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**SUSTAINING HEALTH SUPERIORITY IN THE 21<sup>ST</sup> CENTURY:  
WILL THE U.S. MEET THE CHALLENGE?**

**BY**

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**SUSTAINING HEALTH SUPERIORITY IN THE 21ST CENTURY:**

**WILL THE U.S. MEET THE CHALLENGE?**

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## ABSTRACT

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By the year 2025, preserving U.S. Quality of Life will become the overarching mission of U.S. power. Sustaining Health Superiority will become an integral part of that strategy. For the U.S. to sustain Health Superiority, emphasis must turn from delivering medical care to sustaining health. To sustain health, the U.S. must develop a sound National Health Policy which prioritizes services, assesses technology, integrates training and enables execution of the National Security Strategy. As health technologies continue to develop, the need to provide centralized direction for decentralized execution will become increasingly apparent. Political Will lies at the heart of achieving this end state. The U.S. has perhaps twelve years to develop the Political Will and a National Health Policy needed to sustain health superiority in 2025. Without doing so, the U.S. will be fundamentally unprepared for the 21st century and put at risk its ability to defend and sustain its Quality of Life.



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## SUSTAINING HEALTH SUPERIORITY IN THE 21ST CENTURY:

### WILL THE U.S. MEET THE CHALLENGE?

#### Defending and Sustaining Quality of Life

By the year 2025, preserving Quality of Life will become the overarching mission of U.S. power. Power will most likely still have Economic, Diplomatic, Military and Information as its base. We have little reason to doubt that the U.S. will stay heavily involved in shaping the environment through engagement of these four power bases. However, in the years leading up to 2025, these power bases will expand and diffuse into each other. Health Superiority including a strong Political Will and a National Health Policy will enhance these power bases. A *sustained* Health Superiority will meet the health needs of a current generation without compromising the ability to meet the health needs of future generations. Through informational, social, and institutional feedback mechanisms, it will enable the U.S. to shape its future and, ultimately, preserve its Quality of Life.

For the U.S. to sustain Health Superiority, the paradigm must change from emphasizing medical care to emphasizing health. In 2025, all military operations will attain strategic importance as part of a Quality of Life preservation strategy. As part of that strategy, health sustainment will also attain strategic importance as it becomes integral to preserving the national **will**

to **defend** its Quality of Life. Unless the survival of the U.S. is at stake; U.S. society will have little tolerance for suffering, wounded or killed (i.e.: DNBI, WIA, KIA) in a military operation. U.S. society will look to health sustainment as a means for keeping these casualties near zero. Intolerance for these casualties will remain at the center of the U.S.'s will to defend its Quality of Life short of a threat to U.S. survival.

Much like the interdependency of the 4 power bases, the Military Health Services System (MHSS) must integrate with the Dept. of Health and Human Services (HHS), Veterans Administration (VA), State Dept. Health Services, academic institutions and private health industry. This is true in 1998 and will become absolutely necessary in 2025.

For this integration to happen and in keeping with sustaining health instead of delivering medical care, the U.S. civilian health sector must preserve national **productivity** to **sustain** national Quality of Life. Stated another way, by 2025 U.S. society must acknowledge the fact it cannot afford to save all patients at all costs. U.S. society (not just the health sector) must *prioritize* the health services it will pay for so it can give centralized direction for a decentralized execution. Intelligent prioritization of health services will become critical for U.S. society to preserve national productivity to sustain national Quality of Life.

Improvements in health technology will continue to come at a fast and furious pace. That pace will accelerate as we enter the 21st century. Not all health technology will enable the military or civilian Health Systems to attain their desired capabilities. Questioning the value-added of any new technology will become absolutely vital when investing finite Health Resources.

Combined, U.S. military and civilian health must sustain national Health Superiority. Health Superiority is the end state of having a sound National Health Policy to preserve national Quality of Life and enable execution of the National Security Strategy.

Will the U.S. meet the challenge of achieving this end state? It certainly can, but **will** it? Will U.S. society find the moral courage to develop a National Health Policy which prioritizes services, assesses technology, integrates its Systems, and enables execution of the National Security Strategy to sustain Health Superiority?

### **The World in 2025.**

To understand the challenge of sustaining Health Superiority, one must first get an appreciation for how the geostrategic situation may appear in 2025. Scholars and Futurists seem to generally agree on the 2025 geostrategic situation as consisting of the following three broad population groups: 1) World 1, the

stable, prosperous and U.S. style democracies. As a minimum, these will most likely include western Europe, U.S., Canada, Australia and Japan; 2) World 2, the "newly industrializing countries," the former Soviet bloc and most of the Asian nations- these will make up the bulk of the world's population and the largest middle class in history; 3) World 3, the destitute nations, marked by economic stagnation, ungovernability and violence.<sup>1, 2, 3</sup>

The above Worlds may very likely be separated along ideological fault lines. The ideologies could take the form of Western Christianity vs. Orthodox Christianity vs. Islam, Western vs. Non-Western cultures, Democracies vs. Anti-Democracies etc. Inter-world conflict and violence would most likely occur along these fault lines and range from terrorism and insurgency to full scale coalition combat. Violence between conflicting ideologies would be particularly bloody.<sup>4</sup>

In addition to ideologies, genuine survival concerns regarding natural resource shortages such as water could very well create new fault lines that cut across all three Worlds. The United Nations estimates that by 2050, "about 4.4 billion of the planet's roughly 10 billion people will suffer from chronic water shortages."<sup>5</sup> In 1997, water has already surfaced as an issue between nations across the continents. By 2025, the world may

already begin to experience the early stages of water shortages with its humanitarian and migration implications.

