CANCER SURVIVORSHIP

Beyond being cured

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DALHOUSIE UNIVERSITY
Inspiring Minds
Faculty of Medicine

Objectives

- Define survivor & survivorship
- Why is survivorship important?
- Discuss the epidemiology, clinical, and economic implications of GU cancer survivorship
- Survivorship care plans and the role of the primary care physician
- Issues facing GU cancer survivors

What is a “survivor”?

“Survivor”

- NCCN Definition
  - **Any individual diagnosed with cancer from the time of diagnosis, through the balance of his or her life**

- Encompasses a broad range of patients
- Needs vary by:
  - Cancer type and various Tx’s
  - Short-term vs long-term side effects
  - Clinically localized vs metastatic disease
  - Early diagnosis vs End of life

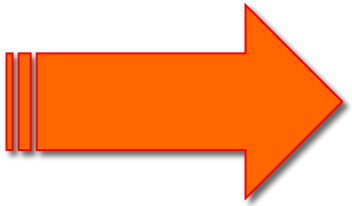
NCCN Guidelines 2013, AUA update 2012

Definition of Survivorship

- "Cancer Survivorship"
  - **Phase of care following primary treatment**
    - Focuses all all aspects of health from Dx to death
  - **Acceptance of cancer as a chronic disease**
  - Includes addressing the needs of the family members, friends, & caregivers who support the survivor
  - Alleviating residual physical and psychological adverse effects of cancer therapy

Unique Challenges of Survivors

- Cancer
- Diagnosis & Prognosis
- Treatment
- Side-effects
- ? Anticipating death

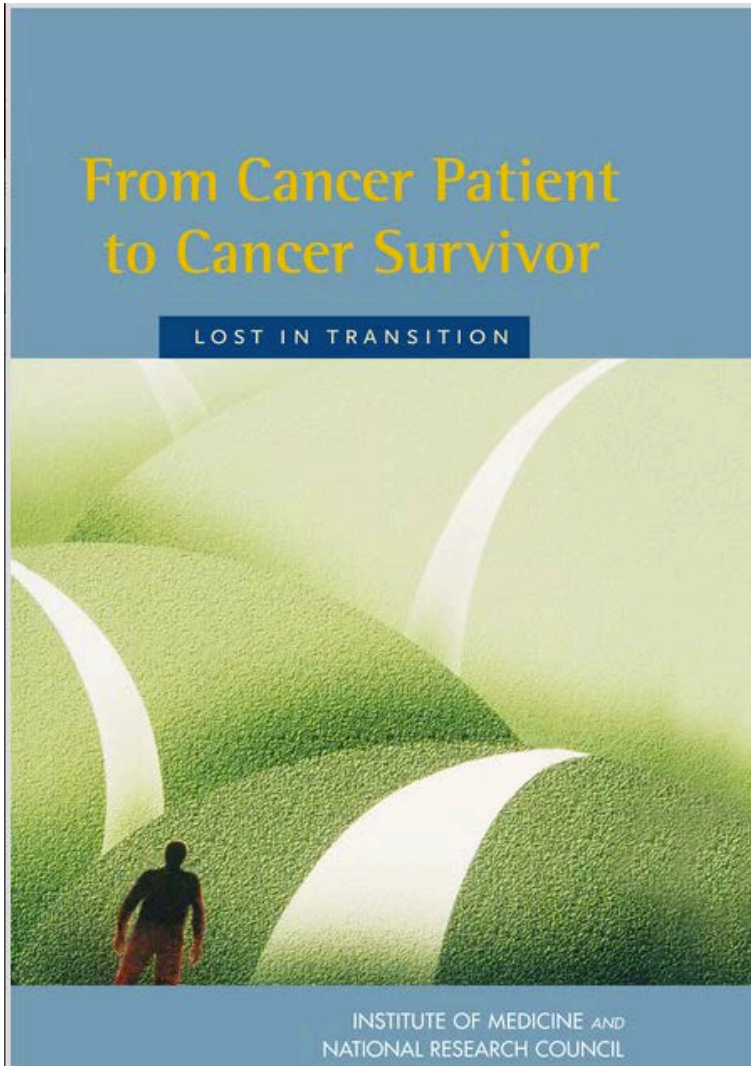


- Physical Health
- Psychosocial
- Emotional Health
- Sexual Health
- Professional & personal identity
- Finances / Insurance
- Social / Family

Addressing the needs of cancer survivors is critical to providing quality cancer care

