Strictly Speaking

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The President's FY2002 Budget Proposal for VA
Statement of the Honorable Anthony J. Principi
Secretary of Veterans Affairs
for Presentation Before the
House Committee on Veterans' Affairs
March 6, 2001

Mr. Chairman, and members of the Committee, good afternoon. Thank you for inviting me here today to discuss the President's FY 2002 budget proposal for the Department of Veterans Affairs. I am honored to present my first congressional statement as Secretary before this distinguished Committee.

As you know, the President released his budget blueprint last week. Additional information regarding specific funding levels for each of our programs will be provided early next month. I look forward to addressing the details of our request at that time. Until then, I am pleased to discuss the overall budget request for VA and my priorities for the next fiscal year.

We are requesting more than $51 billion for veterans' benefits and services: $28.1 billion for entitlement programs and $23.4 billion for discretionary programs, such as medical care, burial services, and the administration of veterans' benefits. Our budget increases VA's discretionary funding by $1 billion or 4.5 percent over the FY 2001 level. With an increase in medical care collections of approximately $200 million, this brings the total increase to $1.2 billion or 5.3 percent.

The budget ensures veterans will receive high-quality health care, that we will keep our commitment to maintain veterans' cemeteries as national shrines, and that we will have the resources to tackle the challenge of providing veterans more timely and accurate benefits claims determinations.

The President promised a top-to-bottom review of our benefits claims processing. He has designated this area as a key budget initiative and I have made it one of my top priorities. I know you share this Administration's commitment to restore the confidence of many veterans who have lost faith in VA's ability to fairly and promptly decide their benefits claims.

Mr. Chairman, as we all know, VA is not completing work on benefits claims in as timely a manner as our veterans deserve. I am proud to say this budget will rejuvenate VA's efforts to process compensation claims promptly and accurately.

This request fully implements new legislation that strengthens VA's "duty to assist" role in helping veterans prepare their claims. It also will enable us to carry out the new policy of adding diabetes to a list of presumptive conditions associated with exposure to herbicides. The 2002 budget provides additional staffing for these efforts. Additional resources will be coupled with a proactive approach to solving problems.
I plan to establish a task force that will address claims processing and develop hands-on, practical solutions. Our future approach to benefits delivery will incorporate a paperless technology. The Veterans Benefits Administration plans to consolidate its aging data centers into VA's core data center in Austin, Texas. This is an important step in realizing our vision for the future.

For veterans' health care, the budget request reaffirms our primary commitment to provide high-quality medical care to veterans with service-connected disabilities or low incomes. VA provides comprehensive specialty care that other health care providers do not offer, such as services related to spinal cord injury, Post Traumatic Stress Disorder, prosthetics and addiction programs. I am proud of our unique accomplishments and will insist on full funding to continue our leadership role in these areas.

We recognize the need to improve access to health care for eligible veterans. The budget supports the President's new health care task force, which will make recommendations for improvements. The task force will be comprised of representatives from VA and the Department of Defense (DoD), service organizations and the health care industry.

The budget request also ensures that our National Cemeteries will be maintained as shrines, dedicated to preserving our Nation's history, nurturing patriotism, and honoring the service and sacrifice of our veterans. Funding will be used to renovate gravesites and to clean, raise and realign headstones and markers.

Mr. Chairman, our 2002 budget is not simply a petition for additional funding. It also reflects opportunities for cost savings and reform. VA will do its part to ensure the most efficient use of limited resources, while maintaining the highest standards of care and service delivery.

The National Defense Authorization Act for Fiscal Year 2001 established a new DoD benefit for military retirees over age 64 who have Medicare coverage. These retirees will be able to use their own private doctors for free care and receive a generous drug benefit. Currently, 240 thousand of these retirees are enrolled in VA's health care system. Our budget assumes that 27 percent of them will switch to the DoD benefit in 2002, which shifts $235 million in VA medical liabilities to DoD.

This recent legislative change underscores a critical need for better coordination between VA and DoD. The Administration will seek legislation to ensure DoD beneficiaries who are eligible for VA medical care enroll with only one of these agencies as their health care provider. We will work with DoD to avoid duplication of services and enhance the quality and continuity of care.

Restructuring efforts in our health care system will continue in 2002. VA has begun an infrastructure reform initiative that will enhance our ability to provide health care to eligible veterans living in underserved geographic areas. Savings from this effort will allow us to redirect funds from the maintenance of underused facilities to patient care. As we await the results of this assessment – referred to as "CARES" – we will continue to expand sharing agreements and contracting authorities with other health care providers.

The budget also includes legislation for several proposals that will yield mandatory savings totaling $2.5 billion over the next ten years. Most of these proposals will extend previously enacted mandatory savings authorities that would otherwise expire over the next several years.

Finally, we will continue to reform our information technology. New technology offers VA opportunities for innovation. It also offers a means to break down the bureaucratic barriers that impede service delivery to veterans, divide VA from other Federal government departments, and create inefficiencies within VA itself.

I have gone on record as stating that I will not initiate any new technology-related activities until an integrated strategy for addressing our information systems and telecommunications is developed. We will continue to improve coordination among our three administrations to implement a technology plan that serves veterans first. Reforms will include developing a common architecture, establishing common data definitions, and coordinating systems across VA.

Mr. Chairman, that concludes a general overview of VA's 2002 budget request. I thank you and the members of this Committee for your dedication to our Nation's veterans. I look forward to working with you. My staff and I would be pleased to answer any questions.

Remarks by the Honorable Anthony J. Principi
Secretary of Veterans Affairs
American College of Healthcare Executives Conference
Chicago, Il
March 29, 2001

Good morning, everyone. Thank you, Tom (Dr. Garthwaite), for that kind introduction. And thank you all for that warm reception.

It was over eight years ago that I set aside the duties of Acting Secretary and left VA Central Office. At that time, I turned over to my successor the responsibility for wrestling with health care issues such as: access to care, budget and the allocation of resources, both on a geographic basis and between VHA's many programs, updating VA's legacy infrastructure to meet the needs of the future, collection of third party payments, our relationship with our academic affiliates and our relationship with fellow Federal healthcare providers such as the Department of Defense.

It is sometimes said, "The more things change, the more they stay the same." That describes well what I see in VHA as I once again take the helm of the Department of Veterans Affairs.

I am pleased that some things remain unchanged. VA's people are among the best in government. I would not have accepted stewardship over the Department, or responsibility for fulfilling the President's commitment to veterans, if I had not been confident of the ability and commitment of the more than 180,000 employees who bring VHA to life.

And I am pleased by some of the things that have changed.

Dr. Martin Luther King once said: "As we think of the coming new world we must think of the challenges that we confront and the new responsibilities that stand before us. We must prepare to live in a new world." VHA will certainly confront great challenges if we are to meet the new responsibilities inherent in the new healthcare world of the twenty-first century. We must certainly prepare ourselves to live in that new world.

The changes of the last eight years are a part of that preparation. I am pleased by much of what I have learned about them.

When I left Washington in 1993, it would not have been too unfair to say that VA healthcare was defined by VA's buildings. We operated the hospital-centered health care system we had inherited. And the Congress had given us eligibility criteria favoring inpatient hospital care — rules allowing the availability of beds to serve as a gatekeeper for access. A critic could have said that VA was "putting buildings first".

We've come a long way since then. Congress reformed eligibility criteria and VHA, under the dynamic leadership of Doctors Kizer and Garthwaite, severed the equation of healthcare with hospital care. They positioned VHA to embark on a journey towards patient-centered healthcare.

I am also pleased when I see the changes VHA has made to systematically monitor and improve the quality of care and to ensure patient safety.

"The more things change, the more they remain the same".

Even in the face of these dramatic changes, the fundamental issues facing VHA remain pretty much the same:

- How will we ensure that the healthcare we provide our veterans is quality healthcare?

- How will we provide for better access to our care, not just in terms of geography, but also in terms of ensuring access to our specialized services while maximizing access for the highest possible number of veterans.

- How can we maximize the resources available to us and how will we allocate those resources both in terms of geography and in terms of programs?

- How will we shape our infrastructure to meet the demands of twenty-first century care?

- How will we ensure that our relationship with our partners in the affiliated medical schools is mutually beneficial while at the same time ensuring that VA's limited resources are focused on our primary mission: quality healthcare for veterans.

- How will we shape our organization to ensure that we make the best use of our limited resources, striking an optimum balance between the advantages of centralized governance and local management while providing accurate measurement of our outcomes?

- How do we best coordinate the care <u>we</u> provide with the care provided by <u>other</u> programs in those cases where our patients are eligible for services from different programs; for example through the Defense Department or through Medicare?

Our answers to these questions will determine VA's future. Our answers to these questions will shape our ability to realize my vision for the veterans' healthcare system. A system providing access to high-quality care on the basis of our patients' status rather than their geography. A system generating cutting edge medical research and supporting high-quality medical education.

As I try and put answers to these questions into a coherent matrix, I am reminded of something that John Muir once said: "You can not do just one thing, because when you touch any one thing in the universe, you find that it is connected to everything else." All of the questions I just raised must be answered.

But the answer to any one of these questions will affect the answers to each of the others.

We can't answer questions about access without having answers about infrastructure. We can't answer questions of infrastructure without knowing the balance between specialized services and other forms of care. We can't answer these questions until we know how we will allocate resources. We can't answer these questions until we know what resources are available.

In order to answer these questions in a coherent whole, we must establish an immutable guide star.

We can then address the rest of the questions we face from the base we have established and the course we have set. Oliver Wendell Holmes once wrote: "I find the great thing in this world is not so much where we stand, as in what direction we are moving. To reach the port of heaven, we must sail sometimes with the wind, and sometimes against it — but we must sail, and not drift, nor lie at anchor."

I suggest that our guide star ought to be VA's core mission of quality healthcare for veterans who come to us because they don't have other good options for care or because they need the specialized services we provide so well and that are not easily obtainable by all Americans. If we set our course by that guide star it will not matter which way the winds are blowing because we will be sailing a course that will lead us towards Holmes' port of heaven.

I believe that the other decisions VA must face will fall into place once our priorities are ranked against the need to provide care for service-connected veterans, veterans who are poor and veterans who need VA's specialized services. Every other decision should be measured against that standard.

Setting our course by that guide star does not mean that we must turn away from veterans who do not fall within the parameters of our core mission. On the contrary, VA cannot succeed solely as a provider of specialized services, or as a caregiver only for the poor and service-connected.

We must never lose sight of the fact that while there are priority seven veterans, there are no "low priority" veterans. A veteran whose income and service-connection may lead to a priority seven ranking may well be a veteran who scaled the cliffs of Normandy, but who by the grace of God was fortunate enough to emerge unscathed, and whose service ensured that our children would live in a free country rather than a Nazi dictatorship.

A veteran ranked as priority seven may have served during what we term "peacetime", but his or her diligent "peacetime" service helped ensure that the Cold War never turned hot, and advanced the day when the entire world no longer lived only an instant away from thermonuclear annihilation.

Our commitment to specialized services and high-priority veterans will have little meaning if that commitment is not backed by a comprehensive healthcare system providing the full spectrum of healthcare services. We need apologize to no one if we sustain our comprehensive healthcare system by treating the men and women whose service preserved and protected the nation that we now call upon to fund their care.

We are, and must remain, a full spectrum healthcare provider. We must enroll and treat enough patients to support our comprehensive medical care system so as to ensure that we can continue to provide a complete spectrum of services. If we do not do that, we risk erosion of our specialized services.

At the same time, however, we must be mindful of the need to ensure that our pursuit of volume does not come at the expense of the specialized services that make VA unique.

I acknowledge that the tension between the differing aspects of our multiple missions could mean that we will face some hard decisions. It may be difficult to expand the number of Community Based Outpatient Clinics, and the priority seven veterans that come with improved access, if we can not also assure ourselves that we will be able to continue meeting the needs of homeless veterans or veterans with serious mental illnesses. We have to ensure that we are just as concerned about reducing waiting times for substance abuse treatment as we are about waiting times for primary care. We will have to ensure that we update our spinal cord injury treatment centers as well as updating our high-tech operating suites.

For a more specific example of this tension: I will soon face a decision on a policy for continuing enrollment of priority 7 veterans. When I consider that decision,
I will first ask the effect of continuing enrollment on our services for service-connected and lower income veterans and on our services for veterans seeking specialized care.

If priority 7 veterans pay their own way the decision should be easy. If they do not, then I must ask about the effect of the decision on quality, a criterion including waiting times, as well as on access for veterans served by our core mission.

You, of course, can influence that decision. You can increase the effectiveness of our collections of third party and veteran co-payments. You can increase the cost-effectiveness of care provided by your facilities, so that our limited resources can cover more veterans.

We have a lot of work to do. Some of that work belongs to me. I have the authority to adjust the amount of co-payments to a more realistic level and I intend to grasp that nettle. The variation in collections suggests to me that MCCF collections are not a high priority for some of our management team.

