The global market for Population Health Management, 2016

A series of 3 reports on the emergence of, and opportunities in, Population Health Management, across the world.

Report 1 of 3:
Problems and Solutions So Far

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GLOBAL HEALTHCARE STRATEGY

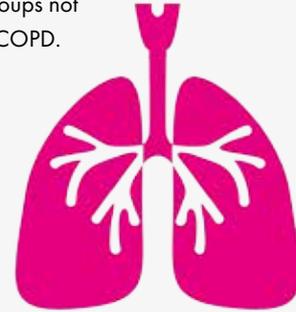## EXERCISE[44]

Average annual healthcare costs were **US$285** less for employees who were at least moderately active than for those who were sedentary.
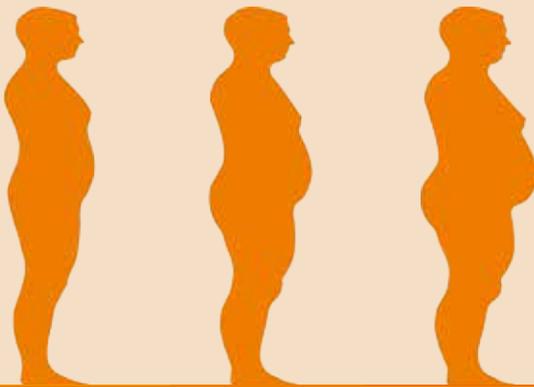
COPD[46]

Healthcare costs for those with COPD totaled **US$15,875** per year compared to US$3,634 and US$5,148 for two control groups not suffering COPD.

INCREASED BMI[45]

INSOMNIA[47]

The average six-month direct medical costs for working age individuals with insomnia were **US$924** higher than those without the sleeping disorder (US$4,755 vs. US$3,821).

OVERWEIGHT	OBESE	SEVERELY OBESE
DIRECT COSTS		
US$147	US$712	US$1,977
INDIRECT COSTS		
US$1,403	US$1,511	US$1,414

Obesity in a firm with **1,000** employees would cost **US$285,000** per year, approximately 30% of this resulting from increased **ABSENTEEISM**[48]

44. Exercise: Relationship of body mass index and physical activity to healthcare costs among employees. Wang F, McDonald T, Champagne LJ, Edington DW. J Occup Environ Med. 2004; 46: 428-436.

45. Increased BMI - Economic costs of obesity to self-insured employers. Durden ED, Huse D, Ben-Joseph R, Chu B-C. J Occup Environ Med. 2008; 50: 991–997.

46. COPD: Healthcare costs among individuals with chronic obstructive pulmonary disease within several large, multi-state employers. Darkow T, Chastek BJ, Shah H, Phillips AL. J Occup Environ Med. 2008; 50: 1130–1138.

47. The direct and indirect costs of untreated insomnia in adults in the United States. Ozminkowski RJ, Wang S, Walsh JK. Sleep. 2007; 30: 263-273.

48. The costs of obesity among full-time employees. Finkelstein E, Fiebelkorn C, Wang G. Am J Health Promot. 2005; 20: 45-51.

Nike Fuel App

Google Fit Android App

Apple HealthKit App

Garmin Connect

1. CONSUMER WEARABLES

Many companies have invented 'wearable' sensors such as bracelets and lapel-pins or incorporated sensors into smart watches or even tattoos (L'Oreal for UV exposure). In some cases the sensors are in clothing e.g. the smart bra, Under Armour's range, Hexoskin, Heddoko, CityZen Sciences and OM Signal. From these tools, data is collected via HCIT or mobile applications. Alternatively, biosensors are incorporated into small hand-held devices, in-room devices or stick-on sensors, gleaning data from the air, skin, blood and urine. The most recent invention is pills that can be ingested and still communicate based on stomach fluids.

The data from these devices (activity, sleep, stress levels etc.) is collected via an app (see Figure 29) and can be mixed with other health records to give a full medical picture. Some devices are limited to programs which use the data to provide rewards or penalties as incentives to influence better health behaviors. For example, Garmin, Fitbit and Fitbug have wellness programs.[17] Challenges, social networking, discounts on merchandise and donations to charities are among the things these companies and others, such as Everymove and MANAnutrition, have tried. Many devices are orientated to a single purpose, such as weight loss or fitness, but the bigger healthcare IT companies (Apple, Google, etc) have built device-agnostic platforms to compile multiple imports to do wider health risk assessments or to 'push' solutions or products to users. Partnershipping is increasingly the norm. For example: Apple is teaming with Epic and the Mayo Clinic. Insurers are also doing this. For example Aviva is focusing on this in its digital garage and has innovated via its 'virtual health' service, as has Vitality with its Drive dashboard. Providers (telemedicine companies, for example) and biopharma companies see many uses also. Once such players can bring the necessary scale, then a virtuous circle of lower unit cost will drive further innovation. This is when and how 'E-health' will join with all the other tools in PHM.

Consumer wearables are fashionable and their adoption is growing very fast globally.

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17. Garmin. Wellness Solutions. http://sites.garmin.com/en-US/corporate-wellness/Fitbit. Corporate Wellness Just Got A Lot More Fun [Online] http://www.fitbit.com/fitbit-wellness.