Miller. J Cancer Surviv. 2012

Institute of Medicine Report (2005)



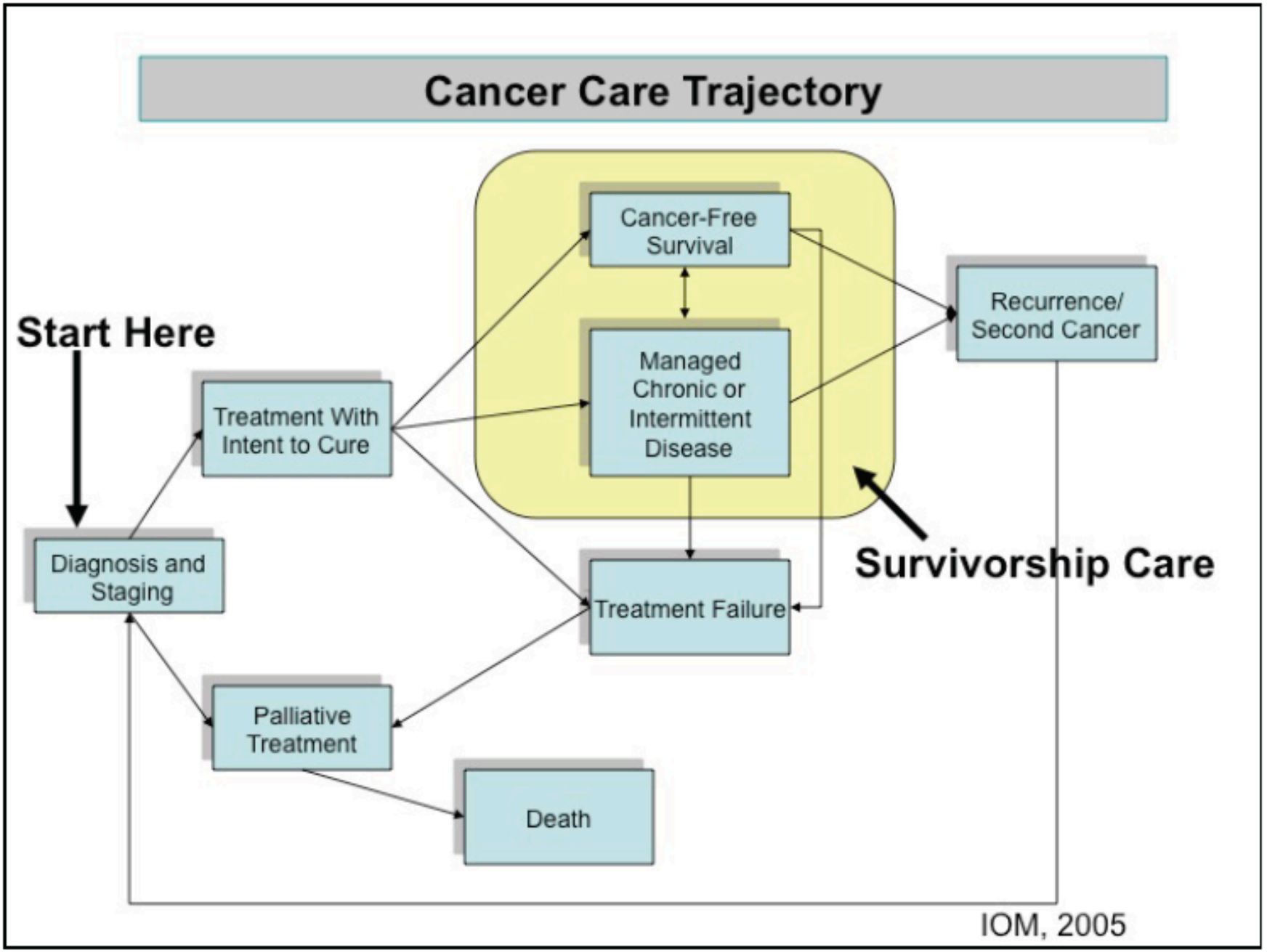
- Emphasize the lack of guidance in caring for cancer survivors
- Highlighted specific issues facing survivors
  - Medical & Psychosocial problems
  - Recommendations for meeting needs
  - Improving care & QOL
- **Established cancer survivorship as distinct phase of cancer care**

Hewitt, Green, & Stovail. 2005. From Cancer Patient to Cancer Survivor: Lost in Translation, Institute of Medicine