I am disappointed that we haven't made more progress in generating revenue through Medical Care Cost Recovery. I recognize that we are unable to bill Medicare and Medicaid and must focus on private insurance companies. But I believe that we need to do better.

There are other actions I can take that will influence the priority seven enrollment decision.

Resources are a critical variable in every decision we make. I can be, I have been, and I will continue to be, an advocate for the resources we need. I will fight for every penny I can get.

I believe I can claim partial credit for the fact that the percentage increase in VA healthcare spending proposed by the President exceeds VA's average increase over the past eight years by 20 percent. The proposed Budget Resolution approved by the House Budget Committee would increase that amount by another $700 million. Of course, there is still a long way to go before the President signs an appropriations bill.

No matter what the outcome, we must ensure that we make the best possible use of the resources entrusted to us. In that context, I must point out that to get the increase in the President's budget, I had to promise OMB that we would become more efficient in the future.

For example, the budget assumes that we will increase MCCF collections by $200 million. The ball is now in our court to provide care more cost-effectively.

The CARES initiative is another way to achieve that goal. While any discussion involving our facilities is fraught with political landmines, we can no longer postpone the need to bring our infrastructure into the twenty-first century. There is no question that we can improve the quality of care we provide our veterans if we can shape our infrastructure to the needs of twenty-first century medicine. CARES has the potential to be a major enabler of needed improvements as well as a means to more cost-effective healthcare.

That is why all of us, in Washington and in the field, must be aware of, and avoid the pitfalls inherent in the CARES process. I was with the Senate Armed Services Committee when the BRACs were in process. Believe me when I say that there will be a strong temptation for some to equate CARES with BRACs. I do not believe the equation is a valid one, since the two processes have entirely different purposes.
But the burden will be on us to ensure that our veterans, our veterans' organizations, our employees, our affiliated medical schools, and our communities understand the differences.

And we have a responsibility to remain mindful of the impact of this process on the veterans we serve, on our employees, and the communities where they live.
I vividly recall traveling with the Chairman of the Senate Armed Services Committee to sites undergoing the BRAC process. We would go into auditoriums filled with grief-stricken people, many of whom had shaped their lives around the facilities that were now on the chopping block. When we talk about our facilities we are also talking about human lives — the lives of our veterans, the lives of our employees, the lives of our partners in affiliated medical schools, and the lives of the communities within which we live. We cannot arbitrarily or casually dismiss their concerns.

We will all have a critical role to play in ensuring the integrity and validity of the data and models upon which the CARES initiative will depend, so that our necessary transformation cannot be shot down by attacks on our methodology. I am deeply concerned that CARES be properly conducted and that our veterans, VSOs and other stakeholders be kept informed as we move forward. The future of our system may well depend upon our success.

I can also assist you by paving the way in Washington for better coordination between VA and other Federal health care providers such as Medicare and the Department of Defense. I intend to work closely with Secretaries Rumsfeld and Thompson to better coordinate the care we provide to our common beneficiaries.

We can also improve our cost effectiveness by better integrating our facilities and by ensuring that we obtain the benefits of joint purchasing of pharmaceuticals and medical-surgical supplies.

Many of these proposals were discussed in the Report of the Congressional Commission on Servicemembers and Veterans Transition Assistance, which I chaired. I will continue to pursue those ideas as your Secretary.

Every dollar we lose because of unnecessary redundancy is a dollar left on the table that we cannot afford to lose. Every dollar we lose because we are ineffective at Medical Care Cost Recovery is a dollar we leave on the table and a dollar we cannot afford to lose. Every dollar we leave on the table because of management inefficiencies is a dollar we cannot afford to lose.

The VISN management structure has significant advantages. It places responsibility and accountability for day-to-day management of our vast and complex healthcare system close to the providers and users of care. We could not possibly manage this system from Washington.

Dr. Garthwaite recently shared with me an article called Balancing Corporate Power: A new federalist paper, by Charles Handy. It appeared in the November-December 1992 issue of the Harvard Business Review. It suggests a model for managing large organizations, using a concept with which all Americans are familiar: Federalism. Federalism balances issues of power and control and reconciles often contradictory needs; the need to make things big by keeping them small; to encourage autonomy but within bounds; to combine variety and shared purpose, individuality and partnership, local and national priorities. "Power belongs to the lowest possible point in the organization," the writer correctly claims.

What does this mean for VA? It means that VISN and facility directors are in the best position to be day-to-day managers of the health care we provide. VISN directors are in the best position to allocate resources locally so as to ensure VA can provide necessary services while at the same time eliminating redundancies and inefficiencies.

However, VA differs from the Federal system established by the Founders. Unlike states, there is no pretense that VISNs or facilities are sovereign. Washington defines a uniform benefits package and you are responsible to Washington for ensuring you provide veterans with those benefits. You are also responsible for the stewardship over the resources entrusted to you.

Under VERA, VA has moved to the allocation of resources based on veterans rather than on buildings. Such a resource allocation methodology is necessary to realize my vision of access to VA care divorced from the location of the veteran. However, VERA is still a work in progress. If veterans are to realize the "equity" in "Veterans Equitable Resource Allocation" we have to ensure that the model accurately accounts for regional variations in the costs of providing medical services. We have to ensure that the model accurately reflects differences in energy costs, salary and cost-of living costs, and in the costs of contracts for specialized medical services in those areas where VA must contract for specialist services because it is impractical to hire VA employees to provide them.

VERA has been questioned both on the basis of resources allocated within the model and resources allocated outside the model. Our challenge is to answer those questions by perfecting the model. Otherwise, we risk tearing ourselves apart as regions seek to serve the interests of their veterans by maximizing their resources.

VERA challenges every VA leader to make the best use of the resources entrusted to him or her. That is the basic challenge to every leader in every organization. It is a challenge I support, and one that I expect every VHA leader to meet. Resources reallocated because of unnecessary expenses are resources unavailable to provide healthcare to veterans. That is a price I am unwilling to pay.

I have focused on what I define as VA's core mission, the care of service-connected or poor veterans and veterans seeking our specialized services. That does not mean that I do not value VA's other missions, including our mission of medical education and research.

I value our relationship with our affiliated medical schools. There is no question that VA and the veterans we serve have reaped enormous benefit from that partnership. I want our mutually beneficial partnership to continue in a way that enhances our ability to provide quality healthcare to veterans.

I have been asked if I support the concept of "One VA." The response is that of course I do. But what is important is not our slogans, it is our actions. I am sure you are all aware that I have placed great emphasis on improving the time it takes VA to process veterans' disability claims. If nothing is done, VA will soon have a backlog of 600,000 pending claims. And the average time it takes to process a claim will soon reach nine months.

Joe Thompson, our Under Secretary for Benefits, is on notice that something must be done. But he is not the only one who should be losing sleep about this.

Claims processing is a VA problem, not just a VBA problem. VA cannot decide a disability claim without current medical evidence. That evidence usually comes from VHA. I challenge each of you to accept responsibility for your portion of the claims decision process and to ensure that physical examinations are complete, high quality, responsive, and quickly returned to VA's disability decision makers.

If we all work together as a team, in Washington and in the field, in each of VA's components, with our partners in and out of government, then each one segment of the mosaic of VA's issues that we touch will contribute to the resolution of all of them.

In his first inaugural address, President Ronald Reagan told the story of Martin Treptow, a member of the famed Rainbow Division who died in World War I. On his body was found a diary. On the diary's flyleaf — under a heading called "My Pledge" — were these words: "America must win this war. Therefore, I will work, I will save,
I will sacrifice, I will endure. I will fight cheerfully and do my utmost, as if the issue of the whole struggle depended on me alone."

You and I have been entrusted with a great responsibility: to care for those who have offered their lives, their fortunes, and their sacred honor in defense of our freedom. Whether we succeed or fail depends not on me alone — but on each one of you and the men and women who work for you. I know that you and your families have made many personal sacrifices, in terms of time and money, in order to accomplish the mission you have been given. I know that I am asking a great deal of you. But I also know that you will continue to work hard, and continue to sacrifice, and continue to endure.

I know that you, like Martin Treptow, will do your utmost. And I know that together, we will succeed. Together, we will provide America's veterans with the world-class care they have earned. Together, we will set new standards for providing quality health care in our nation.

Thank you for everything you have done, are doing, and will do for those who have served.

God bless you, and God bless America!

A Vision for VA Health Care
Statement by Thomas L. Garthwaite, M.D.

VA Under Secretary For Health
Before the Subcommittee on Health
Committee on Veterans' Affairs
U.S. House of Representatives
April 3, 2001

Mr. Chairman and members of the Subcommittee, I am pleased to be here today to discuss the progress, challenges, and future direction of health care in the Department of Veterans Affairs (VA).

Since 1995, we have dramatically transformed the VA health care system. We have moved from an inpatient model of care characterized by limited facilities often far from patients' homes to an outpatient model with more than 350 additional sites of care.

While we still provide comprehensive specialty care, we now also emphasize the coordination of care through the universal assignment of primary care providers and teams. We emphasize disease prevention and early intervention, allowing veterans to avoid illnesses and complications and allowing us to avoid the added costs of their treatment.

As a result of these strategies, VA today is able to provide higher quality care to more that 500,000 additional veterans with 25,000 fewer employees than it did just six years ago. Moreover, since 1997, VHA has reduced the cost per patient by 24 percent.

The key goal that underlies VA's transformation and continues to drive our strategies for the future is a quest for health care value. We have defined value as quality divided by cost. While we do not yet have a perfect system to measure either quality or cost, we have made significant progress in measuring both. We have defined and developed measures across four domains of quality (technical quality, access, patient satisfaction, and functional status) and continue to improve our measurement of cost. The quality and cost measures are directly translated into our value framework and the "six for 2006" goals.

Before I detail our progress and current strategies toward the "six for 2006," I would like to comment on some of the overarching themes and strategies that pertain to most or all of the 2006 goals.

The following issues are important areas of concentration for us and will directly impact our success in achieving our key goals. They are workforce development, information technology, performance measurement, quality and capacity in our special emphasis programs, enhancement of our academic missions of teaching and research, the Veterans Health Initiative, rationalization and modernization of our facilities (CARES), distribution of funding (VERA), and continuous self assessment using the Baldrige process.

Workforce development. VA's health care workforce is the key to achieving all of our goals. We must recruit, retain, and develop the best staff if we are to continue to improve.

Recently, we have noted shortages of nurses and pharmacists in some parts of the country and the projected shortages in these and other professions are alarming. Increasingly, we have difficulty matching private sector pay levels in such critical areas as physician specialists and computer experts. We also must continuously invest in the education of our workforce to allow them to keep pace with changing patient needs and rapid changes in health care technology. Last year, I established a taskforce to recommend a comprehensive set of actions to address these and other workforce issues. The recommendations of this taskforce are currently under review.

Information technology. Information technology is at the heart of most changes in VHA. We use technology to process clinical and administrative information, to automate previously manual processes, to deliver care across distances, to train staff, and to conduct research. Examples of the use of technology include the computerized patient record, a cost accounting and analysis system (DSS), consolidated mail out pharmacy (CMOP), simulated patient training in surgery and anesthesia, gamma-knife radiation therapy, advanced neuroimaging, bar-coding to aid in the accuracy of medication administration, tele-health, and many others.

Two key principles in the development of our computerized medical record are that it is owned by the veteran and that it must be compatible with emerging and established standards such that a veteran can take his/her electronic record to, or bring it from, any other health care service provider. If a veteran chooses VA to maintain the health record, we must preserve its integrity and security and use it only for the benefit of the veteran or society – and only with his/her permission. We call our initiative for a veteran-controlled health data repository and associated functionalities "HealtheVet."

Performance measurement. The performance measurement system used in VA has played a key role in the transformation of the system and will continue to be a key strategy in the continued evolution of the system. Each year, approximately twenty key measures are selected for emphasis and become the significant component of a performance contract between network directors or chief officers and the Under Secretary for Health. Some of the detailed results are presented below.

The power of the system is derived from the focus on defining the most important goals for the year, the development of measures to chart progress toward those goals, the open feedback about the progress (or lack of progress) toward those goals and the necessity that administrators must team with front line staff to make the outcomes for patients change.

Quality and capacity in special emphasis programs. Since 1996, we have moved from inpatient care to outpatient models in medicine, surgery, and mental health. The numbers of patients seen with serious mental illness, for homelessness, or suffering with PTSD have increased. The number of patients with substance abuse treated has decreased, especially between FY 1999 and FY 2000. We are working to understand the reasons for this drop and to assure access to substance abuse programs in our clinics as well as in our larger facilities.

