Enlist in our MASH unit: an invitation to join the Meaningful Analogies in Sports and Health network

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In the fall of 2010, Mary Smillie of the Health Quality Council of Saskatchewan convened a meeting of the three of us: an emergency physician (MW), a quality improvement consultant (MS), and a health policy consultant (SL). Mark had read Michael Lewis's *Moneyball*,[1] the bestselling story of how Oakland Athletics general manager Billy Beane consistently created winning teams out of a low-budget assembly of players. Beane was the first general manager to build a culture of statistical analysis into baseball decision-making. He bought players low and sold high, and took chances on talent overlooked by everyone else. Given his payroll, his teams won far more games than they should have. Mark was convinced there were lessons in this for health care, where there is always pressure to achieve more with less.

Mary proudly knows nothing about baseball, but recognizes a good analogy when she sees one. Moreover, she was aware of Steven Lewis's (overdeveloped) interest in baseball statistics. (He had read *Moneyball* years earlier.) So we connected, and brainstormed about how exploring the use of data to enhance decision-making and performance in sports might stimulate improvements in health care. We concluded that the idea had merit and hypothesized that if three people with such different backgrounds could come to the same conclusion there might be a much wider community of crossover thinkers: thus was born MASH, the Meaningful Analogies in Sports and Health network.

Our operative theory is that health care would get better if it used data as adeptly as baseball—and, increasingly, other sports—to improve decision-making and quality. We suspect that many others out there agree in principle. We also think that analogies make powerful teaching tools for both students and seasoned practitioners, and that we should pursue every conceivable pedagogical avenue to enlightenment and improvement. Moreover, we think that trying to connect examples from sports statistical analysis to the use of data in health care is fun as well as illuminating.

The purpose of the MASH blog, launched today on the *Open Medicine* website, is to create a community of thinkers, writers and readers interested in exploring how health and medicine can learn from the development, use and application of statistical analyses in sports. Our initial discussion focused on baseball because it has by far the richest database and the largest community of amateur and professional analysts. This is no accident: professional baseball predates other professional sports by decades, and the game lends itself to data collection. That it has data in its DNA is for some people its liability as a sport: it is a series of highly discrete events (pitches, catches, throws, balls, strikes, ground balls, fly balls, stolen bases, tags), every one of which can be shown to affect (sometimes in very small ways, sometimes hugely) the outcome of the game.

By contrast, it is much harder to quantify sports in which the players are always in motion. It may never be possible to discern with any precision the functional significance of some events in other sports—the number of times a basketball is bounced on the floor; the number of balls headed in soccer; how a football receiver runs a pattern when there is no intention of throwing him the ball.

That hasn't prevented these other sports from ramping up their analytic sophistication. There are countless new statistics and performance indicators in basketball, football and hockey. As in baseball, the use of data has spawned new indicators that have challenged long-standing orthodoxies. When should American football teams gamble on 4th down? A lot more than they do, according to some fascinating data analysis and simulation.* How important are turnovers in basketball? More than

*See, for instance, the intriguing analysis on the Advanced NFL Stats website at www.advancednflstats.com/2009/09/4th-down-study-part-4.html.

traditionally acknowledged, according to the brain trust at The Biz of Basketball.†

The amazing thing about sports statistics is not that they exist; it is that they are used. Contrast this with health care, which has an enormous inventory of unexplored data, underused analysis and, in too many places, a culture that regards data with suspicion and even hostility. Sport is a multi-billion dollar enterprise in which the difference between success and failure sometimes hinges on minor differences in capacity and execution. Health and health care are of course far more fundamental to the human condition. Often people live because of evidence-informed practice or die because the evidence has been ignored.

Intrigued? If so, join our MASH unit: simply go to http://blog.openmedicine.ca/mash. You can be a fan, but we hope many of you will be players. Write something: a personal reflection, an analysis, an account of a teachable moment or a triumph of lateral thinking. To give you a glimpse of what we have in mind, have a look at the inaugural essays by Mark Wahba and Steven Lewis. As you'll see, we are eclectic in style, format and subject matter. To quote Dostoevsky, everything is permitted.

What analogies might we draw between sports and health data? A few examples:

- Which data explain outcomes? The batting average explains less about a player's performance than previously assumed; being overweight (but not obese) has less adverse impact on health status than previously assumed.
- The perils of focusing too narrowly on a performance metric. Fielding average does not tell us much about fielding performance; 30-day postsurgical mortality or readmission rates may be less meaningful than 1-year quality-of-life outcomes.
- The importance of case-mix adjustment. A pitcher who yields 3 runs a game in a hitter-friendly ball park may be better than a pitcher who yields 2.5 runs a game in a park with distance fences; a surgeon with a higher crude mortality rate may be more skilled than one with a lower rate who takes easier cases.
- Understanding luck or random outcomes (good or bad). A pitcher who strikes out few batters but gives up few runs may be living on borrowed time; a hospital with no handwashing protocol but no major infection outbreaks may be likewise rolling the dice.

Steven Lewis will moderate the blog to ensure the one requirement of posting: be they personal or entirely analytic, all articles have to connect sports to health and/or health care through the use and application of data.

We are honoured and thrilled that *Open Medicine* has agreed to host the site; the story of the journal's creation and its flourishing is an inspiration. We hope MASH provokes spirited exchanges and comments. Like baseball and *Open Medicine*, MASH will evolve as needs change and creativity flowers. The three of us have nudged MASH into existence; it takes a community to make it thrive. Read, write, debate—and, above all, enjoy. If any of MASH's offerings inspires someone, somewhere, to improve a patient's experience or outcome, we will declare success.

† It's not just the points the opponent scores when you turn the ball over; it's the points you didn't score because you no longer had the ball. Take a look at www.bizofbasketball.com/?option=com_content&view=article&id=448&Itemid=1.

Reference

1. Lewis M. *Moneyball: the art of winning an unfair game*. New York: W.W. Norton; 2003.

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