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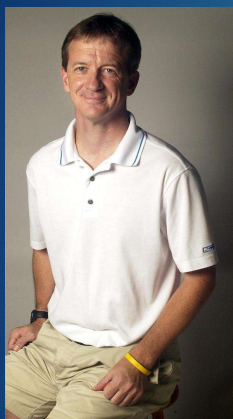
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# Sustainability and the Physical Therapist

It's more than just going green

Allan Besselink, PT, DPT, Dip.MDT

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- Physiotherapist (1988)
- Diploma in MDT (1998)
- Assistant Professor, University of St. Augustine for Health Sciences
- Director, Smart Life Project and Smart Sport International
- Author "RunSmart: A Comprehensive Approach To Injury-Free Running" (2008)

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## Sustainability and the Physical Therapist

- ▶ Upon completion of this program, participant will be able to –
  - ▶ Define sustainability and describe its three primary components
  - ▶ Examine the relevance and importance of sustainability in health care
  - ▶ Define the triple aims of health care and their role in social sustainability

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## Sustainability and the Physical Therapist

- ▶ Upon completion of this program, participant will be able to –
  - ▶ Examine the scope of patient-centered care in sustainability efforts in the community
  - ▶ Discuss the impact of sustainability on the role of physical therapists in health care

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# Sustainability

"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (1987)

**Environmental, Social, Economic**

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# Sustainability

► Three Pillars of Sustainability

**Planet**  
**People**  
**Prosperity**

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# Environmental Sustainability



## Planet



Includes factors such as the rates of renewable resource harvest, pollution creation, and non-renewable resource depletion



Rates that can be continued indefinitely



What do people need from the places they live and work?

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# Social Sustainability



## People



Includes factors such as health, personal relationships, equality, freedom, and community connectedness that will promote wellbeing



Universal disagreement on quality of life indicators



What do people need from the places they live and work?

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# Economic Sustainability



## Prosperity



Includes factors such as the poverty threshold and the preferred minimum standard of living (in 2009, U.S. = \$30/day)



Goal of <5% below this threshold



What do people need from the places they live and work?