To this end, I plan to establish a National Mental Health Improvement Program

(NMHIP). This program will be modeled after a number of well-established VA data-driven improvement programs, such as the Continuous Improvement in Cardiac Surgery Program (CICSP), the National Surgical Quality Improvement Program (NSQIP), the VA Diabetes Program, the Pharmacy Benefits Management Program (PBM), and the Spinal Cord Injury/Dysfunction National Program. This new program will use validated data collection, expert analysis, and active intervention by an oversight team to continuously improve the access, outcomes, and function of patients in need of our mental health programs.

These programs include those for patients who are Seriously Chronically Mentally Ill, or who suffer from Post Traumatic Stress Disorder, Substance Abuse, or Homelessness. This program will draw upon existing resources in our Health Services Research and Development Service (HSR&D) including existing initiatives in our Quality Enhancement Research Initiative (QUERI) and our Mental Health Strategic Health Care Group (MHSHG) including the Northeast Program Evaluation Center (NEPEC).

The number of patients treated for spinal cord injury and dysfunction, blind rehabilitation, and traumatic brain injury has increased over the 1996 baseline. Fortunately, the number of patients needing amputation has decreased due to our aggressive management of vascular disease and diabetes.

Academic missions. The academic missions of research and health professions education are part of our "six for 2006" goal to "build healthy communities." However, they are also a critical strategy to deliver high quality and efficient care. These missions allow us to attract the very best and brightest clinical staff and enable us to be early adopters of new advances in medical knowledge and practice. We must challenge our academic staff to turn their creative talent loose on the development of new care delivery models that can simultaneously address quality, convenience, research, and education. We will engage them in that quest.

Veterans Health Initiative. The Veterans Health Initiative was established in September 1999 to recognize the connection between certain health effects and military service, prepare health care providers to better serve veteran patients, and to provide a data base for further study.

The development for this initiative began with the Military Service History project, which involved a pocket card for medical residents. This card details the important components of a military service history, summarizes some of the health risks associated with various periods of service, addresses more generic health issues of concern to all veterans, and specifies Web sites containing references relevant to the issues.

The components of the initiative will be a provider education program leading to certification in veterans' health; a comprehensive military history that will be coded in a registry and be available for education, outcomes analysis, and research; a database for any veteran to register his military history and to automatically receive updated and relevant information on issues of concern to him/her (only as requested); and a Web site where any veteran or health care provider can access the latest scientific evidence on the health effects of military service.

Aligning capital assets to veterans' needs. CARES (Capital Asset Realignment for Enhanced Services) will affect every network in VHA. We have embarked on a significant new planning process with the goal of enhancing health care services to veterans by realigning capital assets.

The CARES process starts with the objective assessment of veterans' current and future health care needs within each network and proceeds with the identification of service delivery options to meet those needs and the strategic realignment of capital assets and related resources to better serve the needs of veterans. Through CARES, networks will develop plans for enhanced services that are based upon objective criteria and analysis, cost-effectiveness and may include capital asset restructuring.

These plans will take into account future directions in health care delivery, demographic projections, physical plant capacity, community health care capacity and workforce requirements. Network capital asset realignment proposals will be evaluated and ranked by VHA using a structured decision methodology. All savings generated through implementation of CARES will be reinvested in meeting veterans' health care needs.

Resource allocation. To date, no ideal system to allocate resources in health care has been devised. Fee for service plans lead to overuse of procedures and high costs while managed care plans are criticized for restriction of choice of provider and of access to specialty care.

VA uses a risk adjusted, capitated model called VERA (Veterans Equitable Resource Allocation) to allocate resources among VHA's 22 networks. Distribution within each network is based on a set of principles, but in the absence of an ideal system, we have not mandated a single method for all networks. Ideally, VERA would be simple, fair, and promote quality of care. We do not believe that any models have been able to drive quality, therefore, we keep the allocation system simple and work hard to measure the quality of care provided.

VERA has undergone extensive scrutiny since VHA implemented it in 1997. The effectiveness of VERA has been assessed by PricewaterhouseCoopers and by two GAO reviews. All three studies viewed VERA in positive terms. PricewaterhouseCoopers reported that VERA, which allocates resources based on objective measures of need, is ahead of other budget allocation systems, which typically depend on historical allocations with periodic adjustments.

We reviewed the recommendations from PricewaterhouseCoopers and GAO and implemented many of them. For FY 2001, the following VERA policy changes or refinements were approved for the network budget allocations:

- VERA Basic and Complex patient classes and criteria were developed for hepatitis C patients.
- The Complex Care projection methodology was adjusted to delete the veteran population factor in favor of historical utilization.
- Research support funds were passed through VERA directly to each VA medical center.
- VHA changed the workload factor for computing the labor index that weights Basic and Complex Care workload consistent with recent costs.

- The three-year phase-in of Non-Recurring Maintenance (NRM) based fully on patient care workload and the cost of construction was completed.

We are currently examining several additional areas of possible refinements to VERA for implementation in FY 2002 or later, but no conclusions have been made yet. These areas include patient classifications, priority 7 veterans and market share, the cost impact of treating patients above age 75, the existing geographic price adjustment formula to include contracted salary rates and energy expenditures, and the use of risk adjustment models to account for differences in age and disease burden in the population served. We remain committed to the evaluation of all reasonable explanations for variance in the model.

Baldrige and the future. VHA will apply for the President's Quality Award in the fall of 2001 and for the Malcolm Baldrige National Quality Award in May of 2002. We do not undertake these processes for the awards themselves, although we aim to win. Rather, we seek the experience, the outside feedback, and the development of skills in critical self-assessment.

We have been struck by the economic success of previous award winners and by their achievements in service quality. We believe that we can identify gaps in our systems and can improve the integration of all we do. The Baldrige criteria will provide a structured and integrated framework for many of the processes we perform today. In the end, sober self-assessment is a skill that should benefit any organization.

Within the last year we have updated VHA's strategic framework to reflect six organizational goals that closely match our six domains of health care value. I will now review our progress and plans for achieving these goals, which are known as the "six for 2006."

Put Quality First until First in Quality. A major force in the transformation of the VA health care system was the implementation of the Performance Measurement System. This system was initiated to meet challenges of improving health care quality, patient satisfaction, and economic efficiencies.

The foundation of the Performance Measurement System is broad, statistically reliable, ongoing measurement of performance objectives. As a result of this system, VHA is increasingly able to measure and report on quality. Moreover, the ability to measure allows us to identify areas for improvement.

VHA's quality is not merely good — in many areas it surpasses government targets and private sector performance. VHA's record regarding post-operative morbidity and mortality is as good as or better than that found in any published study of non-VA surgical programs. Our immunization rates for pneumococcal pneumonia and for influenza far exceed the goals established for the U.S. population. Our breast and cervical cancer screening rates are also well above the national average performance in these areas. VA patients receive life-saving aspirin and beta-blocker administration after heart attacks 96 percent of the time, whereas Medicare patients receive this therapy in only 68 percent of cases.

VHA recognized that the use of evidence-based, clinical practice guidelines would have an appreciable impact on patient care and initiated development of National Clinical Practice

Guidelines in 1995. Guidelines were established for many high volume, high risk diseases. A joint effort between VA and DoD has led to the development of more than a dozen clinical practice guidelines intended to assure quality and continuity of care.

VHA's strides in quality and its leadership in health care quality management were specifically cited at the recent Institute of Medicine briefing accompanying the publication of their report, "Crossing the Quality Chasm." To further our efforts in quality improvement, we will continue to use and update our extensive quality and performance measurement tools. For example, the expanded Prevention Index and the Chronic Disease Care Index, which now encompasses the clinical practice guidelines, were recently revised on the basis of the current medical literature and expert opinion.

In 1998, VA launched the Quality Enhancement Research Initiative (QUERI). The QUERI mission is to translate research discoveries and innovations into better patient care and systems improvements. It is founded on the principle that practice needs determine the research agenda, and research results determine interventions that improve the quality of patient care. The Institute of Medicine, in its report "Crossing the Quality Chasm," specifically noted QUERI as a model for translating the best research evidence into the best patient care.

VHA has also been recognized as a leader in efforts to prevent health care errors and improve patient safety. Improved patient safety requires reporting systems to identify and understand adverse events and close calls and the design and deployment of systems that reduce such vulnerabilities. VHA has introduced a mandatory reporting system for adverse events and close calls that is coupled with rigorous root cause analysis. This system has been operational for over a year and has resulted in a 900-fold increase in close calls reported. Close call analysis is the preferable way to learn of system vulnerabilities, because they can be identified without patient injury.

VA also believes that health care will discover additional vulnerabilities by instituting a separate, voluntary, and anonymous reporting system. To that end, VA formed an agreement with NASA to develop a Patient Safety Reporting System (PSRS) patterned after one that has been used successfully in aviation. The system's guiding principles are voluntary participation, confidentiality protection, and non-punitive reporting. It is designed to be a complementary external system to our current internal reporting system. VA's National Center for Patient Safety and NASA have been working on the design and development of this system. Pilot testing will begin this year with the entire system on line by the beginning of FY2002.

The discovery of system weaknesses must be followed by system redesign. Examples of system improvements include: national implementation of Bar Code Medication Administration (BCMA) that improves the accuracy of medication administration, extensive deployment of computerized order entry that eliminates handwriting and other common errors, the removal of bulk medications from nursing wards to minimize mixing errors, and working through an interactive fix of a design flaw in a temporary transvenous pacemaker with the manufacturer.

Provide Easy Access to Medical Knowledge, Expertise, and Care. Traditionally, access to care has addressed issues of travel times, waiting times, and insurance. This goal includes those issues as well as access to knowledge via the telephone or Internet and access to the knowledge of specialists where appropriate.

As VA has shifted from an inpatient-focused system to one that is outpatient-based, we have extended care to 350 additional sites, for a total of more than 1,300. Approximately, 100 additional community-based outpatient clinics have received congressional approval and are slated to be phased in over the next several months.

Telephone triage and advice programs have been implemented at all hospitals, and health education is available on the Internet. Last year, VA did more than 350,000 consultations via telemedicine (the patient or a diagnostic image and the provider were connected via voice and usually video). Telemedicine and home-care teleconsultation initiatives have also been implemented for spinal cord injury patients. In 1998 and 1999, the Vet Center program implemented the Vet Center-Linked Primary Care project. Telemedicine is used in 20 Vet Centers to promote access to primary care for high-risk, under-served veterans in locations closer to their respective communities.

Applying for VA health care has never been easier. We have eliminated almost three-fourths of the health care-related forms we once required. Veterans can now obtain applications for enrollment and medical care over the Internet. Veterans may send the forms electronically to the VA health care facilities they have selected or they can print out the completed forms and mail them.

Eligibility reform and community clinics have enhanced access, but in some areas demand has preceded recruitment resulting in extended waiting times for appointments. VHA is committed to providing timely care to the veterans enrolled in our health care system. We have recently developed a data system and performance expectations with regard to waiting times for primary care and specialist consultation. We believe that our performance goals for waiting times, commonly known as “30-30-20,” are industry leading and fully support patient expectations for timely access to care.

Our strategic goal is to provide 90 percent of new primary care and specialty care visits within 30 days, and see 90 percent of patients within 20 minutes of their scheduled appointment time. Of course, patients with emergencies or urgent needs are seen as quickly as is medically appropriate. VHA is now working with the Institute for Healthcare Improvement (IHI) on a major initiative that will focus on the rapid spread of the most successful actions underway within each VISN to achieve the “30-30-20” performance goals. VHA has already seen system-wide improvements in average clinic waiting times between the start in April 2000 to December 2000.

While the early progress on waiting times is encouraging, we have more to do in the broader field of access. We must eliminate barriers to care which result from such things as poverty, race, gender, geography, language, age, and bias. We will evolve strategies to provide care to vulnerable populations including the homeless, the mentally ill, the aged, and those infected by the Hepatitis C virus. We also have developed a body of knowledge about veterans’ health issues that we will make available to any veteran or any health care provider.

VHA has been faced with access issues in extended and long term care. VA has expanded programs targeted for the elderly, including Geriatric Evaluation and Management (GEM) Programs, home-based primary care initiatives, and pilot programs in long-term care and assisted living as authorized by the Veterans Millennium Health care and Benefits Act, Public Law 106-117.

Enhance, Preserve, and Restore Patient Function. The restoration of function (rehabilitation) is the cornerstone of VA's health care mission. VA has nationally recognized programs for the rehabilitation of veterans who are blind, suffering from brain dysfunction, afflicted with spinal cord injuries, or who are amputees.

Notable progress is being made in the development of outcome measures that evaluate functional improvements in each of these special programs. Amputation rates in VA are lower than age-matched private sector populations and continue to decrease. Activities are underway to further integrate all of VA's low vision and blind programs to improve the continuity of care. A recent report comparing VA spinal cord care with that in the U. S. private sector and in Sweden concluded that the totality of VA's benefits package is unmatched. VA provided far greater continuity and breadth of care than did the private sector. Life-long, integrated, and comprehensive care for spinal cord patients is provided in VA and Sweden, but not in other venues.