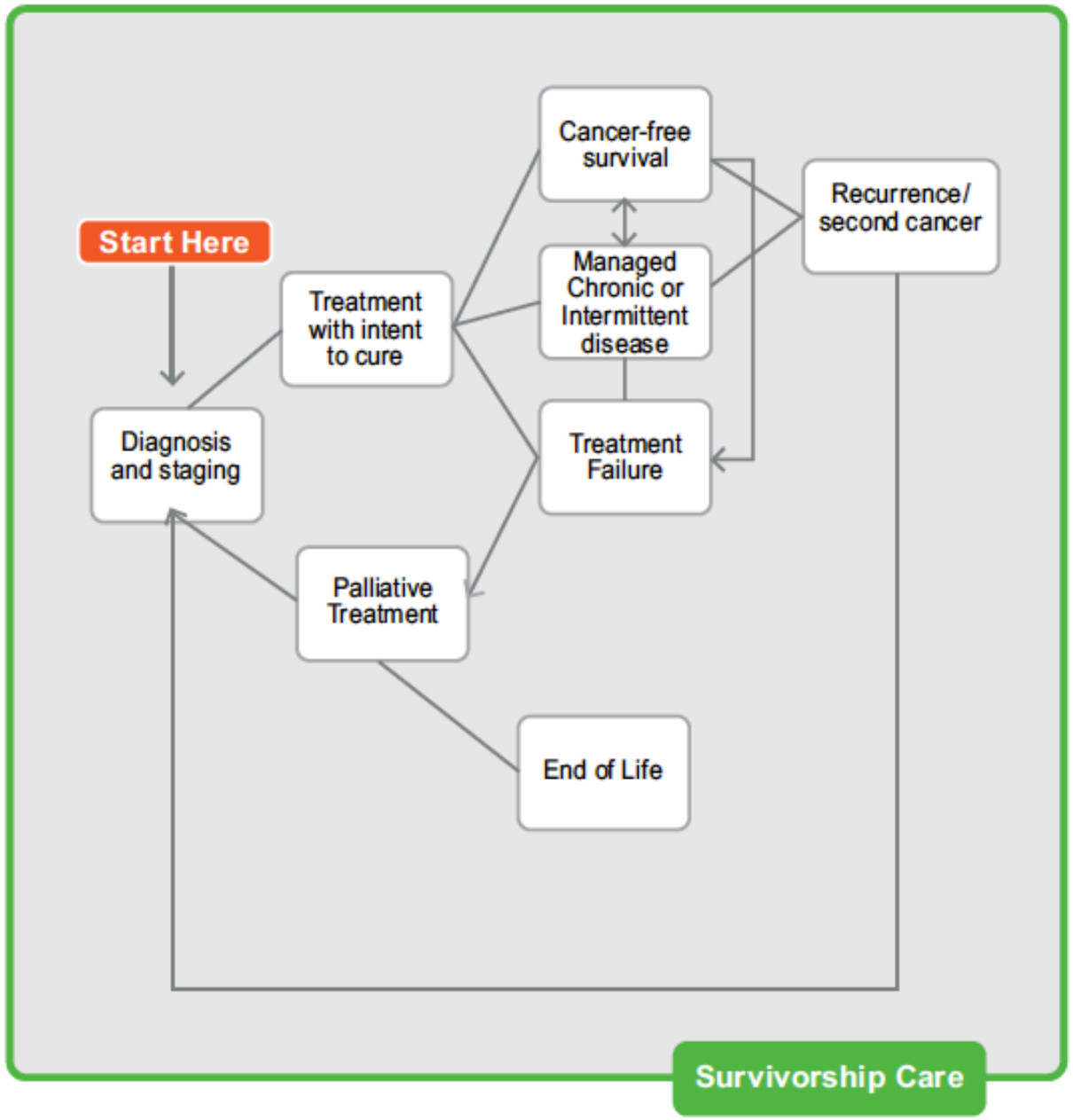
Essential Components of Survivorship Care

1. **Prevention**
   - Recurrence and new cancers, late effects of therapy
   - General health (diet, exercise, wt loss, smoking cessation)
2. **Surveillance**
   - Identify spread, recurrence, 2^0 malignancies
   - Assess for medical and psychosocial side effects
3. **Intervention**
   - Consequences of cancer and Tx (symptoms, medical problems)
   - Psychosocial support
4. **Coordination**
   - Coordinated care among all health providers
     - (GP, specialists, etc.)