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# Sustainability

► Five Pillars of Sustainable Development

Planet

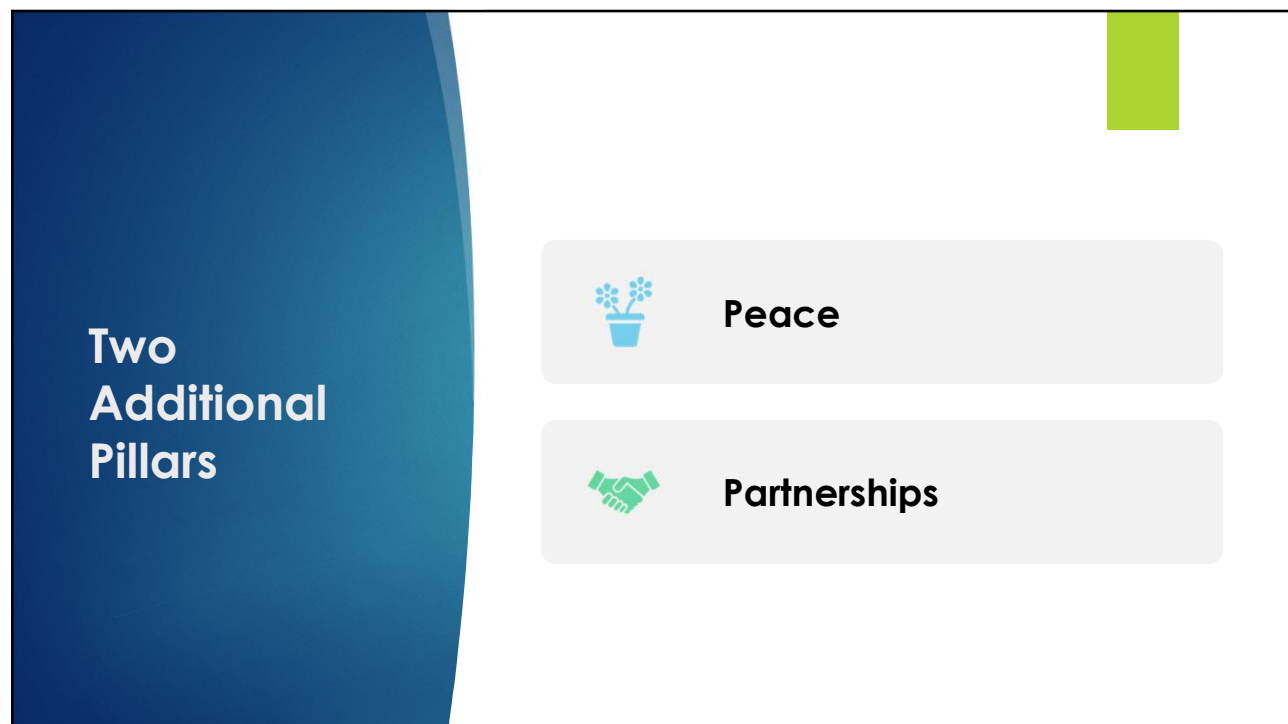
People

Prosperity

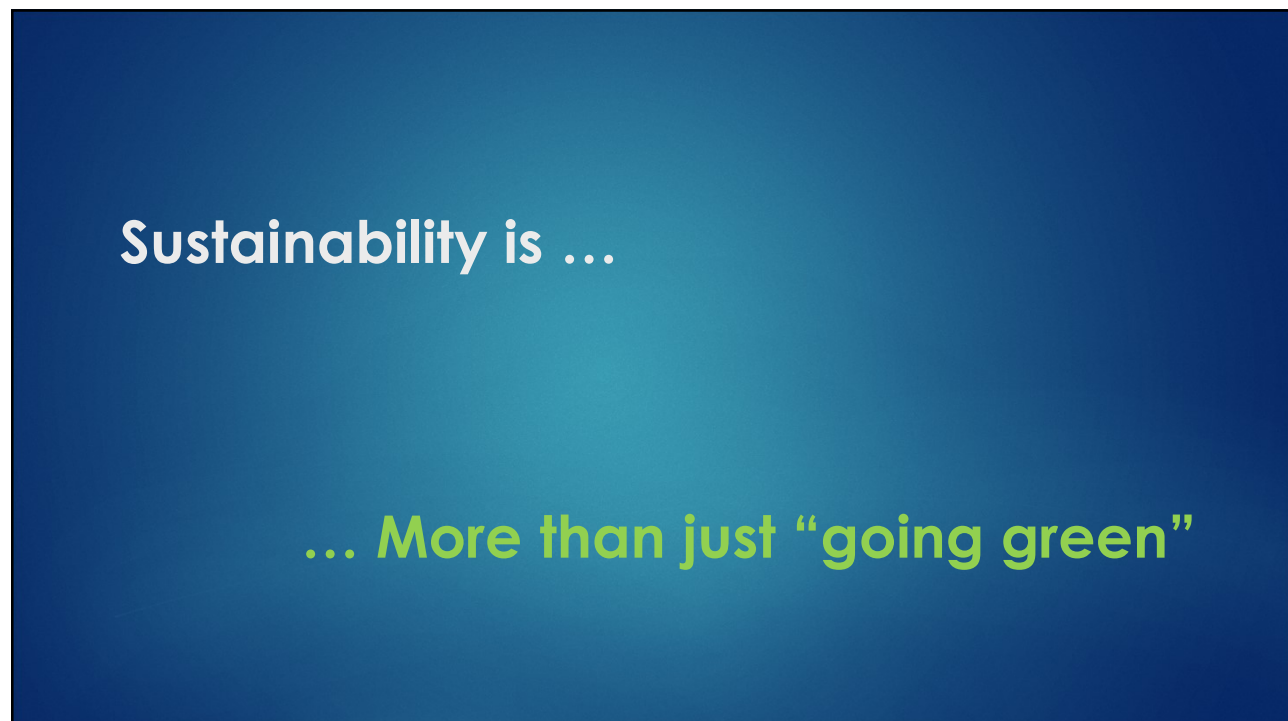
Peace

Partnerships

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# Sustainability is ...

Healthy People ...

... Living in Healthy Communities ...

... Within the resource opportunities and limits of healthy natural environments

(UN Educational, Scientific, and Cultural Organization)

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Health



"The absence of illness"



World Health Organization: "Health is a state of complete physical, mental and social well-being"

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## Triple Aims (Berwick et al, 2008)

- ▶ Improving the experience of care
- ▶ Improving the health of populations
- ▶ Reducing per capita costs of health care
- ▶ Provides a foundation for social sustainability

Berwick, D. M., Nolan, T. W., & Whittington, J. (2008). The triple aim: care, health, and cost. *Health affairs*, 27(3), 759-769.

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## Global Health Risks and Burden of Disease

- ▶ World Health Organization. (2009). *Global health risks: mortality and burden of disease attributable to selected major risks*. Geneva: World Health Organization.
- ▶ James, S. L., Abate, D., Abate, K. H., ... & Abdollahpour, I. (2018). Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, 392(10159), 1789-1858.
- ▶ Institute for Health Metrics and Evaluation (2018). *Findings from the Global Burden of Disease Study 2017*. Seattle, WA: IHME.