The Traumatic Brain Injury (TBI) Network of Care provides case-managed, comprehensive, specialized rehabilitation spanning the period from discharge from the acute surgical treatment unit until permanent living arrangements can be made. A significant number of these patients are referred to VA facilities from the military. Nine research centers of excellence conduct studies emphasizing wheelchair design and technology, brain rehabilitation, spinal cord injury and multiple sclerosis, early detection of hearing loss, orientation techniques for blind persons, and amputation prevention and joint replacement.

VA also provides comprehensive mental health services across a continuum of care, from intensive inpatient mental health units for acutely ill persons to residential care settings, outpatient clinics, Day Hospital, and Day Treatment programs. The number of veterans receiving mental health care in the VA health care system has steadily increased since 1996. VHA will continue to monitor care and work with networks to improve and maintain both the capacity and the quality of care for all veterans with serious mental illness.

Recent initiatives have been undertaken to increase mental health treatment in community-based outpatient clinics, increase use of assistive community treatment for the most seriously mentally ill veterans, and increased use of opiate substitution clinics in major urban centers. It is also worth noting that VA is the only federal agency that provides substantial hands-on assistance directly to homeless veterans and has the largest network of homeless assistance programs in the country.

The primary objective of all special programs is to provide the best possible care and achieve the maximum independence for patients by restoring lost function or decreasing the impact of their disabilities. We will continue to enhance our programs in rehabilitation, sharpening our focus on improved functional capacity for veterans who suffer from spinal cord injury, blindness, amputations, brain dysfunction, and mental illness.

To improve the integration of activities and to assure VA has adequate capacity to meet the specialized health care needs of veterans, VHA has created a position in headquarters to serve as the coordinator for special disability programs and has designated a clinical coordina-

tor in each VISN to work with individual facilities and headquarters offices to monitor capacity and maintain specialized services.

Exceed Patients' Expectations. VA created the National Customer Feedback Center (now the National Performance Data Feedback Center, or NPDFC) in 1993 to measure and improve patient satisfaction with care and to allow comparison with other health care systems.

Annual inpatient and outpatient patient satisfaction surveys based on the Picker instrument were developed using focus groups of patients and their families. Patient service standards were also developed, and specialty surveys, such as long-term care, have been added over the years. Beginning in FY 2001, VHA's new Performance Analysis Center for Excellence (PACE) will refine and expand the data feedback, satisfaction surveying, and other objectives accomplished by the NPDFC. PACE will use clinical literature and VA data to identify new clinically and operationally important performance improvement opportunities, aligning activities with the strategic objectives of VHA's "6 for 2006."

The overall customer satisfaction scores from VHA's inpatient and outpatient surveys have remained relatively flat for the last several years, with approximately 65 percent of patients rating VA's services as "very good" and "excellent." However, when we consider the significant structural and programmatic realignments the VA health care system has undergone in the last six years, it is gratifying that veterans continue to show a high level of satisfaction and confidence in VA health care. Nonetheless, we believe that a more focused approach will have a strong impact on improving our performance.

Therefore, in FY 2001 VHA will begin to focus on three key areas of patient satisfaction: patient education, visit coordination, and pharmacy services. These are areas in which our surveys indicate that we have the greatest opportunity and need for improvement. In addition, we will further focus the system on the patient by emphasizing the goal of ensuring that veterans participate fully in decisions affecting their health care and understand those decisions completely.

The American Customer Satisfaction Index (ACSI) provides an independent assessment to be used with VA's own data. This Index, a cross-industry/government measure of customer satisfaction released December 22, 2000 asked questions about veterans' overall satisfaction with their experiences in a recent visit to a VA medical center.

Overall, VA's customer satisfaction index was 78 on a 100-point scale, seven points above the customer satisfaction score of 71 given by the general public for all sectors of business, and eight points above the score for private hospitals. Customer service, perceived in terms of courtesy and professionalism, was the highest of VA's three measurement areas, an average score of 87. ACSI considers scores above 80 to be "high." On questions about patients' likely return to VA medical centers and willingness to say positive things about VA, VA scored an 88.

Maximize Resource Use to Benefit Veterans. Since 1997, VHA has reduced the cost of care per veteran treated by 24 percent. But while a reduction in costs is a significant accomplishment, it does not, by itself, assure that we are obtaining or providing the best health care

value for the dollars we spend. Therefore, we have developed a VALUE index that includes both cost and other domains of value such as quality, access, and satisfaction in order to express meaningful outcomes for VHA's resource investments.

Unlike a simple cost measure that can lead to false impressions of efficiency, the VALUE measure demonstrates a balanced perspective of cost efficiency along with desired outcomes. The measure portrays the desired outcomes that VHA purchases with its budgeted resources by establishing a value relationship of Quality-Access-Satisfaction to dollars (QAS/cost). The use of the QAS/Cost VALUE measure will establish an understandable value relationship of outcomes to dollars.

We must also expand our partnerships with federal, state, local, and private entities to minimize redundancy in programs and services and to leverage our buying power. Through multiple partnerships, VA will be in a position to manage its services in such a way as to enhance the quality and coordination of care provided to veterans.

Build Healthy Communities. Veterans can only reach their maximum health potential if they live in healthy communities and healthy environments. We will continue our work in detecting emerging pathogens, in the immunization of large populations, and in the understanding of the long-term effects of toxic agents on health.

Our research and educational roles will continue to benefit veterans and non-veterans alike. Our pioneering work in patient safety has the potential to improve health care for all. We will work with community partners to combat homelessness and to coordinate care for veterans. VA's influence on the nation's health goes well beyond its primary mission of providing care for veterans.

We will continue our efforts to integrate our research and educational roles with our rapidly changing care delivery system. VA's research program, the recipient of three Nobel Prizes and a plethora of other awards, concentrates on health care concerns that are prevalent among veterans. VA fosters multidisciplinary research, pilot studies, and research training for teams of investigators unraveling questions concerning such health issues as cancer, multiple sclerosis, Hepatitis C, kidney disease, depression, stroke, Alzheimer's disease, heart attack, lung disease, bone disease, Parkinson's disease, diabetes, gastrointestinal disorders, and wound healing.

VA's research program also pursues research at the interface of health care systems, patients, and health care outcomes. The priorities have expanded to include access to health care, managed care strategies, the effect of facility integrations, changes in clinical services organization with line management, and ethnic, cultural, and gender issues as they relate to health services use. Many VA research studies have been used within and outside VA to assess new technologies, explore strategies for improving health outcomes, and evaluate the cost-effectiveness of services and therapies.

VA's research program will continue its decidedly clinical focus as a unique national asset. To this end, VA Research intends to lead the nation in multi-site clinical trials, rehabilitation research and development, and health services research and development. The majority of research allocations will continue to be devoted to health services research and research with potential clinical applications. Lastly, VA's research program, through the high quality of

its research offerings, will attract and retain highly trained clinician researchers who will continue to enhance the VA's patient care mission.

VA's training mission is accomplished through academic affiliations with many of the nations' medical schools and other schools in health sciences, an important and unique characteristic of the VA health care system. VA remains the nation's largest provider of graduate medical education. Affiliations with 107 of the nation's 125 medical schools provide the context for training that annually affects over one-third of the nation's medical resident trainees, including half the nation's third and fourth year medical students. In addition, over 54,000 associated health trainees in nursing, psychology, pharmacy, and over 40 other disciplines receive part or all of their clinical training in VA facilities.

We currently fund approximately 9,000 positions in graduate medical education. As residents rotate through these positions, they are exposed to the best evidence-based medical practices in the country. They take this knowledge with them as they complete their training and begin their careers in the care of veterans and non-veterans. VA can claim it has trained, at least in part, more than half of the nation's practicing physicians.

VA's academic affiliations are robust and provide vigorous opportunities for providing the best approaches for continuous improvement of health care for veterans while contributing to strengthened academic medical institutions throughout the country. We must work hard to keep them healthy.

In providing medical contingency backup for the Department of Defense, VA supports DoD's medical system during wartime. VA also assists the Public Health Service, The Federal Emergency Management Agency (FEMA) and the National Disaster Medical System (NDMS) in providing emergency care to victims of natural and other disasters.

Under Presidential Decision Directive 62 (Combating Terrorism), VA works with the Department of Health and Human Services to procure stockpiles of antidote and other necessary pharmaceuticals, and to train medical personnel in NDMS hospitals for responding to the health consequences of the use of weapons of mass destruction. VA is uniquely positioned to do this training since it represents a large portion of the Nation's medical capability and has facilities located throughout the country. I cannot stress too much the importance of VA's role in emergency preparedness and response, and I will work to ensure that VA remains able to meets its obligations.

In summary, Mr. Chairman, VHA has chosen goals that would challenge any organization. Our organization has undertaken a profound transformation and should be justifiably proud of its accomplishments. However, we must continue to change and adapt as changes in information technology, biotechnology, health care financing, and public accountability impact all health care systems. Additional gains in health care value are possible if we are able to manage health information more effectively, improve care coordination and communications with our patients, eliminate variability in care and change our infrastructure as needed to meet current needs. As we look to the future of VA health care, we are very optimistic that VA will meet the challenges it faces and will be viewed as a model health system for its many accomplishments.

GULF WAR ILLNESSES RESEARCH: SCIENCE, POLICY, AND POLITICS
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CONFERENCE ON ILLNESSES AMONG GULF WAR VETERANS
ALEXANDRIA, VA
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First, I want to thank all the veterans, Veteran's Service Organizations, Members of Congress, experts, advisors, and other policy makers who have provided review, commentary, critique and direction to our efforts to understand and treat the illnesses experienced by Gulf War veterans upon their return home after the War. Dr. Neal Lane, the former Special Assistant to the President for Science and Technology Policy, has spoken often about the responsibility of scientists to go beyond their own work and to get involved in teaching and explaining the excitement and promise of science to the non-scientist. Research on illnesses in Gulf War veterans exemplifies the interactions among science, policy, and politics. Insight and energy are generated at this volatile interface, and I would like to use my time this morning to draw contrasts between the differing perceptions, and at times the differing realities, among the science, policy and politics of this issue.

There are a number of key questions and research issues for us to focus on. None of these issues is definitively resolved, but we are working diligently on all these areas:

- Is there a unique Gulf War syndrome?
- Are there specific diagnostic tests to guide clinicians?
- Are there possible causes of the veterans' illnesses?
- Are ill Gulf War veterans getting better, getting worse, or staying the same?
- Which treatment strategies are effective?
- What steps must be taken to prevent future war-related illnesses?

The first question asks whether illnesses in Gulf War veterans represent a new, previously unrecognized syndrome and has been a research focus since 1994. So far, five relevant reports have been published, based on different populations of veterans. One study concluded that there were six unique syndromes. (Haley, 1997) Four other studies concluded that there is no unique syndrome. Data from these four studies demonstrated that Gulf War veterans and non-deployed veterans reported a similar pattern of symptoms. (Fukuda, 1995; Ismail, 1999; Doebbeling, 2000; Knoke, 2000) What would one conclude from reviewing the growing body of scientific evidence concerning this key question? This conference includes a session later that highlights the results of these five studies, with participation of the study authors themselves!

Several policy documents, written by oversight groups and expert panels, have addressed this question formally. These have included the Presidential Advisory Committee on Gulf War Veterans' Illnesses *Final Report* (1996), the Senate Veterans Affairs Committee Report (1998), the Institute of Medicine Report (2000), the White House Report (2000), and the Presidential Special Oversight Board *Final Report* (2000). For example, the Institute of Medicine (2000) stated:

"Thus far, there is insufficient evidence to classify veterans' symptoms as a new syndrome. . . All Gulf War veterans do not experience the same array of symptoms. Thus, the nature of symptoms suffered by many Gulf War veterans does not point to an obvious diagnosis, etiology, or standard treatment."

As another example of a policy document, the White House Report (2000) stated:

"Several major studies have shown that Gulf War veterans do not suffer from a unique, previously unrecognized 'syndrome.' "

This issue has not yet been resolved completely, despite five studies in two countries, performed by both university and government scientists. The lack of resolution is frustrating to the research community, as well as to veterans, health care providers, and members of Congress. This frustration was expressed recently by a member of Congress:

"If we say there is a Desert Storm syndrome, doesn't that solve it? . . Can't we say, OK, we now have a syndrome?"

However, just declaring it so, will not make it so. The research community responded to the congressional member's statements with equally strong sentiments, in the British journal, *Nature* (2000):

"The Congress may wish to establish an administrative classification for the health problems afflicting veterans. But it should stop pressing scientists in effect to invent findings that would support its otherwise admirable impulse to assist them."

Resolution of this issue will be more complex for Congress than it is for researchers and clinicians, because of the need to factor in all three domains: science, policy, and politics.

