AdMeTech Foundation’s Mission:

To End the Era of Blind Prostate Cancer Care &

To Create a Future of Image-Guided, Minimally-Invasive Diagnosis & Treatment
AdMeTech Foundation’s Approach

- Research & Education Programs:
  - To Expedite Innovation & Implementation
- Public Awareness Campaign
- Advocacy to Increase Government & Private Funding
President Obama’s Proclamation

- September, 2009 - National Prostate Cancer Awareness Month:

“I encourage citizens, Government agencies, private businesses, nonprofit organizations, and other interested groups to join in activities that will increase awareness of what Americans can do to prevent and control prostate cancer.”
President Obama’s Proclamation

- “My Administration supports prevention efforts and research to develop better screening tests, uncover more effective treatments, and ensure quality of life for all who are diagnosed with this illness. …”
Prostate Cancer Awareness, Research & Education

**AdMeTech’s Goal**

- Raise Awareness:
  - Prostate Cancer as a Public Health Crisis
  - Improved Diagnostic Tools as a Solution
Prostate Cancer Crisis

- Prostate Cancer Epidemic
- “Blind” Diagnosis & Treatment
- Patient Care Crisis
- Socioeconomic Problem

Solution: Improved Diagnostic Tools for Early Detection and Treatment
Prostate Cancer Epidemic

- Most common major cancer:
  - A new case – every 2.5 minutes
  - A man dies of prostate cancer every 19 minutes

- In 2008:
  - 28,000 men died
  - 70,000 had treatment failures
  - 230,000 new cases
  - 1.5 million men had biopses
Prostate Cancer Epidemic & African American Men

- Greater risk (by 60%)
- Younger Men
- More Virulent & Lethal Disease
- Higher Mortality (>100%)
Incidence of Prostate vs. Breast Cancer

• 1 in 6 men are diagnosed with prostate cancer
• 1 in 8 women are diagnosed with breast cancer
Prevalence of Latent Prostate Cancer

- **African-Americans (n=314)**
- **Caucasians (n=211)**

% of Cases by Age Group:
- 20-29: 0%
- 30-39: 30%
- 40-49: 60%
- 50-59: 80%
- 60-69: 90%
- 70-79: 100%

[Source: Eur Urol. 30:138-144, 1996]
NCI Support of Prostate vs. Breast Cancer Research

- 2008 Prostate Cancer Research: 285.4 M
- 2008 Breast Cancer Research: 572.6 M
Digital Mammography Before NIH/DHHS Funding

Small Field Digital Mammography of 1991 Shows Advanced Breast Cancer

Photo courtesy of Dr. Martin Yaffe
Digital Mammography After NIH/DHHS Funding

Digital Mammography of 2007 Detects Small Breast Cancer < 3 mm

Photo courtesy of Dr. E. Sickles, UCSF
Rapid Advances in Breast Cancer Imaging: A Model for Prostate Imaging

- Public Education & Awareness
- Advocacy & Consumer Demand
- Leadership of US Congress & State Lawmakers
- Federal, State & Private Investment
- Partnerships of government, academia and industry to expedite:
  - technologic innovation,
  - related research &
  - transfer to patients
Early Detection is Critical for Cure

“If prostate cancer is caught at a time when it is confined to the prostate, generally it can be cured by radiotherapy and surgery”

- Professor Alan Horwich
  Royal Marsden Hospital, UK
Breast cancer strikes 1 in 8 Women. Mammograms Save lives.

Prostate cancer strikes 1 in 6 men. Where is life-saving imaging for men?
Prostate Cancer Crisis

- Prostate Cancer Epidemic:
  - 1 in 6 men is Stricken

- Most Common Major Cancer in the United States

- Men Do Not Have Accurate Diagnostics for Early Detection:
  - To Cure Cancer?
  - To Save Lives?
Prostate Cancer Crisis: Current Diagnostic Tools are Not Reliable

- **March, 2009** - New England Journal Medicine Publishes a Large-Scale Study on Current Diagnostics Demonstrating:
  - No Conclusive Evidence of Saved Lives
  - Clear Evidence of Harm due to Over-Diagnosis and Over-Treatment
Prostate Cancer Crisis:
Current Diagnostic Tools are Not Reliable

- March 3, 2010 - American Cancer Society:
  - Issues New Guidelines &
  - Recommends Against Routine Use of Current Diagnostics (PSA) for Mass Screening

- Impact is Staggering:
  - An American man dies every 19 minutes
March 9, 2010 – New York Times:
Op-Ed By Richard Ablin, Inventor of PSA