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# Global Health Risks (2009)

► Top 10 risk factors account for 33% of global deaths

**Top 5:**

- High blood pressure
- Tobacco use
- High blood glucose
- Physical inactivity
- Overweight and obesity

**Next 5:**

- High cholesterol
- Unsafe sex
- Alcohol use
- Childhood underweight
- Indoor smoke from solid fuels

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# Global Health Risks (2009)

► Top 10 risk factors account for 37% of global disability

**Top 5:**

- Childhood underweight
- Unsafe sex
- Alcohol use
- Unsafe water, sanitation, hygiene
- High blood pressure

**Next 5:**

- Tobacco use
- Suboptimal breastfeeding
- High blood glucose
- Indoor smoke from solid fuels
- Overweight and obesity

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## Global Burden of Disease (2017)

- ▶ 354 conditions studied
- ▶ Globally, the total burden of disability **increased by 52%** between 1990 and 2017.
- ▶ The burden of disability is driven mainly by non-communicable diseases, which caused 80% of disability in 2017.

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## Global Burden of Disease (2017)

- ▶ **Top 5 leading causes of disability:**

- Low back pain
  - Headache disorders (primarily migraine)
  - Depressive disorders
  - Diabetes
  - Age-related hearing loss

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## Global Burden of Disease (2017)

► Top 5 leading causes of death and disability in high socio-demographics index countries (SDI considers income, education, and fertility):

- Ischemic heart disease
- Low back pain
- Stroke
- Lung cancer
- COPD

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## Global Burden of Disease (2017)

► Top 5 leading risk factors causing death or disability, by sex:

► Male

- Smoking
- High systolic blood pressure
- High fasting plasma glucose
- Alcohol use
- Short gestation for birth weight

► Female

- High systolic blood pressure
- High fasting plasma glucose
- High body mass index
- Short gestation for birth weight
- Low birth weight for gestation

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# Global Burden of Disease (2017)

- ▶ Low back pain is #1 globally for years lived with disability
- ▶ Little change over time, even though we have clinical practice guidelines to promote best practices (and not "limit" care)

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## Iatrogenesis



**Clinical:** intervention is doing more harm than good (i.e. early MRI in acute LBP)



**Social:** the unintended consequences of the sick role or of illness behavior in society




**Cultural:** the loss of autonomy of the individual and particularly the loss of the capacity for self-care


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# Our System Is Failing Us




Poor incentives (financial, clinical)




Clinical practice guidelines are often ignored




Access to care limited



Beliefs become more important than the evidence




FEAR




**The culture does not promote an effective system – or vice versa**


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# Triple Aims (Berwick et al, 2008)





Improving the experience of care






Improving the health of populations





Reducing per capita costs of health care



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**“The medical establishment  
has become a major threat  
to health”**

(Illich, 1974)


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## **Physical Therapist Role in Sustainability**


- ▶ Physical therapists can have a significant role in sustainability efforts on a global level, but this will demand that our perception of our role in health care evolves.
- ▶ Physical therapists reimagining and revisioning themselves as health mentors to promote competent self care.

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Direct Access



You can't change the world



If patients can't access you

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A Proposed Model for Sustainability


B-Austin Community + Smart Life Project

Competent Self Care

Physical therapists can be the central stakeholder in a proposed model for social and health sustainability

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# B-Austin Community



[b-austin.com/](http://b-austin.com/)

Electricity from solar photovoltaic (PV) panels

Groundbreaking water conservation utilizing gray water recycling and rainwater collection