Now, to focus on another question: Are there possible causes of the veterans' illnesses? This is an extraordinarily complex question. In all its dimensions and ramifications, this question takes into account the large number of potential exposures or causes of illnesses, including the interaction among multiple possible exposures. Answers to this question require knowledge about the dose, duration and periodicity of the possible exposures. Also, the research must consider the possible long term consequences of low doses of exposures, in some cases, such low doses and short duration of exposures that soldiers experienced no noticeable, short-term symptoms.

One example of the complexity of this issue is exemplified by the controversy surrounding depleted uranium as a possible cause of the veterans' illnesses. This issue has been in the news a lot in the past few weeks, not just related to the Gulf War, but also to deployments to Kosovo and Bosnia. We should review some scientific facts about depleted uranium (DU), then consider the results of the ongoing research projects.

- Natural uranium is a low-level radioactive element.
- DU possesses only 60% of the radioactivity of natural uranium.
- No association has been demonstrated between occupational exposure to uranium and lung cancer or kidney disease.

- About 100 Gulf War soldiers were exposed to DU in friendly fire incidents, through wound contamination and inhalation.
- The Baltimore VA Medical Center longitudinal study of 63 veterans, who were wounded in friendly fire, has demonstrated no clinical evidence of illness associated with DU, other than traumatic injuries.

The results of the Depleted Uranium Medical Follow-Up Program at the Baltimore VA Medical Center will be presented by its Director later at this conference. I would encourage you to review the research before you stake out your own position.

Several policy documents, written by oversight groups and expert panels, have addressed this question of DU as a possible cause of veterans' illnesses. These documents include the Presidential Advisory Committee on Gulf War Veterans' Illnesses *Final Report* (1996), the RAND Report (1999), the Agency for Toxic Substances and Disease Registry Report (1999), the General Accounting Office Report (2000), the Institute of Medicine Report (2000), the White House Report (2000), and the Presidential Special Oversight Board *Final Report* (2000).

For example, the Institute of Medicine (IOM) (2000) concluded:

There is limited/suggestive evidence that there is "no association between exposure to uranium and lung cancer. . . and clinically significant renal dysfunction." Also, there is "inadequate/insufficient evidence to determine whether an association does or does not exist" for several other potential long-term health effects (e.g., lymphatic cancer or bone cancer).

The IOM conclusions are based on groups of miners and millers who had high-level uranium exposures for years to decades. However, the IOM conclusions reflect also the incomplete nature of the data for some long-term health effects that may result from low dose or short-term exposure to DU. Even with decades of data, there are uncertainties regarding dose, duration of exposure, and latency of onset of disease. The Chair of the IOM Committee will present the findings and conclusions of this report later at this conference.

As another example of a policy document, the White House Report (2000) stated:

"Other than injuries resulting from wounds, these reviews indicated that US troops were unlikely to suffer any additional ill effects as a result of exposure to DU during their deployment."

In contrast to these scientific and policy statements, DU has been an inflammatory topic in the media for the past few weeks. There is great disparity in the risk assessments made by some scientists and some politicians. Here are some examples of recent headlines:

- "Radiation Sickness Scare Ignores Scientific Facts" (*Los Angeles Times*)
- "Fray in Europe over Uranium Draws Doubters" (*New York Times*)
- "Scare-Mongering Suspected as Uranium Fears Revive" (*Environmental News Network*)

Here are contrasting headlines that appeared the same week:

- "Hundreds Died of Cancer after DU Bombing" (Reuters)
- "Use of DU Weapons Could Be War Crime" (CNN)
- "Uranium Shells Held 'Cocktail of Nuclear Waste' " (*The Sunday Times*, London)

The continuing controversy on illnesses in Gulf War veterans was expressed succinctly in a CNN article about the Presidential Special Oversight Board *Final Report*, which was published in December 2000. The CNN headline consisted of two lines:

"Panel finds Pentagon 'diligent' on Gulf War illness issue
'It's a whitewash' veterans advocate says"

As I indicated at the beginning of this presentation, there is both insight and energy at this volatile interface between science, policy and politics. Let me conclude my comments with some assessment about where we are and what we have learned to date from the research effort related to Gulf War Veterans Illnesses. Over the past decade, the federal government has supported 192 research projects at a cost of $155 million. This research has been funded by the Departments of Defense, Veterans Affairs, and Health and Human Services. So far, 83 (43%) projects are completed, and 109 projects are ongoing.

What have we learned from the completed research, in terms of general conclusions? Or, what do we *think* we have learned, as of January 2001?

- Gulf War veterans consistently report more symptoms than non-deployed veterans.
- There is little evidence for a unique "Gulf War syndrome."
- There is no increase in mortality, except for motor vehicle accidents.
- There is no increase in hospitalizations, except for traumatic injuries.
- The rates and patterns of infectious diseases have been unremarkable.
- There is no increase in birth defects among offspring.
- No exposure has been shown conclusively to cause a particular individual symptom or combinations of symptoms.
- There is consistent evidence that pyridostigmine bromide does not cross the blood brain barrier, therefore it is unlikely to cause changes in brain function.
- There is little evidence that uranium exposure is associated with adverse clinical outcomes.

As more research is completed, these conclusions may be revised. In addition, some scientists, some veterans, and some members of Congress probably disagree with these conclusions now.

Sometimes, it is hard to remember that the Gulf War was a tremendous success. There were only 148 combat deaths and 224 deaths due to diseases or non-battle injuries (DNBI). This was the lowest DNBI rate for any major US conflict in history. However, let's consider the post-war situation. In the decade since the war, 80,000 Gulf War veterans have received VA registry examinations. Over 250,000 veterans have received care in VA outpatient clinics, and over 26,000 have received care in VA hospitals. Approximately 143,000 Gulf War veterans' claims for disability compensation have been granted.

Clearly, many veterans are ill. Clearly, their illnesses are real, not imagined. But this issue of Gulf War Veterans Illnesses is a difficult problem to address clinically. One goal of the research must be to identify treatments that will provide “victories” for our ill veterans, just as these veterans provided the “victory” for our country in the war.

In summary, most of the issues related to illnesses in Gulf War veterans sit at the interface of science, policy and politics. Today’s conference focuses on the scientific information acquired to date. However, we scientists must remember that we do not work in isolation. We must be sensitive to the illnesses of our veteran patients, as well as their concerns and fears. We must know that science can influence policy. And the results of our research, whether preliminary or definitive, can create political opportunities or controversies. I close with a reflection from a former Secretary of State, Henry Kissinger, who noted that:

“Each success only buys an admission ticket to a more difficult problem.”

Thank you for your research efforts to clarify this difficult issue of Gulf War Veterans Illnesses.

Memorial Address by H. David Burge,
Director, Spark M. Matsunaga Va Medical & Regional Office Center
Presented at the 58th Anniversary Memorial Service
of the
442nd Regimental Combat Team
National Memorial Cemetery of the Pacific
Honolulu, Hawaii
March 25, 2001

I am very honored to be the first speaker in the 21st Century at the 442nd Veterans Club's 58th Anniversary Memorial Service here at the National Memorial Cemetery of the Pacific.

This morning is time to remember and pay special tribute to boyhood friends and classmates lost in battle, dear friends and loved ones no longer with us, and cherished members of the 442nd who continue to serve as good family and community elders and leaders. As we enter the new millennium, this is a time for members, families, and friends of the 442nd to reflect on the past, to celebrate the present, and to contemplate the future.

Our men of the 442nd are testament to the joys, heartache, and major accomplishments of the 20th Century both here in Hawaii and the nation. To reflect on the past, let's roll the clock back to the 1940's and see that period through snapshots familiar to many of you.

In 1940, the U.S. Government felt that war with Japan was imminent. As such, Japanese Americans were released and banned from employment at Pearl Harbor and other military bases in Hawaii without explanation or justification.

Despite these early warning signs, Japanese Americans in Hawaii did not feel an acute sense of crisis. While Japanese American bashing was increasing on the mainland, most people in Hawaii, where all groups were minorities, had no animosity towards their Japanese neighbors.

My mother's 1941 McKinley High School's Black & Gold Yearbook, published six months before the attack on Pearl Harbor, provides a glimpse into the daily activities, beliefs, and values of young Nisei in Hawaii prior to the outbreak of World War II. In this regard, let me share with you the introduction section of the yearbook:

"In 1941, we find our sports-minded typical McKinley boy standing 5 ft. 6 inches in height weighing 124 pounds with naturally straight hair and brown eyes. The typical McKinley girl is a petite lassie, 5 ft. 1 inch in height, weighing a dainty 97 pounds, has black hair and is brown-eyed. Both are Americans of Japanese ancestry.

Their trim figures and fresh complexions are accounted for by their nine hours of sleep each night and their daily glass of milk. Typical boy usually buys his lunch outside the school. Not so typical girl. She knows the importance of a healthy meal and depends on the school cafeteria for it.

The typical boy looks forward to weekend social activities. He considers school dances tops and goes to as many of the class, student body, and club dances as he possibly can, but gives jitter-bugging and waltzing only a slight nod. He usually goes stag to dances because of the small size of his pocketbook. His favorite recreations are football, listening to the radio, and going to movies with his friends."

In general, the description of the typical Nisei student at McKinley could have been a description of a typical student at any American high school at that time. This is not surprising since these high school students truly believed that they were Americans and acted accordingly.

The Nisei students were heavily influenced by the McKinley faculty almost entirely from the mainland with a heavy concentration from the Midwest. Their principal, Dr. Miles Carey, indicated that his primary objective was in his words, "helping our young people to develop those attitudes, dispositions, and abilities which we call the democratic way of living together."

The results of a student survey included in the yearbook reflected how strongly these young students embraced these democratic beliefs.

Moved by the growing crisis in Europe, the Nisei students believed that the honor of the United States should always be defended, even if it meant going to war.

They believed that common people should have more say in the government. They also believed that all races were mentally equal.

It was also noteworthy that the Nisei students firmly believed that the Hawaiian Islands would be more efficiently run when they attained voting age.

My final observation in reviewing the yearbook was the dedication page. It underscored the foundation for the Nisei student's core values. It read, "Respectfully dedicated to our parents and the excellent home influence given us."

Six months after publication of that yearbook, on the morning of December 7, 1941, the lives of these young Nisei were forever changed as they became part of one of America's most dramatic stories — a story of shameful treatment by our government, a story of heroic feats on the battlefield, a story of major accomplishments in business and government after the war, and finally a story of full vindication and pride for all Americans of Japanese ancestry.

Just prior to the enemy attack on Hawaii, Washington emphasized the danger of sabotage by the local Japanese population to local military commanders. Follow on actions to cluster aircraft in the middle of airfields to guard against such local sabotage resulted in easy targets for attacking enemy aircraft and needless destruction of most of the American aircraft on the ground at Hickam, Wheeler, Bellows and Ford Island.

After the attack, Hawaii Territorial Governor Poindexter told President Roosevelt that what he feared most was sabotage by the large Japanese community. Subsequently, 1,000 innocent Japanese Americans - Buddhist priests, language schoolteachers, civic and business

leaders, fishermen, and judo instructors - were arrested and detained in tents on Sand Island. A number of these individuals and their families, without any proof and without any due process, were subsequently transported to prisoner of war camps on the mainland.

Secretary of Navy Frank Knox, who visited Hawaii the week following the attack, reported to the President and Congress that the devastation at Pearl Harbor was the most effective fifth column work that had come out of any war in history. His sensational but totally unfounded assessment that Japanese Americans in Hawaii had aided the enemy attack hit the headlines in newspapers across America and significantly fueled anti-Japanese American sentiment. The follow on rumors of sabotage and espionage emanating from Hawaii, although untrue, were used by West Coast groups to demand and justify the wholesale internment of Japanese American families living in California, Oregon, and Washington into concentration camps in remote areas far from their homes.

Immediately after the attack, at a time that Hawaii was still very vulnerable to another raid and possible occupation by enemy forces, 317 Japanese American members of the Hawaii Territorial Guard were involuntarily discharged without any explanation. In addition, 2,000 Japanese American soldiers already on active duty were recalled to Schofield Army Barracks, stripped of their weapons, separated from their non-Japanese buddies, and under orders from Washington shipped to the interior of the mainland for security reasons. Finally, Japanese Americans were declared ineligible for military service and classified as enemy aliens. All of these unthinkable actions occurred at a time that every able-bodied man was needed to defend Hawaii.

The ultimate act of wartime hysteria in Hawaii occurred in February 1942 when President Roosevelt ordered the evacuation and internment of all Japanese Americans in Hawaii to concentration camps on the mainland. Fortunately, the military was unable to carry out the President's order since there were not enough ships to conduct such a massive evacuation and the evacuation of such a large number of workers would have crippled the islands. As such, the evacuation orders were delayed several times and finally abandoned in 1943.