- Each year some 30 million American men undergo testing for prostate-specific antigen (PSA)…(at a cost of $3 billion)
- PSA test is the most commonly used tool for detecting prostate cancer
- The test is hardly more effective than a coin toss and ....
- (PSA) has led to a hugely expensive public health disaster
Prostate Cancer Crisis: Direct Result of Poor Diagnostics

- **Over-Diagnosis:**
  - Unnecessary biopsies:
    - > 1 million/yr @ $2 billion
  - Unnecessary treatment:
    - up to 54% of men with early disease @ > $2 billion

- **Under-Diagnosis:**
  - Missed cancer > 20% of men
  - Under-estimated extent & aggressiveness:
    - >20-30% of men
  - Treatment failures:
    - 1 in 2 men (>70,000 per year)

- **Human cost:**
  - Treatment Complications
  - Reduced quality of life

- **Health care costs:**
  - $$ billions per year (est. > $5 billion)
  - Socio-economic problem
Prostate Cancer Crisis: Direct Result of Unreliable Diagnostics

- Mr. Dana Jennings – Editor of New York Times:
  - “Prostate cancer and its treatment breed anger and confusion among the men who have it and those who love them.”
Mr. Dana Jennings

- Aged 49
- Diagnosed with advanced and aggressive prostate cancer in 2009
- Underwent surgery, radiation and hormonal treatment (medical castration)
VA Study – August 2009

- Journal of the National Cancer Institute – Sharp Increase in Prostate Cancer Incidence in Younger Men:
  - Seven fold increase in men aged 50 and younger
  - Three fold increase in men aged 50 to 59
  - Two fold increase in men aged 60 to 69
International Prostate MRI Working Group

- Multi-Institutional, Multi-Disciplinary Research Program:
  - To Stimulate New Ideas
  - To Develop Research Strategy
  - To Facilitate Transfer to Patients
Experimental MRI Shows Aggressive, Metastatic Prostate Cancer Missed for 5 Years with Standard Diagnostics and Repeated Biopsies

Advanced MRI Shows Large 2 cm Aggressive Cancer
(Courtesy of P. Choyke, NIH)

CT Imaging Shows Multiple Metastases
(Courtesy of P. Choyke, NIH)
International MRI Working Group

- Examples of Participating Institutions:
  - Harvard Medical School
  - Johns Hopkins
  - Memorial Sloan Kettering
  - University of California, San Francisco
  - MD Anderson & Baylor College of Medicine
  - University of Nijmegen, Holland
  - Royal Marsden Hospital, United Kingdom
Why we need image-guided biopsy & treatment?

- Case Study
  (Courtesy of Dr. C. Tempany, Harvard Medical School):
- 61 year old Male Chemical plant manager
- Clinical History 2/2000 – 9/2002:
  - Progressively rising blood test (12 to 21)
  - Four negative “blind” prostate biopsies
- MR exam – 2/2003
  - 2cm lesion left side
- MR guided targeted prostate biopsy -8/03
  - Diagnosis: Prostate Cancer
  - 11/03 radical prostatectomy was curative:
    - 3.5 cm bilateral tumor confined to prostate
MRI Predicts Low-Risk Prostate Cancer & May Eliminate unnecessary Treatment

- 220 patients with low-risk PCa
- (Bx Gleason score ≤6, PSA <20ng/ml)

Courtesy of: Amita Shukla-Dave, PhD, Memorial Sloan-Kettering Cancer Center
Prostate Cancer Crisis: The Solution is Imaging

- Vision for the Future
Imaging Technologies: Solution to Prostate Cancer Crisis

- Save lives
- Select the most cost-effective and the least invasive treatment
- Eliminate unnecessary procedures and related complications
- Improve quality of life in millions of men
- Reduce health care costs by at least $5 billion annually
Public Awareness & Its Impact

January 2009:

Reuters Covers AdMeTech’s Consensus Conference:

- *Experts urge prostate cancer "man-o-gram"*
February 2009: Fox Business TV Covers the Man-o-Gram Project

- Expresses "Distress" Over Low Funding for Prostate Cancer Research
March 18-19, 2009:

NBC Coverage:

- Hope for NIH Stimulus Funding to Create Life-Saving Prostate Imaging
March 23:
US Congress Sends Letter to NCI/NIH

- Cummings, Waxman and 10 Other Members
- Request to Utilize Stimulus Funding to Support Prostate-Specific Imaging
March 31, 2009 – 7 AM

- Wall Street Journal:
- The Man, the Gland, the Dilemmas:
  - Ground-Breaking Coverage of Imaging as a Solution to Prostate Cancer Crisis
  - Features Personal Story of a Patient Whose Life was Saved by AdMeTech Foundation through Prostate MRI
March 31 – 6 pm

- Senator Barbara Boxer Re-Introduces the PRIME Act (S.756):
  - Government investment of $650 million for Prostate Research Imaging and Mens Education

  - “...addresses the urgent need for the development of new technologies to detect and diagnose prostate cancer”

  - “..would mirror the investment the Federal Government made in advanced imaging technologies, which led to life-saving breakthroughs in detection, diagnosis and treatment of breast cancer.

