patients with chronic pain. Such rigid policies have led to increased suffering for the most vulnerable patients living with a wide range of complex medical conditions and comorbidities, and spurred the publication of an international stakeholder letter expressing deep concerns for patient protections.<sup>14</sup>

Table 1: Characteristics of a continuously learning health care system

<p><b>Science and Informatics</b></p> <ul style="list-style-type: none"> <li>• <b>Real-time access to knowledge</b>—A learning health care system continuously and reliably captures, curates, and delivers the best available evidence to guide, support, tailor, and improve clinical decision making and care safety and quality.</li> <li>• <b>Digital capture of the care experience</b>—A learning health care system captures the care experience on digital platforms for real-time generation and application of knowledge for care improvement.</li> </ul> <p><b>Patient-Clinician Relationships</b></p> <ul style="list-style-type: none"> <li>• <b>Engaged, empowered patients</b>—A learning health care system is anchored on patient needs and perspectives and promotes the inclusion of patients, families, and other caregivers as vital members of the continuously learning care team.</li> </ul> <p><b>Incentives</b></p> <ul style="list-style-type: none"> <li>• <b>Incentives aligned for value</b>—In a learning health care system, incentives are actively aligned to encourage continuous improvement, identify and reduce waste, and reward high-value care.</li> <li>• <b>Full transparency</b>—A learning health care system systematically monitors the safety, quality, processes, prices, costs, and outcomes of care, and makes information available for care improvement and informed choices and decision making by clinicians, patients, and their families.</li> </ul> <p><b>Culture</b></p> <ul style="list-style-type: none"> <li>• <b>Leadership-instilled culture of learning</b>—A learning health care system is stewarded by leadership committed to a culture of teamwork, collaboration, and adaptability in support of continuous learning as a core aim.</li> <li>• <b>Supportive system competencies</b>—In a learning health care system, complex care operations and processes are constantly refined through ongoing team training and skill building, systems analysis and information development, and creation of the feedback loops for continuous learning and system improvement.</li> </ul>
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The worldwide group Human Rights Watch published a report citing these actions as violations of international human rights standards:

“...government[s] should seek to avoid harming chronic pain patients: some patients still have a legitimate need for these medications, while others who have been on these medications for many years but who may not be benefiting from them should be weaned off them safely and in accordance with best medical practice.

If harms to chronic pain patients are an unintended consequence of policies to reduce inappropriate prescribing, the government should seek to minimize and measure the negative impacts of these policies. Any response should avoid further stigmatizing chronic pain patients, who are increasingly associated with – and sometimes blamed for – the overdose crisis and characterized as ‘drug seekers,’ rather than people with serious health problems that require treatment”.<sup>15</sup>

**Patient inclusivity is poor**

Local, national and international efforts should include patients as key stakeholders in pain research and policy development, and ensure that patients are empowered consumers, informed of their choices and their rights in care. Policies and healthcare delivery systems should encourage shared decision-making models between healthcare professionals and patients, as well as encourage patient involvement in all aspects of their pain care.

In conclusion, chronic pain is a pressing and growing global problem, with older adults suffering disproportionately. The aging of the world population suggests that current systems in all nations are

ill-equipped to address ever-burgeoning pain care needs, and policies are needed to rapidly develop effective infrastructure. Investing in the implementation of policies that support collection of better data, systems efficiencies, and improved access to pain treatment stands to reduce the years lived with disability, increase productivity, decrease economic burden and reduce

**»Health policies must ensure support for economically sustainable solutions that address growing pain treatment needs.«**

human suffering. Professional and public pain education are essential. Policies should emphasize evidence-based treatments, and those that empower patients to engage as active participants in their chronic pain care. Technology and learning health systems may be leveraged to better characterize, risk and treatment stratify, monitor patient response, and as novel and sustainable systems for rapid, on-demand

treatment delivery. Future international integration of learning health systems may expedite knowledge and transform pain care efficiencies globally.

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# Domestic resource mobilization and the redistributive impact of fiscal policies in Latin America

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The Economic Commission for Latin America and the Caribbean is one of the five regional commissions of the United Nations. It was founded in 1948 with the purpose of contributing to the economic and social development of the countries of the region. The Member States of ECLAC include the 33 countries of Latin America and the Caribbean, as well as several Asian, European and North American nations.