Could any of us today who did not experience this war time hysteria truly understand and appreciate the impact of these outrageous actions on Japanese American families, especially young Nisei family members? Hawaii's Nisei truly believed they were Americans. They were equally offended by the vicious attack on their homeland and equally ready to serve their country. As just teenagers the rejection and hostility vented towards them and their families by their own government were beyond comprehension.

But perhaps unconsciously they responded in a very Japanese way by doing the only thing they could under such extreme circumstances — that is stepping forward. Stepping forward with loyalty and courage in order to honor their families and to demonstrate to their fellow countrymen that they were worthy Americans. While there was more than sufficient justification for turning inward and refusing to support the government that treated them so brutally and unfairly, Nisei young men demanded the right to fight.

As we know today, the Nisei achieved their objective but at a very high price. The 100th Infantry Battalion led the way, and after nine long months of bitter fighting from Salerno to

Anzio, was joined in Rome by the 442nd Regimental Combat Team. Thereafter the two Japanese American units remained as one through the bloody fighting in northern Italy and France to the end of the war.

Bill Mauldin, the Stars and Stripes cartoonist who created the beloved infantry characters Willie and Joe described the Nisei unit as follows:

"No combat unit in the army could exceed the Japanese Americans in loyalty, hard work, courage and sacrifice. Hardly a man of them hadn't been decorated at least twice, and their casualty lists were appalling. When they were in the line, they worked harder than anybody else. As far as the army was concerned, the Nisei could do no wrong. We were proud to be wearing the same uniform."

This morning we gather to remember and honor the typical McKinley boy and other young Nisei who fell on the battlefields in Europe. They were good and brave Americans. They brought honor to their families and great pride to all citizens of Hawaii. It is unfortunate that these young men did not live to see the full measure of their ultimate sacrifices.

The insignia of the 442nd is the Statue of Liberty's hand holding the torch of freedom. This symbol is most appropriate because it exemplifies the unit's steadfast belief in not only freedom for all men, but also through their actions and sacrifices on the battlefield, final freedom for Japanese Americans in the form of real acceptance by their fellow countrymen.

When President Truman welcomed home the 100th & 442nd he said to them, "You are on your way home. You fought not only the enemy, but you fought prejudice - and you have won. Keep up that fight, and we will continue to win - to make this great Republic stand for just what the Constitution says it stands for: the welfare of all the people all the time."

Perhaps President Truman did not fully realize the extent to which the Nisei veterans would take to heart his challenge to keep up the fight to ensure the welfare of all of the people all of the time. Although the war abroad was won, Nisei veterans continued to forge ahead on the homefront after the war to ensure that their sacrifices in battle were not made in vain. As many can attest today, much hard work was needed at the end of the war to accomplish President Truman's goal.

The enormity of the task at hand was reflected in comments made at that time by the U.S. Speaker of the House, Sam Rayburn. In voicing his opposition to statehood for Hawaii he said, "If we give them Statehood they'll send a delegation of Japs here."

This inflammatory statement was made by the powerful Speaker from Texas, whose Texas "lost battalion" was rescued two years earlier in Europe by Nisei soldiers at a cost of 800 Nisei casualties to rescue 200 Texans. Unfortunately, much work still remained to be accomplished at home. But the Nisei veterans, as previously demonstrated in battle, were undaunted in their quest and pressed on with unrelenting effort.

These veterans were firm in the conviction they expressed in that 1941 McKinley High School survey that the Nisei generation would in fact make positive improvements in Hawaii

and our nation. More than a half-century later, we know that our Nisei veterans were more than up to the task and as such, we have much to celebrate today.

Today, a Sansei from Kauai, Eric Shinseki, serves as Chief of Staff of the United States Army. This general of all generals often relates stories of personal inspiration based on the experiences of his Nisei family members who served in World War II — the same Nisei soldiers from Hawaii once designated as enemy aliens and resisted in their effort to fight for their country.

Today, we now have 20 Nisei World War II veterans who were recently awarded the Congressional Medal of Honor. I was honored to attend the ceremonies last year in Washington and to witness the awards made by President Clinton. At the White House ceremony, the President attributed the lack of proper and timely recognition for these individuals to three factors: wartime hysteria, racial discrimination, and a complete breakdown in national leadership. The President went on to praise all Japanese Americans who served in World War II despite the error of our nation in questioning their loyalty and wrongfully interning their families.

Today, we have the names of our new Nisei Medal of Honor recipients forever etched in stone in the Hall of Heroes at the Pentagon. In viewing the new inscriptions, I was moved to see these names added alongside the names of other American heroes from every war in our nation's history. I was also proud to see great sounding American names on the wall — Hajiro, Hayashi, Inouye, Kuroda, Muranaga, Nakae, Nakamura, Nishimoto, Okubo, Okutsu, Ono, Otani, Sakato and Tanouye.

Today, a Nisei is the first and only Asian American to serve as a Cabinet member. Norman Mineta, who served as Secretary of Commerce for President Clinton and continues to serve today as Secretary of Transportation for President Bush, was a youngster in California when his family was sent to an American concentration camp. He vividly recollects how the military police took away his favorite baseball bat because they viewed it as a weapon.

Today, a brand new Japanese American Memorial proudly stands on Capitol Hill in Washington, DC. The Memorial, the first and only memorial to any ethnic group in our nation's capitol, is dedicated to Japanese American immigrants who valiantly fought for and attained their full rights as citizens.

When I attended the dedication ceremony for the new Memorial last fall, I was overwhelmed by the great honor finally bestowed upon Japanese Americans by our great nation. Think about it for a moment - America is a country of immigrants - many waves of immigrants. And today, there is only one memorial to any of these immigrants on the grounds of our nation's Capitol — that is the Japanese American Memorial.

And finally today, a brand new, state-of-the-art veteran's medical center, named after the late Senator Spark M. Matsunaga, now proudly serves all our veterans here in Hawaii.

So today, I say to our Nisei veterans, you have brought great pride to your families as well as pride in their heritage for future generations of Japanese Americans. More importantly, you have ensured that your friends, who were lost in battle, did not die in vain.

So at this juncture, where are our Nisei veterans headed next? Are they declaring victory and passing the 442nd 's Statue of Liberty's torch on to others?
While such action would certainly be justified, it would not reflect the values ingrained into many Nisei by their progressive high school teachers who exposed them to the ideals of justice and equality and urged them to continually reach out to others.

It is said that McKinley Principal Miles Carey got his people to do what he wanted because he treated them humanely and considerately. If there was any fault with Dr. Carey, and maybe it was not a fault, he was a dreamer. But all of this was due to his efforts to treat people right. And in this regard, he did an outstanding job in getting his students to think like him. So it is not surprising that the final chapters of America's Nisei veterans are still being written.

Here in Hawaii, our Nisei veterans are currently developing and endowing, at the University of Hawaii, a Nisei Veterans Forum on Universal Values for a Democratic Society. The purpose of this effort is to show current and future generations of high school students the benefits of the values drawn from the various ethnic groups here in Hawaii — values similar to those of Nisei veterans that were used to help them persevere through challenging times during their lives. In this manner, Nisei veterans are passing on to future generations of students the same type of beliefs and values they were exposed to during their formative years.

On the national front, Nisei and Sansei from Hawaii and the mainland are actively engaged in the important work of the new Japanese American National Museum in Los Angeles. The Museum is the first and only national museum dedicated to an ethnic group in America. Through both fixed and traveling exhibits, the Museum shares the darkest and brightest moments for Japanese Americans with others both at home and abroad. It is noteworthy that the City of Los Angeles currently lists the Museum as one of seven must see attractions in its brochures provided to tourists.

The Museum has also received a large Federal grant this year through the sponsorship of Senator Inouye that will use the experiences of Japanese American veterans from World War II, Korea, and Vietnam as the foundation for a new Center for the Preservation of Democracy. In this manner, the sacrifices of our Nisei veterans will be captured and used to construct a very real and moving American story. A story that needs to be told over and over again to current and future generations of Americans so that no group of Americans is ever subjected to what Japanese Americans experienced.

Well, 60 years has now passed since that Black & Gold Yearbook of 1941. Today, the typical McKinley boy from that time is still 5 ft. 6 inches tall but perhaps heavier than the then reported 124 pounds. By contrast, I know that the typical McKinley girl from that same period is still 5 ft 1 inches tall and still weighs 97 pounds.

Regarding the results of that 1941 high school survey, I say to our Nisei veterans — you successfully carried through on your convictions. You stepped forward to defend your country and after the war worked hard to make Hawaii and our nation better places to live.

You are grayer and wiser than you were 60 years ago. You still believe in honor, duty, and country and have a proven record to show these are not just words. You are still humble and as such will not bathe yourselves in glory, although most of us realize you deserve such honor. And perhaps more important, you truly care about your families and all families in America. For it is through your story that your children, grandchildren, and future generations will cherish and take great pride in their Japanese American heritage. And it is through this same story that other Americans will learn that the preservation of our democracy requires constant vigilance and courage to not allow hysteria of any kind to strip innocent Americans of their basic rights.

That 1941 yearbook read, “Respectfully dedicated to our parents and the excellent home influence given us.” Today I say to our Nisei veterans who died in combat, to our Nisei veterans who returned home and are no longer with us, and to our Nisei veterans we are blessed to still have with us: we dedicate this service to you and the excellent influence you have had on us.

God bless our Nisei veterans and their families, God bless their beloved Hawaii, and God bless the great nation they served so well both in battle and in peace.

Diane Carlson-Evans
Founder and Chair of the Vietnam Women's Memorial Project
Women's History Month Program
VA Central Office, Washington, DC
March 1, 2001

Thank you for the honor of inviting me to be here today, I am truly honored and happy to be here and to talk about women of courage and to talk about a patriotic journey. When I woke up this morning, I was thinking of my dad. My father passed away about a year ago, and he's still in my thoughts a lot. I was thinking of this memory with my dad when I was five years old and I thought there must be a reason why I'm having this memory, maybe I'm supposed to share it with you today.

I was standing by my dad who had just saddled up his horse. He had this beautiful Palomino, and I used to be so proud of him. He rode it in the parades and he carried the American flag, it was the parade horse. He had promised he was going to take me for a ride and just when we were supposed to go riding, a neighbor pulled in the farmyard, I grew up on a dairy farm in Minnesota. Well my dad was distracted by talking to this neighbor and I was getting very annoyed because I wanted to get on this horse and go for a ride and I remember stomping my feet and telling my dad to put me up on the horse right now.

Because I was annoying him, he did. He put up on the horse and in a second, the horse took off, and more than a mile away, dumped me in the wheat field. There I am, laying on the ground, and my Dad comes running up and of course gives me a tongue lashing after he finds out that I'm just fine. But this is what journeys are all about; testing ourselves and trying different things. Falling off horses, so to speak, and I've been falling off horses my whole life, without ever getting back up on one. Getting a little bruised and humbled, and becoming a little smarter, and then growing into our positions.

When I'm invited to speak before college students today, I ask them to reflect on the following questions before I get there. I'll send their professor a list of questions to ask:
— Who ultimately shapes the public memory of war and our veterans?
— Why were the forgotten women, Vietnam women soldiers in particular, not embraced when they sought recognition?
— Did sexism generate hostility against women going to Vietnam and the public — recognition of these women?
— Are class issues factored into the battle of recognizing women, along with gender issues?
— Historically in America, are some people eclipsed from the public memory of war? Women and ethnic minorities. Does this affect their overall well being? Does it affect political decisions?
— To what extent were feminism and pacifism linked during the Vietnam War? In what capacities did women serve at the time? How has that changed and why?
— Did the fact that the feminist movement was strong at the time help women soldiers returning from war express themselves openly, publicly and privately, or did it hinder them?
— Who received more attention? Women serving their country in a war zone or American women carrying anti-war banners and maybe burning their bras?
— How did the anti-war movement affect women soldiers?
— How have movies and the arts portrayed women's service in all of our American wars?

— What impact now has the Vietnam Women's Memorial had on American women's historic identity?
— What impact now has the Vietnam Women's Memorial had on the American male?

These are merely questions to help the students study and reflect, analyze and find answers, but often times we ended up with more questions than answers in these college classrooms. But it was interesting, because beyond my questions to them, which I felt responsible to pose, what I actually found was that the majority of students wanted to hear the personal stories.

This made the experiences of the men and women who served in Vietnam more real to them. Many of those students would raise their hands and say, "My dad served in Vietnam, but he won't talk to me about it. Why won't my dad talk to me about his service in Vietnam?" That is probably the most common statement that I still hear when I visit colleges. So instead of wanting to really talk about these questions I had posed to them, they wanted to get real personal and ask me specific questions like, "What did you do in Vietnam? What was that like as a woman in Vietnam," and so on.

We know now, more than ever before, how important it is for veterans to share their stories, veterans of all wars. And to share their feelings, because we know this improves their emotional well being, and it improves their psychosocial functioning. Those of you in health care, in the mental health professions, are so aware of that. Some of you saw *Out of Africa*. Karen Blixon is noted for saying, "All sorrows can be born if we share stories about them." The vet centers facilitate this and have done tremendous good and continue to do tremendous good for our nation's veterans.