  - “...directs (government) to expand prostate cancer research, and provides the resources to develop innovative advanced imaging technologies for prostate cancer detection, diagnosis, and treatment.

  - “...would create a national campaign to increase awareness about the need for prostate cancer screening...to ensure that this information reaches the men most at risk from this disease”
Dance for the Cure of Prostate Cancer

- Public Awareness Campaign Modeled After Race for the Cure of Breast Cancer
- Partners:
  - Arthur Murray Dance Studios
  - SuperShag Dance Studios & Productions
  - Boston Ballet
  - Many generous individuals from TV, ABC’s Dancing with the Stars, Hollywood, Dancesport & Entertainment
Prostate Cancer Crisis: Improved Diagnostics as a Solution

- March 4, 2010

- Congressional Hearing of the House Oversight and Government Reform Committee - Identifies Critical Need for:
  - Reliable In Vitro Tools (Blood or Urine Testing) for Mass Screening & Prevention;
  - Accurate Imaging Technologies for Improved Early Detection & Treatment

- Rep. Elijah Cummings Introduces the $650 Million Prostate Research Imaging and Men’s Education Act (PRIME Act):
  - “Manhattan Project” To Improve Prostate Diagnostics –
  - To Save Lives, Improve Quality of Life in Millions of Men & Save Billions of Dollars
"The lack of accurate diagnostic tools for prostate cancer has led to a public health crisis. We reviewed new scientific data ... and concluded that with further research, accurate imaging technologies ... will improve early detection, save lives, eliminate unnecessary and failed procedures, and guide minimally-invasive treatment.”
AdMeTech’s Consensus Meeting–May 6, 2010, Stockholm

- Research funding proposed by the Prostate Research Imaging and Men's Education (PRIME) Act introduced in the U.S. Congress is critical for transfer of these promising technologies from bench to bedside, improving quality of life for millions in men and reducing billions of dollars in health care costs.
Imaging Technologies: Solution to Prostate Cancer Crisis

“We firmly believe that more accurate imaging technology would lead to better patient care, including guidance for diagnosis, biopsy and minimally-invasive therapy. Real and important improvements in prostate cancer care are at hand if we are resolved to increase national investment in prostate diagnostics”.

AdMeTech’s Consensus Conference – January 2009
Prostate Cancer Awareness Day:
State House - June 16, 2010

- Multi-Disciplinary Approach:
- Massachusetts Model of National Leadership
  - Patrick-Murray Administration
  - Key Legislators
  - Leaders of Medicine, Industry, Advocacy & Entertainment
Prostate Cancer Awareness Day:
State House - June 16, 2010

- **Agenda:**
  1) **Keynote Speaker:**
     - Lt. Governor Timothy Murray
  2) **Featured Speakers:**
     - Senator Richard Moore:
       - Chair of Joint Healthcare Financing Committee
     - Senator Susan Fargo:
       - Chair of Joint Public Health Committee
     - Dr. Nancy Norman:
       - Chief Medical Officer, Boston Public Health Commission
     - Organizing Committee
  3) **Dance for the Cure of Prostate Cancer:**
     - Public Awareness Campaign
     - Mr. Mark Lightner:
       - Area Chair, Arthur Murray International
Prostate Cancer Crisis: Massachusetts Model for National Leadership

- Patrick-Murray Administration, the Massachusetts General Court and the Massachusetts Delegation to US Congress Lead the Way in
  - Recognizing Prostate Cancer as a Major Public Health Issue
  - Supporting The PRIME Act

- Invite Everyone to Sign a Petition to US Congress in Support of the PRIME Act
Prostate Cancer Awareness & Advocacy

- Thank you for taking part in this event
  - Every voice, every person counts
  - Thanks to all who already support public awareness
  - Thank you in advance to all who are considering to support public awareness
  - Growing community will make important steps to creating a historic change that will impact billions of people around the world