Looking more closely at World 1; national interest, boundaries and sovereignty may decline in significance as these economies become more interdependent and cultural homogeneity takes hold. Technology will enable World 1 people to participate directly in political decisionmaking.<sup>6,7</sup> The same will hold true for health decisionmaking.<sup>8</sup> World 1 will have an aversion to violence, DNBIs, WIAs and KIAs during a complex contingency operation.<sup>9,10</sup>

World 1 population demographics will become significantly different in 2025 as compared to 1998. By 2011, the first batch of "Baby Boomers" will hit 65. By 2025, the over-65 population will most likely hit its plateau. This plateau will most likely remain over the following 15-20 years. To illustrate, in 1900 only 1 in 25 Americans was over 65. By 2040, the figure will be 1 in 4 or 5 with the vast majority receiving some sort of government entitlement. In 2025, the average life expectancy may already have reached 100.<sup>11</sup>

Looking more closely at World 2; national sovereignty will still remain a viable political and economic institution with threats of internal collapse posing its most significant challenge.<sup>12</sup> It may experience violent shifts between democracy and authoritarianism and will sanction violence under the right

circumstances. It will focus on war in the traditional sense and will have a higher tolerance to violence, DNBI's, WIA's and KIA's than its World 1 counterpart.

World 2 will have Weapons of Mass Destruction (WMD).<sup>13</sup> However, scholars feel that its national leaderships will be rational actors and WMD will only fill a deterrent role.<sup>14</sup> Unlike World 1, World 2 will probably have little opportunity to become proactive in health decisionmaking. Health care will probably resemble the 1998 form of U.S. medical care. With a 2025 predicted population of 5.1 billion, World 2 will make up the largest segment of Earth's predicted population of 8.4 billion.<sup>15</sup>

A significant portion of World 2 nations will most likely lie in south central and south east Asia with China as the dominant member. Despite recent setbacks, these nations will continue economic growth and by 2020 their economies may become larger than the economies of Europe and the Americas put together. However, strong economies may not necessarily translate into democracy with a framework for allowing Asia's huge and divergent states to live in peace. This makes it imperative for World 1's power elements to remain engaged with all World 2 nations.<sup>16</sup>

Looking more closely at World 3; ungovernability, economic stagnation and violence will characterize daily life.<sup>17</sup> Some World 2 populations may slip in and out of World 3 status. Terrorism will become the predominant form of power projection,

possibly through the use of mercenaries with WMD or computer viruses.<sup>18</sup>

Control of infectious disease and contraception will make up the main effort of World 3 health care. Only the upper 5% may have access to proactive health decisionmaking as World 1 will know it.<sup>19</sup> World 3, in particular sub-Saharan Africa, will continue the potential of harboring some of the most deadly viruses, bacteria and parasites known to man and will pose a direct threat to the Quality of Life of all 3 Worlds.<sup>20</sup>

World 3 forces may very well take the form of transnational armed gangs, militias, warlords and terrorist groups and not in the traditional state-on-state war. World 3 forces most likely will not stand up and face World 2 militaries. World 2's relatively low-tech armed forces and its high tolerance for violence will thwart any World 3 force. However, World 3 forces' lack of inhibition and indiscriminate use of violence could become a direct threat to the Quality of Life of World 1.<sup>21</sup>

World 3 forces may even form from within World 1's own population. These type of forces would know just how far they could irritate World 1 and still attain their objectives. As long as World 1 does not perceive World 3 as threatening its survival, World 1's aversion to violence, DNBI's, WIAs and KIAs will remain high. World 3 will know how to do this in far-flung areas of the world from open deserts, confining urban terrain as well as

defense of World 1's own homeland.<sup>22</sup> As a result, World 1 power and the U.S. National Security Strategy in particular would need to focus on internal order, counterterrorism, nation assistance and complex contingency operations in addition to full scale war to defend and sustain its Quality of Life.

With these 2025 geostrategic scenarios as a framework, one can better appreciate the challenges to Health Superiority. However, in order to sustain Health Superiority, one must first develop a better understanding of this concept by picking apart its variables and looking at them in the context of 2025.

#### **Understanding U.S. Health Superiority in 2025**

As previously stated, Health Superiority actually represents an end state. To more clearly understand this end state, the following health relationship will help put matters into perspective:

$$\frac{\text{Health Resources}}{\# \text{ Beneficiaries}} \propto (\text{Access}) (\text{Affability}) (\text{Ability})$$

The variables are defined as follows:

*Health Resources*: Money, personnel and equipment in the Health System.

*#Beneficiaries*: Segment of the U.S. population served by the Health System. This can comprise individual patients, parents, large groups of elderly or military units.

*Access*: Services provided by the Health System that its beneficiaries have access to.

*Affability*: Satisfaction of the beneficiaries and the Health Care Providers (i.e.: physicians, nurses, medics etc.) with the Health System.

*Ability*: Competency of the Health Care Providers to provide each service.

This relationship has Access, Affability and Ability in that particular order for a reason. Beneficiaries judge the quality of a Health System in terms of these three prioritized criteria. In other words, if beneficiaries cannot access the Health System, the Health System has failed them. This demonstrates why it is so critically important for a Health System to clearly state the services it will provide. Once a beneficiary enters the Health System, he expects to be treated in a certain affable manner. This affability ranges from how the Health System greets him to how attentively the Health Care Providers listen to his concerns. Health Care Providers must possess certain levels of competency when delivering a service. Interestingly, if a Health System excels with the first two criteria, beneficiaries will criticize competencies only minimally. This partly explains why physicians practicing in underserved areas have minimal malpractice claims as compared to physicians practicing in well-served areas.<sup>23</sup>

No matter how a Health System chooses to balance the relationship, sustaining health will forever remain an intensely human experience. As long as humans long for a maximum sense of well-being, this relationship will hold true. It is safe to assume that in 2025, humans will still long for that maximum sense of well being. A balanced health relationship represents the true end state of Health Superiority.