Knowing how important it is for veterans to share their stories with professionals, but also with the public, so that we can teach and instill in young people particularly, a sense of citizenship and duty and what veterans have done for our country. So having said all of this, I wondered today if perhaps you would want me to share a personal story of my own? I see some heads shaking yes. Well good, because that's what I came prepared to do.

I have to tell you, if some of you heard me speak ten years ago, you wouldn't have heard me sharing personal stories. It's a shift from my usual presentations now to be more forthcoming with my experience because as I went around the country trying to build support for the Vietnam Women's Memorial and educate the nation about what all women did during Vietnam, I'd address the historical perspective of women's service and their contribution. It seemed logical to me but it didn't often seem logical to the listener—why we need to add one more element to the Vietnam memorial and complete it, and why it's so important to recognize and honor women soldiers in the same way we do as our brother soldiers.

While I went around the country, the questions that I posed to the college students were questions that were greatly debated. So now, I will get personal and take you briefly on my journey. My journey to Vietnam and then on to Washington, D.C., with a dream and a vision.

It is March of 1969 in the central highlands of Pleiku. My second tour, about 30 kilometers from the Cambodian border. In our 400-bed evacuation hospital we receive unrelenting casualties while supporting the 4th Infantry Division, which was being overrun by the Vietcong and the NVA. The wounded were maybe ten minutes from us; brought in by our wonderful dust-off helicopters. The language always fails me in describing the hyper-vigilance to a ward full of 50 young men; wounded and burned, mixed in with Vietnamese children, Montangard

women and children, and old men who were injured in the cross fires of the war and brought in to our hospitals.

Chest tubes, tracheotomies, pit viper wounds. Napalm burns, malaria, fevers of 105. Gaping open wounds, blood transfusions, hepatitis, gangrene, punji stick infections. There was the adrenaline rush. The smells and sounds of mortar thuds, yes we were rocketed, of rockets and shrapnel piercing our hospital roof as we threw mattresses on top of our patients who hadn't already dived for the floor. So here is just one of my nights on duty in Vietnam.

It was a dark, bleak night during the monsoons. I had just fallen asleep after working a 14-hour shift. It was more like the verge of sleep. I don't think I ever really slept in Vietnam. I could hear the choppers coming in, the whoop, whoop of the rotor blades. This was not one chopper, but two or three or how many? We always knew it was trouble if it was more than one or two. This wasn't the usual Huey dust-off I was hearing, this was something else.

The sounds of mass casualties erupted. The telephone began ringing in my hooch. "Lt. Carlson report immediately to Ward seven and open it up for incoming casualties." It was the empty ward, the one kept just for such emergencies. My surgical unit was full. All the other units were already full. The chief nurse said that mixed in with the wounded was an undetermined number of men with some unknown problem, severe dehydration. Perhaps it was water poisoning or food poisoning, but they were very, very ill.

While I was pulling on my fatigues and boots, the red alert siren started its shrill, high-pitched screaming. Of course after the red alert, we knew the next sound is usually incoming rounds. My mind is screaming because I'm pulled out of half sleep. I grab my helmet and flak jacket and ran to the hospital. I don't remember being afraid of being killed. But I do remember that dreaded sense of anxiety. Of not wanting to watch young men suffer or die. That dread of not knowing what was coming.

Somehow we went to Vietnam so young. So many of us were just 21 year-old nurses right out of training. But yet, we went to Vietnam feeling that we had to carry the whole load, that people's lives around us depended on how smart we were, how quick we learned and how brave we were, and how awake we were to every clue of what was going on around us; that's where the adrenaline rush came in. That heightened sense of alertness that was so necessary and the underlying worry that even the slightest mistake would jeopardize the situation at hand and affect someone's life.

The corpsmen were already bringing litters of groaning men to the unit I'm to open. Because of the red alert, the lights are now out. It's dark. It is pitch black. And I hear the artillery. And we got real used to knowing if it was outgoing artillery—because the artillery hill was not to far away from Pleiku—or if it was incoming artillery. But at this point, it didn't really matter.

I asked the corpsman how many, and he didn't know. He said, "Lieutenant, it's just you and me. We get the poisoned or what ever it is, because all the extra hands are in the emergency room with the wounded." I told the corpsman to stay by my side and hold the flashlight, remember it's pitch black. I said we were not doing anything until we got all the IV's started.

I began with the boy in the first bed, I remember him the most. I remember him the best. While I'm preparing the needle and the IV, I remember saying to him, "You're going to be

OK now, you know." I asked him, "How many days have you been out there, how are you?" He looked at me with that hallow, blank look I was now familiar with.

I didn't know that it had a name yet, but later I would learn it was called the 1000-yard stare. He had that stare. He was severely dehydrated. His skin was dry and filthy, covered with dirt and vomit. He was unshaven and it was so dark and damp and dreary. The monsoons are doing their thing outside and the alert sounds and the artillery sounds, and yet I now focus on this boy and this lone flashlight the corpsman is placing on his arm.

I remember all of this in black and white. I must have told all these young soldiers something encouraging. I certainly hope I did, but I don't remember at all. Mostly I remember that first soldier, starting his IV and 27 others, who had collapsed veins. Who were shivering from the trauma of the depths of the hell from which they had just come. And no war movie had prepared me for the personal anguish I felt for these men. They had been trapped, unable for days to get out, until they were airlifted with some freshly wounded. I don't know the details. I only know the results. While my corpsman held the dim flashlight over their arms, I prayed to find their veins, finish the IV's and begin to clean them up, so they could feel like human beings again.

A calm began to fall over the ward finally. It was a calm I'd felt and experienced sometimes before, but didn't know exactly what it was until my corpsman told me. He said, "Lieutenant, when an American nurse is on a ward, a calm sets in. The guys feel a woman's presence. It's like mother coming into the bedroom of a sick child."

The sirens finally stopped screaming, the rotor blades of the chopper stopped whooping, the last IV was running, daylight was creeping in and the corpsman and I could begin getting them cleaned up. There was no time for bed baths. These young soldiers lay in their fatigues and boots, blankets covering them. We washed their faces, showers would have to wait until they had the strength and could be up and on their own. It was about time for me to start a new shift on my surgical unit. I knew from the sounds of those choppers just a few hours before that I would be busy preparing patients for air evacuation to make room for the new guys. I evacuated about 40 patients that day on my shift alone.

Now all this had happened in just one 24-hour day. Or was this a nightmare, just a bad dream. This is of course, what nightmares are made of. I never forgot the look on that first boy's face. Certainly he had resigned himself to meeting his maker in that hell hole, while the thin line of losing the game of life was just hours away. And for me to be so privileged to be there with him and the others in that most golden of all moments, that's something inexplicable.

I never did learn if it was bad water, food poisoning, or really what the origin of their near-death experience was, but I know what they went through. And no Purple Hearts were handed out as badges to identify their suffering, or that this too could have been a mortal wound.

While I cared for these young men in Vietnam, thousands of other nurses were doing the same. That was a time when most of us knew that all we had was each other and we were there to get each other out alive. Around us nurses were the soldiers, standing guard for us in towers, at gates, the perimeter, door gunners, pilots in the choppers that took us on assignments making sure the nurses and all the women serving in Vietnam got safely to where they needed to be. When our hospital and hooches were hit one night, thousands of sandbags

were packed around them the next day by sweating GI's. We were there to save them; they were there to save us.

The morale dilemma of the war being debated back here in the United States of America, the right or the wrong of it, was not something we could change. We were there merely to follow orders. We couldn't end the war, but we could do the one right thing. While our government may never have given us a clear goal, we had one. We each had our own personal goal.

There are no stronger patriots than women willing to serve in the interests of the human race. This belief was the genesis of my journey. It is what led thousands of nurses and other women to volunteer during the Vietnam War and all of our previous wars. It is what led to dreaming about a memorial to honor my sister veterans. To help bring about their healing, and to document their contribution to humanity when all of us are gone.

The Vietnam Veterans Memorial, the Wall and the statue of the three infantrymen, were placed in Washington, D.C., in 1982 and 1984, that's almost 20 years ago. But the heroic part taken by women in the terrible ordeal of war is only faintly heard and little noted. When we came home from war, we got on with our lives. We knew that we had done something good but we got on with our lives. There are a few books in the libraries where women themselves have written their stories.

In 1984, I founded the Vietnam Women's Memorial Project to tell this story. To tell the heroic part that my sister veterans have made. I gathered together a core group of veterans: other women veterans, male veterans, and nurses, and built a non-profit volunteer organization. I realized some time later that I had embarked on a first in American history. A campaign that would place a national monument in Washington to recognize the contributions of military women and also to include the civilian women who worked in Vietnam; those Red Cross women and those who served in so many, many other humanitarian projects.

In the VA, you know approximately that 265,000 women served in the military during the Vietnam era. And also that approximately 10,000 went to Vietnam. Approximately 90 percent were nurses. If you were not a nurse during the Vietnam era, your chances of going to Vietnam were not great. They primarily were taking nurses.

We saved 350,000 lives in Vietnam. That of course is the number of wounded. And we desperately tried to save the thousands who died. There are eight military nurses' names on the Wall; seven of those are Army nurses and one Air Force nurse.

A little know fact is that over 50 civilian women died in Vietnam. We have the names of those 50 civilian women and we know that there are more that we have not found. Yet, tremendous opposition followed the public awareness after the first press conference I held in 1984 that an addition to the Vietnam Veterans Memorial was proposed. There are many who believed the role of women did not deserve recognition and their service was not worthy of a monument on the Mall.

It would take nine years to wear down the adversaries. We lost our proposal, not only for our first design which was a single figure sculpture of a woman, but we also lost the site at

the Vietnam Veterans Memorial during our first federal agency hearing here in Washington, D.C., before chairman J. Carter Brown, with the Commission of Fine Arts.

After that hearing and it was announced that the Vietnam Women's Memorial Project would not get the site at the Vietnam Veterans Memorial, nor would they have this statue, hundreds of opinions and editorial, pro and con about the hearing, were published in newspapers. We gathered all of these articles and realized that more were against it than for it. Then our phones began ringing off the hook.

One call was from the producer of 60 Minutes. Now when you get a call from 60 Minutes, you either faint or you don't know what to do, you just hope they're on your side. Morley Safer had learned through some announcement in the newspaper that our plan had been rejected. Mr. Safer wanted to know if some of the comments that had been made at the hearing were true. And I told the producer, "Yes, it's a matter of public record and you can get the minutes."

He wanted to know if it was true that one of the reasons was that there had been many proposals for additions at the Vietnam Memorial, and there still are. The same month that we submitted our proposal, a proposal had come from the Canine Corps. Many of you are aware that the Canine Corps would like to acknowledge the good that they did in Vietnam, which was a lot of good.

Well, Mr. Brown put the Canine Corps and the women in the same sentence and said that if we honor the women then the Canine Corps will want to have their statue as well. The chairman of the commission had postulated that it would open a Pandora's box and now there would be a Hummel Gallery, those were his words as well.

Mr. Safer wanted me to come up with names of nurses that would be willing to go on 60 Minutes. I told him I can't do that, I can't give names of nurses out to 60 Minutes because I don't know how they'll react if they get a call from Mr. Safer. So, I called about 20 women and asked them if they'd be willing to be interviewed, then I submitted all those manes to 60 Minutes. Some of you may have seen that program, it was in 1989, and he interviewed five nurses who served in Vietnam.

This truly helped turned the tide for the Vietnam Women's Memorial Project because, as you all remember in the 60's and 70's the Vietnam War was a television war. We saw those images everyday on the six-o-clock news. But the images you weren't seeing were those of nurses and women in combat boots and fatigues and flak jackets. We were seeing images of men at war. The country wasn't sensitized, or educated, and didn't really realize that women were in Vietnam.

I think one of the poignant stories that really helped turn the tide, based on all the phone calls I received, was when Mr. Safer asked a former Army nurse how she could take care of so many wounded soldiers and not break down? Mr. Safer asked, "Did you ever cry?" And she said yes, "but only once." She talked about this one soldier who had come into the emergency room and he had battlefield amputations.

During Vietnam, these young men often survived because the dust-off helicopter brought them in so quickly and, because of our wonderful medics, they often had not gone into shock. This one soldier had come in and he had lost both legs, both arms and an eye. And it happened that he was Jewish and that he wanted a Rabbi, and so he had asked the nurse for a Rabbi.

Well, there wasn't a Rabbi at the hospital, but one of the surgeons was Jewish. So she asked a corpsman to please run and get this doctor. She said she cried because he said to her, "I know I don't have any legs, and I know I don't have any arms, but please tell my mother that I love her," and she said that's when she broke down and cried. She said, "I didn't stop working, but I couldn't stop crying either." Mr. Safer then asked her, "did he live," and she said, "I don't know. We sent him to the operating room and after that we didn't know, we were too busy to know and it was too hard to follow up."