Hewitt, Green, & Stovail. 2005. From Cancer Patient to Cancer Survivor: Lost in Translation, Institute of Medicine



Hewitt, Green, & Stovail. 2005. Institute of Medicine; M.Robinson, 2012



Prostate Cancer Canada

A Survivorship Action Partnership, Prostate Cancer Canada, 2012

Why is Survivorship Important?

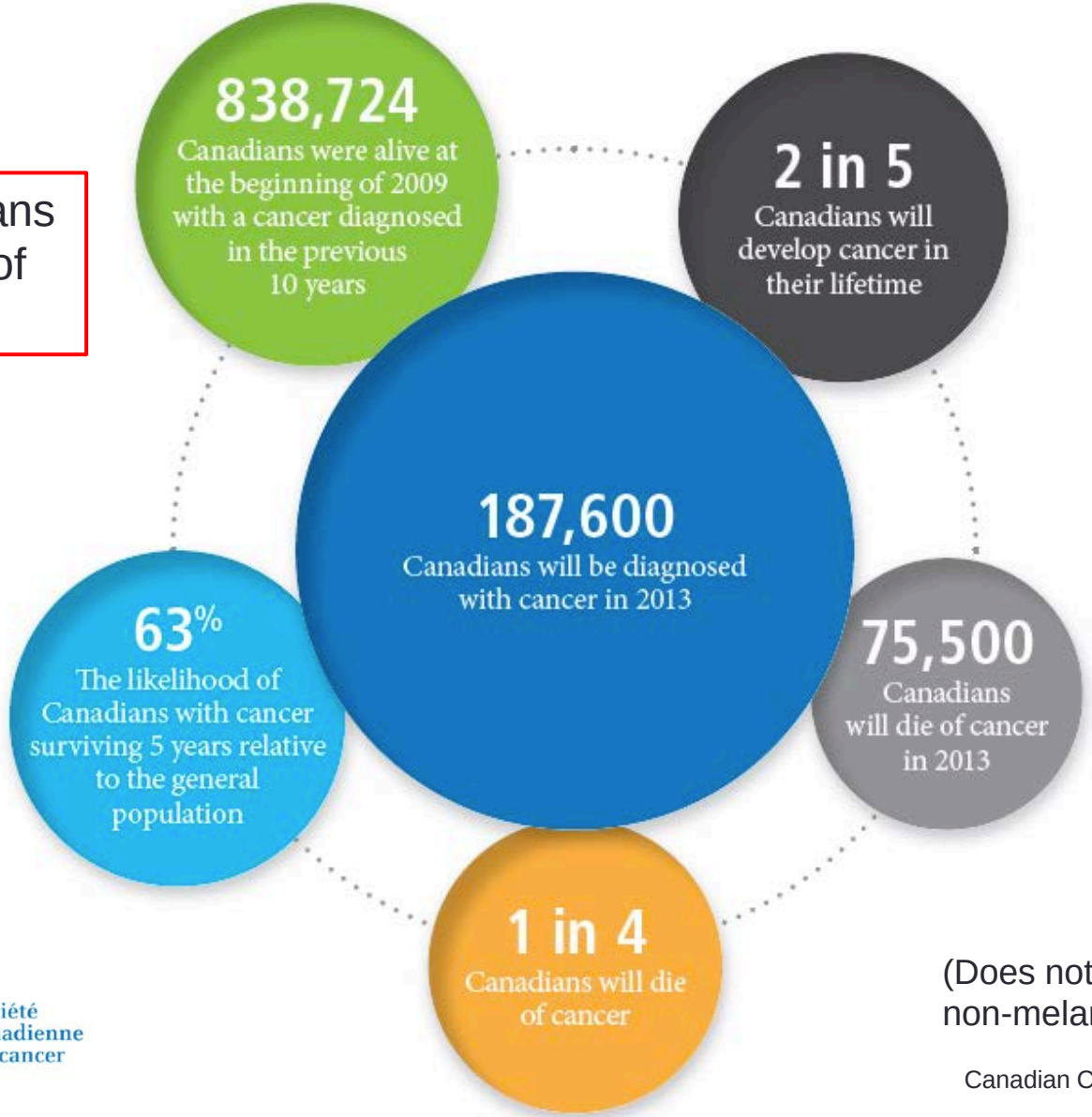
- ↑ number of cancer survivors
- Survivors continue to live longer
- ↑ risk of long-term morbidity
  - Directly related to cancer itself, pre-existing comorbidities, exposure to therapy