In 1998, three types of Health Systems generally dominate the U.S.- federal health systems, academic institutions and private health systems.<sup>24, 25</sup> Each Health System experiences unique forces on any of its relationship variables at any time. In order to keep the relationship balanced and their viability sustained, the Health System must then change one or more of the variables. Over the next 30 years, U.S. Quality of Life will become increasingly dependent on the sustained viability of **ALL** these diverse Health Systems.

Prior to the 1990's, each Health System responded to its unique changes in its own way. In some instances Health Resources may have increased, in other instances Access may have decreased and in still others, Affability may have slipped. Health Systems have generally guarded against any decrease in Ability or increase in beneficiaries. This tweaking of each Health System's own internal relationship worked well until the early 1990's.

In the early 1990's, options for each Health System kept dwindling. They realized that somehow they had to decrease their beneficiaries to keep their relationships balanced.<sup>26</sup> In order to do this, they formed alliances to shift beneficiaries. However, this alliance building can only go so far. If U.S. society does not become pro-active in giving centralized direction to **ALL** Health Systems, by 2025 the following will have happened:

1. Federal *Beneficiaries* will have approached "∞"

2. Academic *Beneficiaries* will have approached "∞"
3. Private system *Beneficiaries* will have approached "0"

The largest increase in Federal beneficiaries between 1998 and 2025 will be the Medicare eligible population. Health and Human Services (HHS) administers the Medicare program. If HHS policy continues according to the current 1998 law of non-discretionary spending, by 2030 the Medicare deficit may become \$934 billion.<sup>27</sup> With HHS consuming ever increasing portions of Federal health resources and with the Defense Department (DOD) at the mercy of discretionary spending, the Military Health Service System (MHSS) runs the real risk of becoming non-viable in 2025.

The largest increase in Academic beneficiaries between 1998 and 2025 will be the uninsured population. Academic institutions' main mission is to train future Health Care Providers. The beneficiary base traditionally consists of the Medicare, Medicaid and uninsured populations as well as a certain amount of private health system beneficiaries. The uninsured population consists mostly of working U.S. citizens who either do not qualify for Medicaid, cannot afford private health plans or cannot obtain private health benefits because they represent high health risks. A significant number gravitate to the Emergency Departments of Academic Institutions for health care. Academic Institutions make up for the Health Resource shortfalls through innovative cost shifting and federal teaching subsidies.

However, between 1998 and 2025, private health systems will most likely become more selective in choosing their beneficiaries, especially as health screening technology becomes more developed. As of 1998, the White House estimates that 41.5 million Americans are uninsured- up from 37 million in 1989.<sup>28</sup> If this trend continues, by 2011 the U.S. government may need to create a federal high risk health services pool for those individuals whom private health systems elected not to enroll as beneficiaries. As the budget for this pool increases, the Federal and Academic Institution Health Systems may run the risk of becoming non-viable. By 2025, the federal high risk health services pool budget may become strained to the crisis point.<sup>29</sup>

If U.S. society allows its Federal and Academic Institution Health Systems to become non-viable in 2025, the U.S. will surely lose its Health Superiority. The defense and sustainment of U.S. Quality of Life in the geostrategic setting of 2025 cannot afford to let this happen.

How can Health Systems keep their relationship variables balanced in the ever increasing geostrategic VUCA environment of the 21st century? Through **Political Will** and moral courage.<sup>30</sup> This will involve a significant cultural change in not just the Health Systems, but the entire U.S. society.

## The Process of Change

For Health Systems to change, they must first agree to change. In addition to changing, they must also agree to synchronize their pace of change. If one Health System changes too rapidly, it will outstrip its Health Resources, decrease its Affability (disrupting the organization) and prematurely lock itself into an Ability with little value-added (premature technology lock-in).<sup>31</sup> The Army Medical Department's overzealous embrace of a deployable telemedicine system provides a vivid example of this.<sup>32</sup>

**Prioritizing Capabilities:** Health Systems constantly assess Access to a current set of services for a specified beneficiary population. They may even assess Access to programmed services in the near and mid term. In looking towards 2025, however, Health Systems must also develop potential services. Potential services must ultimately satisfy as-yet-unspecified capabilities or Future Health Ideas (FHI's). These FHI's will serve as a distant beacon for all the Health Systems to work towards.

Every year, the Army Medical Department Center and School (AMEDDC&S) develops "Future Operational Capabilities" (FOCs) which provide "...a war fighting focus for the Army's Science and Technology investment"<sup>33</sup>. The FOC's developed in 1998 look out to 2010. The AMEDDC&S FOCs also provide a focus for training of Army

Health Care Providers so they can provide a specified set of programmed services to MHSS beneficiaries. The other Health Systems need to closely look at AMEDDC&S's FOC process and develop their own set of FOCs from which they can develop programmed services.

The FHI development must become a yearly process. In 2010, the FHIs for 2025 should develop into FOCs in order to develop programmed services. As 2025 approaches, the FOCs and programmed services should develop into doctrine in order to develop the current services for 2025. All Health Services must agree to synchronize the timing of FHIs, FOCs, and Doctrine development.<sup>34</sup>

To summarize the milestones for development of services for 2025:

1998..Future Health Ideas.....	Potential Services
2010..Future Operational Capabilities...	Programmed Services
2025..Doctrine.....	Current Services

In 2010, as future health ideas for 2025 are developing into FOCs, the rest of U.S. society must become involved. U.S. society must *prioritize* those FOCs so all the Health Systems can intelligently apply the proper Health Resources in developing those FOCs.