Well the beauty of this story is unbeknownst to her or anyone else, this young man, who's not so young anymore and who's living in the Bronx, he's watching 60 Minutes and he's screaming at his wife, "There's my nurse, she's got to be my nurse, how many Jewish boys wanted their mother and lost both arms and both legs and his eye."

So, he was just in a panic and called 60 Minutes and said I know she's my nurse and wanted to see her and the beautiful end to that story of course, 60 Minutes reunited this young man from the Bronx, who did survive and was still married to the woman he married before he went to Vietnam. But you can imagine what affect this story had on 60 Minutes' 75 million viewers. People were saying nurses were in Vietnam and this is what they did. They deserve a memorial. It helped with our fundraising, publicity and really did turn the tide for us.

However, having said that, now more newspaper accounts and more editorials were coming out and I'll just share a couple of those. One came out in an Indianapolis newspaper. It reads: "Congress should resist efforts to tinker with one of the most effective and powerful memorials built in this country, the Vietnam Veterans Memorial in Washington's Constitution Garden. Much of the power of the memorial derives from its simplicity, but now Congress wants to tinker with it. While it's hard to vote against nurses, but in this instance, the congress-men should. The Vietnam Veterans Memorial is as close to perfection as it can be. To add anything to it would only be to detract from the powerful memorial it has become." Another newspaper was a little more blunt and said that adding a statue of a woman at the Vietnam Veterans Memorial would be like adding Elvis Presley to Mt. Rushmore.

Backlash is a symptom of something and it's also recognition that your efforts are pay-ing off. The backlash worked. Now we have thousands of our brother soldiers, those who were wounded in Vietnam, writing in furious letters to the editor. "You know if it wasn't for the nurses in Vietnam, I wouldn't be alive, I wouldn't be here today and it's time that we remember them, honor them, thank them."

We had entered a minefield and it was not unlike coming home from Vietnam in the 60's, the minefield that we had entered then—we never knew who was going to be against us or say something to humiliate or tarnish our service. And the same kind of thing was going on in the 80's. But for me, building a monument to recognize women was a matter of honor and

the mean-spirited things that were said, I think just validated for me even more, how much harder we have to work to validate the worth of these women and their contributions and to move forward and not lose sight of that vision.

The beautiful thing that happened was that many, many millions of people agreed and sent money and letters and wrote to congressmen and that's why it finally passed in Congress after two years, unanimously. That we honor these women and that we place the statue in a place of honor, not down on the Potomac somewhere or back down the Mississippi in the Midwest which was suggested as well, but that there be a place of honor for these women.

So with the odds almost impossible to place a monument on this most sacred ground here in Washington, what did wear down the adversaries was our numbers. It was getting the word out in the newspapers and encouraging women who served in Vietnam and around the world in the Vietnam era to stand up and have the courage to share their stories with a microphone before the press. To do an interview and tell their stories so people could understand what it was they did, because remember, people just didn't know.

Thomas Jefferson said, "When things get so far wrong, we can always rely on the people, when well informed, to set things right." And that's what we did. We educated and we informed. All in all, it was a complicated process, fraught with delays and setbacks, but we didn't give up the image of that summit, that goal. In the end, it was evident that a major factor in getting the memorial built was the support of male veterans. Many of them wounded combat soldiers.

Never did I realize how much this memorial would mean to them. They wanted this memorial as much as we did, and you can see that now when you go visit the Vietnam Veterans Memorial and you go to the statue and you see that the male soldiers who are there and how much they love that memorial and how it allows them to come forth with their feelings and emotions and stories in a place where they can say thank you to the nurses and to the other women.

We were blessed with great people who carried the torch for us. People like the Chairman of the Joint Chiefs of Staff at the time, Admiral Crowe (William J. Crowe, Jr.). We invited him to speak at the dedication and for those of you who were there, you remember what he said, "This moving monument finally completes the Vietnam circle by honoring the spirit and achievements of the women who participated in that effort. But more important, it will serve as a shining beacon for future generations of American women."

When we recognize women for what they have done, then we recognize the value of that service. The value of lessons they have taught us and we celebrate their achievements. Women bring grace, balance, intelligence, and I believe our memorial, so beautifully sculpted by Glenna Goodacre of Santa Fe, New Mexico, reflects that. Thank you.

"Photographing the Unseen: Military Use of X-Rays During the Spanish-American War 1898"
Remarks by Vincent J. Cirillo, Ph.D., Medical Historian,
Presented at New Jersey Veterans Museum Open House
VA New Jersey Health Care System, East Orange, NJ
November 8, 2000

Civil War general William Tecumseh Sherman said, "War is Hell." America's veterans have long understood the awful truth of that statement, for they have paid the terrible human cost of war. The purpose of the New Jersey Veterans Museum is to show the public another side of war; namely, that of the men and women who serve as caregivers. We will see that medical advances are made even in the midst of carnage, and that these advances are eventually incorporated into civilian medical practice where they benefit the whole country.

Today we unveil the museum's Spanish-American War exhibit, which features X-rays, one of the great medical advances of that war. In addition, I will present some background on the war, the discovery of X-rays, and the first use of X-rays by the United States military. We shall see how X-rays revolutionized the diagnosis of war injuries, and how radiology became a medical specialty.

The Spanish-American War originated in the long struggle by Cuba to gain its independence from the Spanish crown. While Americans had political and economic interests in Cuba, there was also a genuine concern for the plight of the Cuban people. When United States diplomacy failed to induce Spain to relinquish Cuba, and the battleship *Maine* was destroyed in Havana harbor, war was inevitable. The United States declared war on April 25, 1898, and hostilities ended four months later after lopsided victories by American naval and ground forces in Cuba, Puerto Rico, and the Philippines. Although America's littlest war in terms of casualties and length, the Spanish-American War had an impact on military medicine far out of proportion to its dimensions.

X-rays were discovered prior to the Spanish-American War. On December 28, 1895 German physicist Wilhelm Conrad Roentgen published his epoch-making paper on a new kind of ray emanating from a Crookes tube, which he dubbed "X-rays," because of their unknown character and to distinguish them from cathode rays (electrons). In discussing the transparency of various substances to X-rays, Roentgen noted that bones cast a denser shadow on a photographic plate than the soft tissues surrounding them. Here was a novel way to look at inaccessible parts of the human body.

Realizing the enormous diagnostic potential of X-rays for war injuries, military surgeons of the major world powers quickly put them to practical use. Within five months of Roentgen's discovery, the Italian Army used X-rays to pinpoint bullets lodged in the arms of two soldiers who had been wounded during the Ethiopian campaign. Previous attempts to locate these projectiles had proven fruitless. Radiographs were taken in Naples, thousands of miles from the African battlefields, more than a month after the wounds were inflicted. The bullets were extracted, and both men recovered.

At the start of the Spanish-American War, the consensus among military surgeons was that X-rays were essential for an accurate diagnosis, especially when the injured parts were too swollen for careful examination, or when manual manipulation was too painful for the patient. Since they believed that lodged bullets became encysted in tissues and rarely required immediate removal, the proper place for X-ray apparatus was at the base hospitals, *not* at the actual front. If X-rays could be taken on the battlefield, they argued, it would only tempt surgeons to operate under septic conditions. In the Spanish-American Wa, X-ray machines were limited to military hospitals in the United States and to the hospital ships *Relief*, *Missouri*, and *Bay State*.

In 1900 Captain William Borden published his landmark monograph, *The Use of the Roentgen Ray by the Medical Department of the United States Army in the War with Spain (1898)*, which brought together all of the Army's wartime X-ray data. Although Borden presented in-depth analyses of X-ray machines and bullet localization methods, the heart of his book lay in its clinical histories, most of which were accompanied by magnificent radiographs.

Bullets frequently take unpredictable paths after entering the body, making it impossible to find them by inserting a metal probe into the wound. X-rays made it possible to locate and surgically remove embedded bullets without exploring the wound, which could cause infection with fatal consequences. X-rays made probing for bullets obsolete. "A great majority of cases, where the bullet has been located by the Roentgen ray," Borden wrote, "show clearly how impossible it would have been to determine the position of the missile by means of a probe."

The most graphic example of the dangers of using a probe can be seen in the case of President James A. Garfield who was shot on July 2, 1881. Several attending physicians inserted probes and fingers into his wound, but never found the bullet.

After suffering for two and a half months, Garfield died from a ruptured splenic artery aneurysm. Ironically, the initial arterial damage may have been caused by the probe and not the bullet. In 1896 a New York Times reporter speculated on how much torment Garfield might have been spared if X-rays had been available at the time of the assassination.

New technology frequently has unforeseen human consequences, and X-rays were no exception. The hazards of X-ray beams were suspected as early as 1896 when the procedure was followed by hair loss and skin irritation. These effects, however, were attributed to electric currents, ultraviolet rays or heat rays, but not to the X-rays themselves. *The Use of the Roentgen Ray* presented the first cases of X-ray burns reported in military radiology. Importantly, Borden implicated X-rays themselves as the cause of tissue destruction, and showed that the adverse effects were not immediately apparent.

One soldier harmed by X-rays had sustained a gunshot fracture of his right humerus months earlier in Cuba. Three 20-minute exposures were made on successive days to determine if the bones had united properly. Six days after the last exposure, the skin on his right breast reddened and swelled. Ulcers formed and necroded, and there was marked pain. Healing took eleven months.

Convinced that X-ray burns were directly related to exposure time and the proximity of the X-ray tube to the body surface, Borden proposed guidelines to protect patients. Exposure should never exceed thirty minutes, the X-ray source should never be closer than ten inches from the body, and there should be at least three days between exposures. Although excessive by today's standards, long exposures were the rule at that time, due to scattered radiation and the heterogeneity of X-rays.

War offers exceptional opportunities for surgeons to learn the importance of X-rays to their craft. Radiographs are particularly relevant for the types of injuries incurred in warfare, the greatest proportion of which are bullet wounds and gunshot fractures. Ninety-three percent of the American combat wounds in the Spanish-American War were inflicted by rifle bullets. The mortality rate of Americans wounded in the Spanish-American War was the lowest in military history (95% recovered). The greatest reduction in mortality was observed in wounds of the extremities where conservative treatment, made possible in part by X-rays, was a potent factor in saving life and limb.

Joint fractures were especially difficult to diagnose by ordinary means. X-rays proved indispensable in these cases, because they revealed the nature of the fracture and the degree of bone fragmentation. As a result, mortality was practically nil. This was a remarkable contrast to the Civil War where gunshot fractures of the hip and knee were particularly lethal.

A common assumption by all of us surrounded by technology in our homes, workplaces, and hospitals is that all new technology is rapidly incorporated into medical practice. However, factors other than scientific utility play decisive roles in determining how, when, and by whom new technologies such as X-rays are used. Even though the Spanish-American War had shown that radiographs were invaluable in military surgery, they were not assimilated into army medical practice until World War I. The reasons were (1) technological limitations, and (2) the conservative medical attitudes of the military.

Cumbersome equipment, fragile X-ray tubes and photographic plates, plus the need for a reliable source of electricity, restricted X-ray machines to permanent facilities and hospital ships. Since X-rays were not foolproof guides, surgeons skilled at diagnosing fractures based on deformity, abnormal mobility, and the crackling sound produced by rubbing fragments of broken bones together were unwilling to discard bedside observations for the newfangled Crookes tube. Medical art – the quick eye, sensitive touch and experience of the practitioner – still reigned supreme over medical science.

Between the Spanish-American War and World War I only the largest military hospitals were equipped with X-ray apparatus, and the Army had no X-ray specialists. The Army labored under a mistaken belief that medical officers, traditionally jacks-of-all-trades, could become proficient in the use of X-ray equipment and the interpretation of radiographs without any special training.

With the impending entrance of the United States into World War I, the American Roentgen Ray Society, the oldest organization of radiologists in the United States, recognized that steps had to be taken immediately to overcome the shortage of qualified military radiologists. In June 1917 the Society met with members of the surgeon general's office to present their plans for bringing the Army Medical Corps up-to-date in radiology. The Society's proposal was adopted, and schools of military radiology, under the control of the War Department, were opened in ten major cities across the nation. Classes began promptly in July, shortly after the United States entered the war.

Lectures by medical officers who had firsthand experience in the evacuation hospitals in France emphasized that wherever surgery was done, radiology was done too; therefore, close cooperation between the surgeon and radiologist was of paramount importance. Army surgeons who had become accustomed to working as a team with radiologists, continued the habit after the war. There was a phenomenal increase in the number of physicians who specialized in radiology, and X-ray technology became more user friendly.

In conclusion, X-rays revolutionized the diagnosis of war injuries during the Spanish-American War, but were not assimilated into military medicine until World War I, when radiology became recognized as a medical specialty.