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To: "Dr. Baruch Fischhoff - Chair, National Academy of Sciences Study on Social & Behavioral Science and Improving Intelligence for National Security" <baruch@cmu.edu>
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Subject: The Human Performance chapter; post-Detroit lessons

Dear Dr. Fischhoff & Colleagues:

Obviously, post-Detroit, the National Academy's review of the human performance literature will be an aspect of your work with national importance. Since the DNI system was created with $75 billion/year, N = 200,000 employees, and the highest-tech capabilities of the computer age to solve the 9/11/2001 coordination/performance problems, seeing these problems in the 12/2009 Detroit case suggests that social science research about human performance will be relevant. Although the mega-investment in "smart software" and statistical analysis probably needs a review, too.[1]

<u>Risk Profile Assessments: A Caveat</u>
I think it is obvious, at this point, that taking bureaucratic assurances - or the good faith confidence of senior managers - at face value will not be enough. I suggested, in an earlier message, that Admiral Blair needed to know the risk profiles of the components of his system: obviously, it is possible to develop protocols to feed test information into the DNI Watch List system (with the types of warnings relevant to Detroit) and observe what happens. There is nothing in the published social science literature that will be an adequate substitute for this actual observation, quality-assurance monitoring, and self-reflective learning. However, let me describe a system - informed by research - that should work better. It is a system that was developed for graduate admissions decisions by the Political Science Department at MIT when I was a member of the faculty. It is a way to do a better job of evaluating and monitoring an N = 500,000 global Watch List: Although a bureaucracy may not like the amount of time that it requires, Admiral Blair has 200,000 people and they have a primary, shared responsibility to keep America safe.

A Model System

The MIT evaluation system was based upon an N=12 Admissions Committee with four, three-person teams (each, two faculty members and one current graduate student). Every admissions case was assigned at random to two of our teams - thus, every file was independently read and evaluated by six people. There were three categories - Definite Admit [score=5.0], Definite Reject [score=1 or =2], and (the largest category) Possible [Discuss/Seek Further Information] - and each reviewer kept individual notes of each case for the weekly decision meetings (N=12, combining the 4 teams in the Admissions Committee). Each case was publicly discussed in the N=12 meeting. In the first pass of a rolling process, about a third of the applications were quickly handled, based upon a unanimous agreement of six reviewers and reasons that were publicly discussed, to Accept or Reject. When further information was needed - e.g., the interpretation of grade point averages from a foreign university or missing letters of recommendation - the professional staff took notes, there was a discussion and decision of the steps to take, and the Chairman was accountable for the follow-up and a rediscussion/decision scheduled by the staff.

If the DNI adapts this model, it means that everyone in the N = 500,000 Watch List is going to be independently evaluated and personally "watched" by a system with three-person teams who are accountable for initial screening, deciding follow-ups, and who will, then, immediately receive on their desktops all new incoming information about the people who they are accountable to watch. Initial evaluations will be done, independently, by two teams. Threat Assessment Committees - groups of 4 teams - will meet together weekly for a shared review of cases and discussion of additional information/follow-up and recommendations to improve the process. Emergency actions, in response to incoming information, will be the responsibility of the Chair and may be requested by any member of a Threat Assessment Committee.

Initially, there will be a backlog as each three-person team becomes familiar with the people they will become personally accountable to know and watch. Create 1,000 three-person teams, each accountable for knowing and following 500 people and with (joint) responsibility for initial screening for 1,000. Throughout the DNI system, there will be a fixed two-hour block of time, weekly, for the face-to-face meetings of the Threat Assessment Committees (N=12; each, composed of 4 teams).

We know that, even for high-level professionals like surgery teams or airline pilots, systematic checklists and verbal concurrence of each team member can play a vital role to improve quality and reduce error. Similar checklists should evolve from the experience of these teams and Committees, and they can be refined by sophisticated statistical profiling and automatic routines. For example, Threat Assessment Committees are likely to agree that a checklist showing a subject to be single, male, Muslim, and having recently traveled from another country to spend time in Yemen will produce a directive for a special airport interview and physical search before boarding a flight to America.

I want to emphasize that this DNI system might become boring and routine work - an Admissions process can be substantially completed in six weeks and the faculty is admitting students that it wants to teach. And not everyone serves on the Admissions Committee each year. Boredom is a special risk as there are almost no terrorist incidents linked to an N = 500,000 global watch list. Thus, it is important to oppose a bureaucratic instinct to assign "analysts" to do this job full-time. Assessment should be a widely shared responsibility across the intelligence community. While there will be professional staff assigned to work with each Threat Assessment Committee and Chairman, most of the work (N = 3,000 people, drawn from across the intelligence community) will be done by people with other jobs. And senior managers have a special responsibility to serve. Over time, this diverse membership can strengthen the entire system, with community-wide knowledge and senior-level professional assessment of how the system is working.

No mechanism can substitute for the spirit in which a system operates. The original system of high performance teams was developed at the Tavistock Institute to align the goals of organizations more fully with the social needs of individuals, including shared pride in the quality of their own work and the organization. Now, several decades later, I still recall some of the MIT discussions, that I participated in as a member of the junior faculty, with pride about the quality of work that was done and the contributions of different people, from different perspectives, to outcomes that were strengthened and improved by the process.

Six Sigma US Security?

At this point, let me just refer back to my earlier memo about developing high performance anti-terrorist teams through shared responsibilities, too, for the War on Drugs. There may be too low an N of terrorist bombers trying to get onto US-bound airlines to become really good about the problem - especially if they

become more sophisticated. But Washington-based Threat Assessment teams probably could sustain morale and develop efficient protocols by adding cases re the daily flow of physical products, people, and money across the US-Mexican border.

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<1> See also the work of Charles Perrow.- e.g., <u>Normal Accidents</u> (1999).

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