For U.S. society to intelligently prioritize health capabilities in 2010 for 2025, **Political Will** to accomplish the following must develop in the 1998-2000 timeframe:

a) A National Security Strategy that clearly articulates a strategy and includes a *prioritized* list of U.S. National Interests. This will become imperative as the geostrategic situation becomes more complex and larger portions of World 1 become proactive in political decisionmaking. In addition, this would raise the threshold of World 1 tolerance for DNBIs, WIAs and KIAs during military operations.<sup>35</sup>

b) A coherent U.S. National Health Policy that includes a *prioritized* list of current Medicaid and Medicare services to determine the most robust level of health needed to preserve national Quality of Life. This requires a significant shift of the 1998 paradigm of "saving the patient at all costs". Stated another way, Medicaid and Medicare must limit themselves to specified services that will achieve the most robust level of health needed to ensure the most productive citizen. The cost of services beyond those needed to attain that robust level of health cannot be incurred by the federal health system. The 1998 service prioritization process can guide the FOC/programmed service prioritization process for 2010. A National Health Policy will provide centralized direction which will then guide the decentralized execution by each Health System. In order to ensure relevancy and an orderly transition, the prioritization process must occur yearly.

c) An interagency process to synchronize U.S. National Health Policy with U.S. National Security Strategy.

Prioritization will involve an exceptional amount of moral courage and political will. One U.S. state, Oregon, did display the moral courage to prioritize health services from which all Health Systems and U.S. society can immediately take inspiration.

In 1986, Oregon faced a growing population of inadequately insured and uninsured persons who were unable to access health services. These individuals received health care on an episodic emergency basis because they did not have access to either private or Medicaid/Medicare health services. Oregonians realized that in order to keep their population healthy and productive (i.e.: sustain their Health Superiority), they needed to provide their population access to health services and create a level of health below which no Oregonian should fall.<sup>36</sup> Oregon totally changed the "save the patient at all costs" paradigm by limiting its Medicaid program to only those services needed to achieve a basic level of health. This led to the creation of the Oregon Basic Health Services Act in 1991 which consisted of the following provision:

a list of health services ranked by priority from the most important to the least important, representing the comparative benefits of each service to the entire population to be served. [And, Oregon's Office of Medical Assistance Programs] shall execute prepaid managed care health services contracts...[wherever there are qualified provider entities]<sup>37</sup>

The enactment of this legislation, especially the prioritization of health services, took an enormous amount of political will and moral courage within the state. Unlike the

failed Clinton Health Security Act of 1994 which shrouded itself in secrecy, Oregon sought to openly involve

... the general public in developing the methodology and collecting health related values. Public hearings were held throughout Oregon; a telephone survey was done and community meetings were conducted on behalf of the Commission by Oregon Health Decisions. Oregon's health care providers responded to the Commission's call for assistance with healthy skepticism and with a spirit of excitement. They saw an opportunity to expand access to health care for Oregonians and participate in something that had never been tried.<sup>38</sup>

The development of a coherent U.S. National Health Policy can immediately use the Oregon Basic Health Services Act as a platform. As more of World 1 becomes connected with communication technology, the involvement of U.S. society in this grass-roots decisionmaking process will become easier.

With a coordinated U.S. National Security Strategy and Health Policy, each Health System can then prioritize its own FOCs. Each Health System must then analyze its own doctrine, training, leader development, organization and material to attain each FOC.

With prioritized FOCs, Health Systems can better formulate Future Health Ideas and assess the value of new technology (i.e.: increased Ability). Health Systems can also better respond to sudden changes in Health Resources, #Beneficiaries or satisfaction levels (i.e.: change in Affability).

This comes back to the geostrategic situation of 2025 and preserving the U.S. Quality of Life. As World 1 national interests, boundaries and sovereignty decline in significance,

new constraints may develop. If new constraints develop, the U.S. may find it increasingly difficult to determine its own health destiny. The 1998-2010 time frame represents the perfect window of opportunity to develop a coordinated U.S. National Security Strategy and Health Policy.

Just as Oregonians did in 1989, U.S. society must clearly acknowledge Health's purpose as enhancing an individual's ability to defend and sustain national Quality of Life. This must happen before 2010. For this to happen before 2010, work must begin in 1998. If this does not happen, Health Systems will have different motives for changing, changes will become asynchronous and relationship variables will begin to drift toward "0" or " $\infty$ ".

Even without the coordinated U.S. National Security Strategy and National Health Policy, Health Systems must begin gathering data to develop the Future Health Ideas for 2025. This starts by gathering data on developing health technology in order to critically assess its value added once FOCs become prioritized.

**Questioning Technology:** As previously stated, sustaining health will forever remain an intensely human experience. A maximum sense of well being becomes critical to defending and sustaining national Quality of Life. To maximize that sense of well being, technology holds the potential of increasing the Ability variable of the Health Relationship. But it must never do this at the expense of reducing the Affability variable.

Before considering any type of technology, Health System leaders must always first consult their FOCs. Health System leaders can easily become seduced by the glitz and sex appeal of technology and totally forget the FOCs. The AMEDD's persistent attempts at developing a deployable Telemedicine system provides a classic example of technology seduction. The AMEDD never asked the hard question of value added before investing incredible amounts of its Health Resources into deployable Telemedicine. Only after spending more than \$20 Million did the AMEDD go back and question the value added of that technology.<sup>39</sup> With the ever increasing challenge of sustaining Health Superiority, the MHSS cannot afford to repeat this experience.

For technology to add value, it must contribute to the attainment of an FOC *only* after doctrinal, training, leader development and organizational options alone or in combination cannot attain the FOC. Health System leaders must always remember that technology acquisition always represents the most expensive solution to the attainment of an FOC. However, technology can also attain an FOC through making doctrine easier to execute, training easier to accomplish, leaders easier to develop or organizations easier to flatten. As of 1998, two developing technologies will play the largest role in 2025 FHIs- biotechnology and nanotechnology.