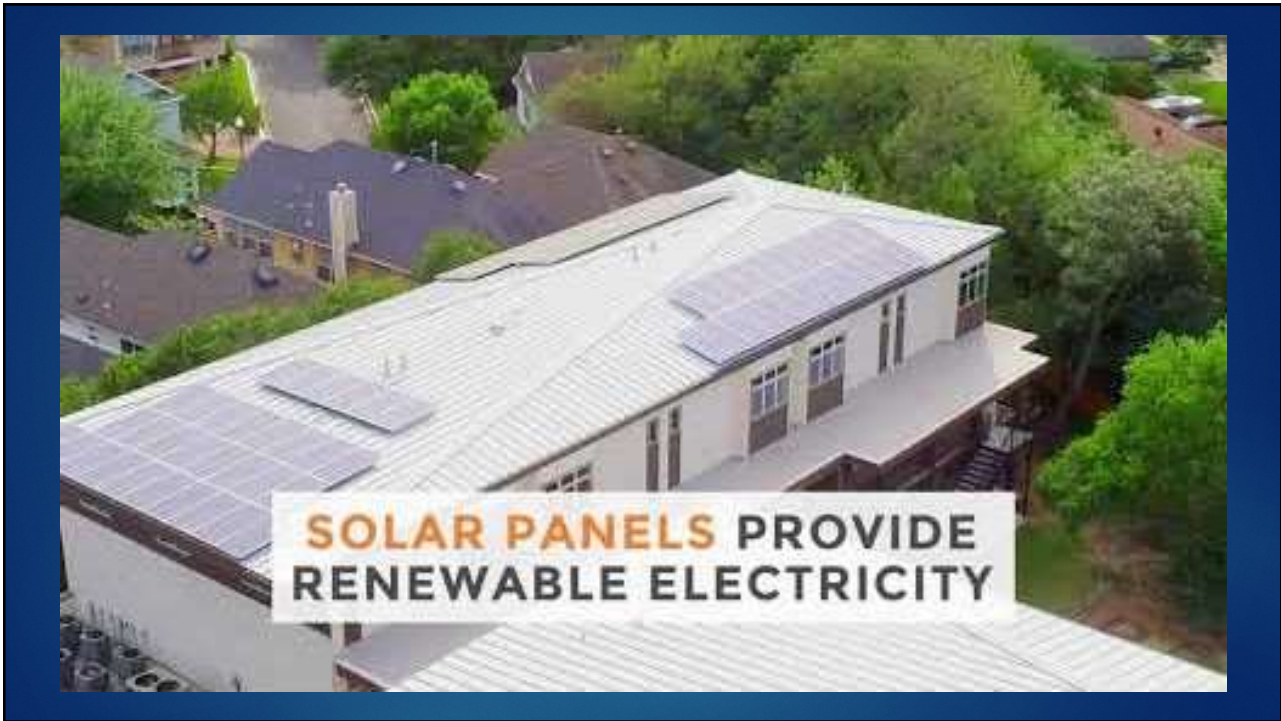
Electric vehicle (EV) Level 2 charging station

Zero waste program

Community gardens

Amenities to sustain your health and well-being

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## B-Austin Community

- ▶ Minimize the footprint regardless of the participation of the residents
  - ▶ This is accomplished via integrated systems such as energy efficient structure, renewable energy generation, water management, and permeable surface area on the site itself

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## B-Austin Community

- ▶ Voluntary sustainable initiatives
  - ▶ Systems that make sustainable practices easier than the alternatives
  - ▶ Example: waste diversion – 93% participation rate among residents; recycling program has <1% contamination rate (versus 23% in Austin)

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## B-Austin Community

- ▶ Environments that foster personal responsibility make better results
- ▶ Provide an environment where stewardship becomes personal to everyone

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## B-Austin Community

2018 Austin Green Awards Recognizes  
Eight Aspirational Projects

<http://www.atxgreenawards.org/the-awards2.html>

The Austin Green Awards is Austin's first recognition program to specifically highlight outstanding accomplishments in the broad arena of sustainable design and innovation, recognizing forward facing design strategies that respond to rapidly evolving environmental, social, and health imperatives.

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Smart Life Project

Sustainable Health Ecosystem

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# Sustainable Health Ecosystem

## Learning Organization (Senge, 1991)

- ▶ Built upon the principles of –
  - ▶ Personal Mastery
  - ▶ Shared Vision
  - ▶ Systems Thinking
  - ▶ Mental Models
  - ▶ Team Learning

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# Sustainable Health Ecosystem



A community-based initiative to promote behavioral and perceptual change



Address the mechanisms underlying community health (i.e. risk factors and incidence)



Build a culture of competent self care driven by personal mastery

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## Sustainable Health Ecosystem

- ▶ Most risk factors and many factors related to disability are favorably impacted by education, exercise, and activity modification/progression

**However** – if we don't think we can be self-sufficient, or if the community does not promote it – we won't.

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## Competent Self Care

- ▶ True patient-centered care – having the necessary ability, knowledge, and/or skills to care for the self
- ▶ Network of clinicians and providers that can foster and promote an environment in which this can occur (including exercise and education)

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## Triple Aims (Berwick et al, 2008)

- ▶ Improving the experience of care ✓
- ▶ Improving the health of populations ✓
- ▶ Reducing per capita costs of health care ✓

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## Competent Self Care Is ...



**Transformational**



**Disruptive**



**Sustainable!**

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# Sustainability is ...

**Healthy** People ...

... Living in **Healthy** Communities ...

... Within the resource opportunities and  
limits of **healthy** natural environments

(UN Educational, Scientific, and Cultural Organization)

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# The Revolution Is Now ...

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## Thank You for Attending



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PHYSICAL THERAPY  
ASSOCIATION

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- ▶ Course Evaluations are available at every session and may be returned to the Course Proctor or TPTA Registration Desk.

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The Westin Irving Convention Center Hotel at Las Colinas  
October 30<sup>th</sup> -31<sup>st</sup>, 2020