By 2025, biotechnology may have unlocked almost all the secrets of the human genome and identified linkages to human

diseases and disorders. Although not quite as far developed as biotechnology, nanotechnology has the potential to miniaturize biologic sensors to the molecular level as well as creating customized care precisely tailored to individual biochemistry.

<sup>40,41</sup> "Nanotechnology is a classic 'wild card' development: too uncertain to forecast reliably, and so important that, if and when it does emerge, it would change everything."<sup>42</sup> Fully developed, both bio and nanotechnology may even render the variables in the Health Relationship invalid.

These potential developments represent enormous positive potentials for easier execution of a doctrine for health enhancement in the 2025 geostrategic environment. In 1997, the MHSS published a report on bio and nanotechnology as part of its effort to develop a strategic plan. U.S. Medicine stated the following regarding the recently concluded MHSS2020 study:

The MHSS2020 'Focused Study on Biotechnology and Nanotechnology' identifies 19 trends expected to have intense impact on military medicine and on medicine in general and recommends systematic monitoring of them, including the creation of a national clearinghouse on nanotechnology and a 'structure and process that will continue to monitor the biotechnology industry.'<sup>43</sup>

This has enormous implications for all 4 of the power bases needed to defend and sustain national Quality of Life. Bio and nanotechnology can increase mental agility and resistance to environmental threats and WMD.<sup>44</sup> This could reduce the likelihood

of DNBI's, WIAs and KIAs and preserve World 1's will to defend its Quality of Life.

Bio and nanotechnology also have the potential for protecting all World 1, 2 and 3 populations against any type of infectious disease known to man, especially considering the very deadly nature of some of World 3's infectious diseases.

Through genetic testing of a fetus, Parents can become proactive in assuring a productive citizen which would enormously contribute to preserving the productivity needed to sustain national Quality of Life.

For the elderly, the largest segment of the U.S. population in 2025, bio and nanotechnology have implications for management of Diabetes and cancer. In 1992, Diabetes among the elderly represented an estimated 12 percent or \$90 billion of U.S. health care expenditures.<sup>45</sup>

These tremendous technological breakthroughs make it absolutely imperative for the U.S. to have a coordinated National Security Strategy and Health Policy. MHSS's proposal of forming a multidisciplinary team to examine the ethical issues involved with bio and nanotechnology represents a development in that direction.<sup>46</sup> All the Health Systems must stay constantly vigilant on bio and nanotechnology development and begin determining FOCs as soon as these FHIs become clear.

Health Systems must then work with all U.S. federal agencies as well as the general public on coordinating National Health

Policy with National Security Strategy. For this coordination to occur, Health Systems must begin to integrate themselves.

**Integration of Health Systems:** In 2025, no individual Health System can function in isolation. The years 1998-2010 will provide World 1 Health Systems with a window of opportunity to develop interdependency. For interdependency to flourish, connectivity with one or more Health Relationship variables must exist. The one Health Relationship variable with the best connectivity between Health Systems turns out to be the Ability variable. (Ability: Health Care Provider competency to deliver each service.)

U.S. Health Systems have yet to fully integrate themselves in increasing Health Care Provider competencies to provide each of their respective Health Services. No longer can the U.S. Federal Health System alone afford to put significant amounts of Health Resources towards increasing Ability variables for all Health Systems. It must integrate with the Academic and Private Health Systems so all Health Systems equally contribute to increasing their common Health Care Provider competencies.

The uncertainties of the 2025 geostrategic situation provide compelling reasons for Abilities integration to begin in 1998. The Health threats to U.S. society as well as to U.S. military operations will increasingly demand unique competencies of all Health Care Providers. As Health Resources become more

constrained, Health Care Providers must become increasingly multi-functional.

Already in 1998, U.S. society faces the direct threat of WMD. Recent terrorist attacks in the U.S. such as the Oklahoma City and World Trade Center bombings have provided U.S. society a glimpse of domestic terrorism. Currently, major U.S. metropolitan areas face the very real threat of chemical or biological attacks from World 3 mercenaries, militias or terrorist groups.

Part of Health Care Provider multifunctionality involves recognizing the initial signs and symptoms of a chem/bio incident, providing stabilizing treatment and (especially for biological incidents) distinguishing a public health infrastructure breakdown from an actual attack. This distinction between an organic system malfunction vs. an attack will become even more challenging as World 1 Health superiority becomes more dependent on bio and nanotechnology.

1998 Health terrorism may involve another chemical attack in a subway system or dissemination of a deadly sub-Saharan biologic disease agent.<sup>47</sup> In 2025, this may additionally involve deliberate tampering with World 1 bio and nanotechnology. Genetically-targeted weapons may also emerge as a threat to all World 1 populations. A coordinated U.S. National Health Policy and Security Strategy must develop a process for Health System Abilities integration needed to deal with these very real threats

to Health Superiority. One of MHSS 2020's identified trends stated the following:

Biological terrorism will pose a growing threat to the U.S. civilian population over the next twenty years, and at least a few instances of biological attack are likely during this period. Prevention will prove exceedingly difficult, and will have to involve political initiatives that go far beyond normal nonproliferation efforts. The consequences of a biological attack will be determined primarily by the nature of the response. Major reductions in morbidity and mortality and consequent cost savings can be achieved by early, effective intervention, but this requires a level of prior planning, preparation and training which we have not yet committed to as a nation. The most dangerous possibility is the use of 'designer biological weapons' against which conventional vaccines and antibiotics would be ineffective.<sup>48</sup>

In 1998, Academic and Private Health Systems must move toward integrating Health Care Provider training with the MHSS in order to deal with these current and projected Health threats. They must reach out to MHSS organizations such as the U.S. Marine's Chemical and Biological Incident Response Force and U.S. Army's Specialty Response Teams to integrate Health Care Provider training.<sup>49</sup> Likewise, MHSS's leadership must also move toward devoting Health Resources towards this critical training of non-Federal Health Care Providers.

Demands for increasing MHSS Health Care Provider multifunctionality also requires MHSS to develop Abilities integration with non-Federal Health Systems. In 2010, Military leaders must have real time visibility of their Warfighters' health across the entire area of operations. They will request

guidance from their Health Care Providers, in particular the Combat Medic, when they see any unfavorable trends.<sup>50</sup> In 2025, MHSS may need to expand this capability to include physiologic signature recognition of World 3 warriors among innocent civilians as military operations increasingly occur in urban environments. LTC Ralph Peters from the Army's Office of the Deputy Chief of Staff for Intelligence stated the following:

Eventually, body signatures sensors should identify fear, hostility, or positive demeanors on the part of the locals. Any means that can be developed to separate out the hostile actor from the 'sea of the people' is highly desirable, since, in urban operations, the enemy's ultimate camouflage is his humanity.<sup>51</sup>

As part of Joint Vision 2010, the Joint Staff's Medical Readiness Division (J-4 MRD) conducted five working groups to develop recommendations addressing key components of combat health support. These working groups consisted of representatives of the MHSS, academic institutions, and private industry . They used "Groupware" to facilitate the Delphi method<sup>52</sup> of arriving at their recommendations.

The working groups knew that World 1's low tolerance for DNBI's and WIA's would continue into 2010 and probably into 2025. They also knew that military operations would require bringing increased health capabilities ever more deeper into multiple areas of interest. Among the five working groups' recommendations was integrating its Health Care Provider training with the non-Federal Health System. This included training from the combat

medic through to the trauma surgeon. This represented a significant change in the training paradigm for MHSS as well as for the non-Federal Health Systems.<sup>53</sup>

As Military organizations become smaller and flatter, personnel will need to continuously adapt in the potentially chaotic operational environments of 2025. ALL MHSS Health Care Providers must significantly shorten their "observation-orientation-decision-action" cycles to function in these chaotic environments.<sup>54, 55, 56</sup> MHSS no longer has the Health Resources to provide this critical training alone. It must persuade the military and national leadership that Abilities integration with non-Federal Health Systems remains critical to sustaining Health Superiority into 2025.

During 1997, some encouraging signs of Health System Abilities integration have emerged. As previously mentioned, the MHSS initiative to monitor bio and nanotechnology developments represents an encouraging step in that direction.

In addition, two San Antonio, Texas MHSS Medical Centers, Brooke Army Medical Center and the Air Forces' Wilford Hall Medical Center, and one Academic Medical Center, University Hospital of San Antonio have integrated themselves into a coordinated trauma system for Bexar County and South Texas.<sup>57</sup> This significant development represented a win-win situation for both Health Systems. The MHSS Health Care Providers now receive critical trauma sustainment training and the Academic Health

System can better serve its beneficiaries. In order to sustain Health Superiority into 2025, this trend must continue.

However, just as with technology development, all Health Systems must never lose sight of their FOCs. Abilities integration *must always* contribute to satisfying the Health Systems' unique prioritized FOCs. If they fail to do this, Health Care Providers will not possess the necessary skills to deliver the services unique to their Health System. MHSS *must never* forget this extremely critical point as it considers outsourcing its Graduate Medical Education.

***Enabling Execution of the National Security Strategy (NSS):***

While impossible to predict the NSS for 2025, the U.S. will probably stay actively involved in shaping the geostrategic environment.

As previously mentioned, National Health Policy must be coordinated with National Security Strategy. As national interests, boundaries and sovereignties decline in significance, all World 1 Health Systems will need to consider Abilities integration amongst themselves.

In addition, to enhance World 1 diplomatic, economic, military and information power, World 1 must seriously consider sharing selected Health Abilities with Worlds 2 and 3 as part of inter-world conflict prevention. This particularly holds true for public health technologies with regard to fresh water development and deadly disease agent eradication.

In 2025, inter-world conflict prevention will pose the traditional health challenges to World 1 of deploying a healthy and fit force as well as management of DNBI's and WIAs. However, "Forces" will no longer mean just military. Substantial amounts of World 1 civilian forces such as other World 1 government agencies, contractors and non-government organizations will make up the overall "Force". For the non-Federal U.S. Health Systems this means a serious commitment of Health Resources to ensuring that the non-military force deploys in optimum health.

#### **Sustaining Health Superiority in the 21st Century**

Sustaining Health Superiority becomes critical to sustaining and defending U.S. Quality of Life. Will the U.S. meet this challenge? It certainly can if it develops the **Political Will** to do so.

To begin this process, the President should direct the formation of a Health Integrated Policy Team (IPT) chaired by the Surgeon General of the U.S. Public Health Service.<sup>58</sup> The IPT would involve academic institutions, private health industry and key government agencies. It would develop a National Health Policy to accomplish the following:

a) Prioritize Medicare and Medicaid services in order to determine the most robust level of health needed to preserve national Quality of Life.

b) Develop a unified system to assess technology.

c) Develop a unified system which integrates the training of all U.S. Health Care Providers.

d) Enable implementation of a clearly defined National Security Strategy.

The Health IPT would meet on yearly basis to insure the above four tenets stay relevant.

The concepts presented in this SRP provide an ends, ways and means that the IPT may choose to follow. In addition, the IPT should carefully consider adopting the initiatives presented and seek the expertise of its authors.

Even though the U.S., its friends and allies do not precisely know the extent and nature of geostrategic challenges in 2025, they must develop the **Political Will** in 1998 to make critical decisions and choices entailing significant investments of Health Resources.

It is important to begin this process now. The President should accord the highest priority to sustaining Health Superiority. The U.S. has perhaps 12 years to develop this strategy. If the U.S. refuses to develop a strategy to sustain Health Superiority, it will be fundamentally unprepared for the 21st century and put at risk the Quality of Life of future generations of Americans. It still has the time and opportunity to begin this process. But it cannot equivocate. It must begin now.

Word count: 5,130



## ENDNOTES

<sup>1</sup> Joseph F. Coates, John B. Mahaffe, Andy Hines; 2025, Scenarios of US Global Society Reshaped by Science and Technology; (Oakhill Press; Greensboro, NC; Feb. 1997); pg. 1-2

<sup>2</sup> Metz; 16-18

<sup>3</sup> Military Health Services System, Draft of the MHSS 2020 Working Group; (Version 1.0; 1997); pg. 2-2. The 1997 Military Health Services System (MHSS) 2020 Working Group generally agrees with this assessment. While not specifically mentioning the 3 "Worlds"

<sup>4</sup> Metz; 21-23

<sup>5</sup> G. Pascal Zachary; "Water Pressure: Nations Scramble to Defuse Fights Over Supplies"; The Wall Street Journal; 4 Dec. 1997; pg. A17

<sup>6</sup> Metz; 17

<sup>7</sup> John Katz; "The Digital Citizen"; Wired; December, 1997; 68-76. Mr. Katz quotes a Wired/Merrill Lynch Forum Digital Citizen Survey which states that "Connected" and "Super Connected" U.S. citizens represent an increasing growing slice of the U.S. population. These individuals have access to at least 3 of the 4 communications technologies (lap top, cell phone, beeper, or home computer) and have strong concerns about the direction of U.S. institutions. 21<sup>st</sup> century U.S. politicians must regard this group as a potent political force.

<sup>8</sup> Coates; 405. Much like the Katz article cited above, these authors also believe that Connected World 1 citizens will also want to become proactive in health decisionmaking.

<sup>9</sup> William J. Clinton; WHITE PAPER, The Clinton Administration's Policy on Managing complex Contingency Operations: Presidential Decision Directive-56; (Washington DC; The White House; May 1997); pg. 1. PDD 56 combines Humanitarian and Peace Operations into one unifying term: Complex Contingency Operations.

<sup>10</sup> Metz; 19

<sup>11</sup> Peter G. Peterson; "Will America Grow Up Before it Grows Old?"; The Atlantic Monthly; May, 1996; 56-57

<sup>12</sup> TRADOC's "Army After Next- 1997 Summer Wargame" had exactly such a scenario involving a South East Asian nation in the year 2018. The events in that nation threatened to disrupt world stability.

<sup>13</sup> Weapons of Mass Destruction commonly mean nuclear, biological, and chemical weapons. These weapons will most likely still be present in 2025, although biological weapons will probably become more sophisticated.

<sup>14</sup> Metz; 17,20

<sup>15</sup> Coates; 2

<sup>16</sup> Jim Rohwer, Asia Rising; (KHL Printing Co. Pte. Ltd; Singapore; 1995); pg. 11-24. Mr. Rohwer's book provides an insightful analysis of the south east and south central Asian nations and how this region will present quality of life enhancement opportunities for the U.S. in the 21st century. Mr. Rohwer states, however, that this will only occur if the U.S. remains decisively engaged with all its elements of power.

<sup>17</sup> Coates; 424

<sup>18</sup> Metz; 21,25

<sup>19</sup> Coates; 423

<sup>20</sup> William Fox COL, MC; "Phantom Warriors: Disease as a Threat to US National Security"; Parameters; (Winter 1997-98): 121,122. Dr. Fox eloquently describes how the deadly infectious diseases currently existing in 1997 Sub-Saharan Africa poses a direct threat to US national security. This SRP's author has little reason to doubt the potential for Sub-Saharan Africa to harbor these deadly organisms will continue.

<sup>21</sup> Metz; 19-23

<sup>22</sup> William A. Odeen; Transforming Defense, National Security in the 21st Century, Report of the National Defense Panel; Posture Statement presented to the Secretary of Defense; (Washington DC, National Defense Panel, Dec. 1997); pg. ii. As a rebuttal to the Quadrennial Defense Review, the NDP calls for a significant transformation of the U.S. security posture. It states that the U.S. cannot meet 21st century security challenges if it remains fixated on its simultaneous 2 Major Theater War concept.

<sup>23</sup> This relationship purely represents the author's own experiences as a physician with 17 years of medical practice. The majority of medical professionals that the author has spoken with over the years agree with the relationship of these variables.

<sup>24</sup> The federal health system largely consists of the Military Health Service System (MHSS), Health and Human Services (HHS), Veteran's Administration (VA) and The Public Health Service (PHS).

<sup>25</sup> Private health systems encompass mostly managed care corporations and insurance plans. Pharmaceutical firms also make up part of the private health system, but do not have any role in the Health Care Provider-Beneficiary relationship.

<sup>26</sup> As the Tricare initiative currently stands, MHSS has decreased its beneficiaries by shifting its over 65 population group to the Medicare program.

<sup>27</sup> Peterson; 58

<sup>28</sup> Laurie McGinley; "Primer on Questions about Clinton Medicare Plan"; The Wall Street Journal; 8 January 1998; A10

<sup>29</sup> Coates; 83

<sup>30</sup> **Violent, Uncertain, Complex, Ambiguous**

<sup>31</sup> The Army Training and Doctrine Command; Knowledge and Speed; The Annual Report on The Army After Next Project to the Chief of Staff of the Army; (Ft Monroe, Va.; Training and Doctrine Command; July, 1997); pg. 5-6. This report provides an excellent framework from which to intelligently guide change needed for 2025. It has many applications for Health Systems.

<sup>32</sup> "Telemedicine" is defined here as the system comprised of a television camera situated at the forward edge of the battlefield (FEBA) transmitting high resolution images of a casualty to a specialty health care provider situated either in the rear or back in the U.S. The specialty health care provider will then give guidance to the first responder at the FEBA on how to manage that casualty.

<sup>33</sup> The Army Training and Doctrine Command; Military Operations, FUTURE OPERATIONAL CAPABILITY; TRADOC Pamphlet 525-66; (Ft Monroe, Va.; Training and Doctrine Command; 1 December 1996); pg. 33-34, 52-57

<sup>34</sup> The Army Training and Doctrine Command; Knowledge and Speed... pg. 7-8

<sup>35</sup> The White House; A National Security Strategy for a New Century; (report prepared by The White House); May, 1997. This National Security Strategy presents an amalgam of 3 different national security strategies- selective engagement, primacy and cooperative security. It presents a plethora of national interests for which it does not prioritize. This ambiguous strategy makes it extremely difficult for planners and developers to produce a focused product.

<sup>36</sup> Oregon Health Services Commission; Prioritization of Health Services, A Report to the Governor and Legislature; (Salem Oregon, Oregon Health Services Commission); 1991; pg. xviii

<sup>37</sup> Ibid; xix

<sup>38</sup> Ibid; xiii

<sup>39</sup> This represents the author's own experience in Kuwait during Operation Vigilant Sentinel (Aug. 95- Aug. 96) as well as the author's interviews in May 1997 with the senior leadership of the 30th Medical Brigade and United States Army Europe Surgeon's Office during Operation Joint Endeavor (Dec. 95- Dec. 96).

<sup>40</sup> The author recently visited New York University Medical Center where they demonstrated their research in fish genetics as an initial step to mapping out the human genome.

<sup>41</sup> (No author given); "MHSS2020: Biotech Advances Herald Future"; U.S. Medicine; Oct. 1997; pg. 4-5.

<sup>42</sup> Deputy Assistant Secretary of Defense (Health Affairs) for Policy and Planning Coordination, MHSS 2020, Focused Study on Biotechnology and Nanotechnology, report prepared by SRA International Inc., 29 July 1997, pg. 2-31

<sup>43</sup> (No author given); MHSS2020; pg. 4

<sup>44</sup> Charles J. Dunlap; "21st Century Warfare: Four Dangerous Myths"; Parameters; (Autumn 1997): 27-30. COL Dunlap describes the types of adversaries World 1 may face in the 21st century.

<sup>45</sup> Jeffrey L. Susman MD; Lynn D. Helseth; "Reducing the Complications of Type II Diabetes: A Patient-Centered Approach"; American Family Physician; (August 1997): 471.

<sup>46</sup> (No author given); MHSS2020; 5.

<sup>47</sup> Fox; 126. COL Fox describes the current disease threats in Sub-Saharan Africa such as the HIV and Ebola viruses and drug resistant strains of tuberculosis and malaria as "Phantom Warriors" and only being a "plane ride away" from major metropolitan areas of the developed world.

<sup>48</sup> Deputy Assistant Secretary of Defense (Health Affairs) for Policy and Planning Coordination; 2-36

<sup>49</sup> In 1997, the AMEDDC&S began developing a concept for several categories of Army medical "Specialty Response Teams" (SRT) which would within 18 hours respond to any requested assistance during a humanitarian crisis either domestically or internationally. Close training with civilian organizations and First Responders is key to SRT success.

<sup>50</sup> The Army's Infantry Center and School and AMEDDC&S have begun development of a Warfighter Physiologic Status Monitor (WPSM) to accomplish this capability.

<sup>51</sup> LTC Ralph Peters; "The Future of Armored Warfare"; Parameters; (Autumn 1997): 58

<sup>52</sup> These working groups contained a tremendously heterogeneous mix of participants that had to deal with broad and complex problems. The Medical Readiness Division of the J-4 determined that the Delphi method would be the best way to arrive at recommendations. A software program named "Groupware" became indispensable as a tool for executing the Delphi method.

<sup>53</sup> The J-4 Medical Readiness Division, Joint Staff published a series of Seminar Reports from Jan through July 1997 entitled First Responder, Forward Resuscitative Surgery, Theater Hospitalization, Enroute Care and Casualty Prevention. These Seminar Reports gave extensive recommendations on how to attain the necessary Health Care Provider core competencies needed for 2010.

<sup>54</sup> LTC Douglas A. Macgregor; Breaking the Phalanx, A New Design for Landpower in the 21st Century; (Praeger; Westport, Connecticut; 1997); 68. COL Macgregor states that maneuver unit emphasis must turn from Divisions to Brigade Combat Teams in order for 21st century Landpower to become more potent and efficient.

<sup>55</sup> David S. Alberts and Thomas J. Czerwinski, eds.; Complexity, Global Politics, and National Security; (Washington DC: National Defense University, 1997); 240. This book describes how command

and control must become an adaptive process in order to deal with ever increasing chaotic environments in the 21st century.

<sup>56</sup> Developing training technologies such as Virtual Reality Environment (VRE) training hold tremendous promise as a military/civilian training aid to shorten this cycle. Utilizing telemedicine in the midst of this cycle only serves to lengthen it and adds no value.

<sup>57</sup> Neila Schrum; "BAMC certified as Army's first Level One Trauma Center"; Fort Sam Houston News Leader; 18 Dec. 1997; pg. 1.

<sup>58</sup> As the President's key advisor on health affairs, The Surgeon General of the Public Health Service is the federal health official with easiest access to the President. He or she would be the best person to chair the IPT.



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