- Long-term &/or late side effects of cancer
  - Physical, emotional, psychological

- Primary care provider often unfamiliar with specific concerns
  - Often requires multidisciplinary approach

Measuring the Canadian Cancer Burden

2.5% of Canadians living with a Dx of cancer

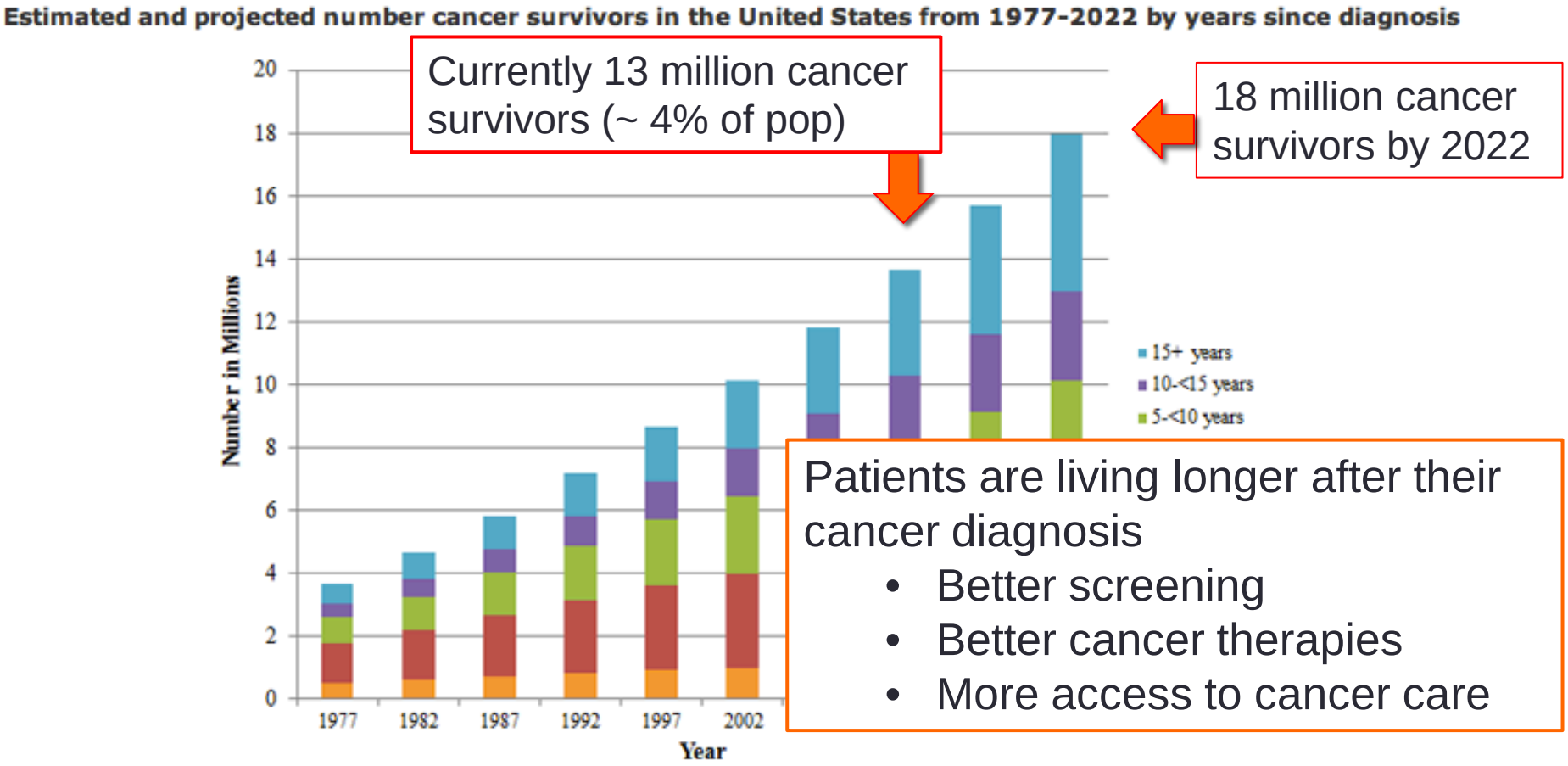


Canadian Cancer Society / Société canadienne du cancer

(Does not include 81,700 non-melanoma skin cancers)

Canadian Cancer Statistics 2013

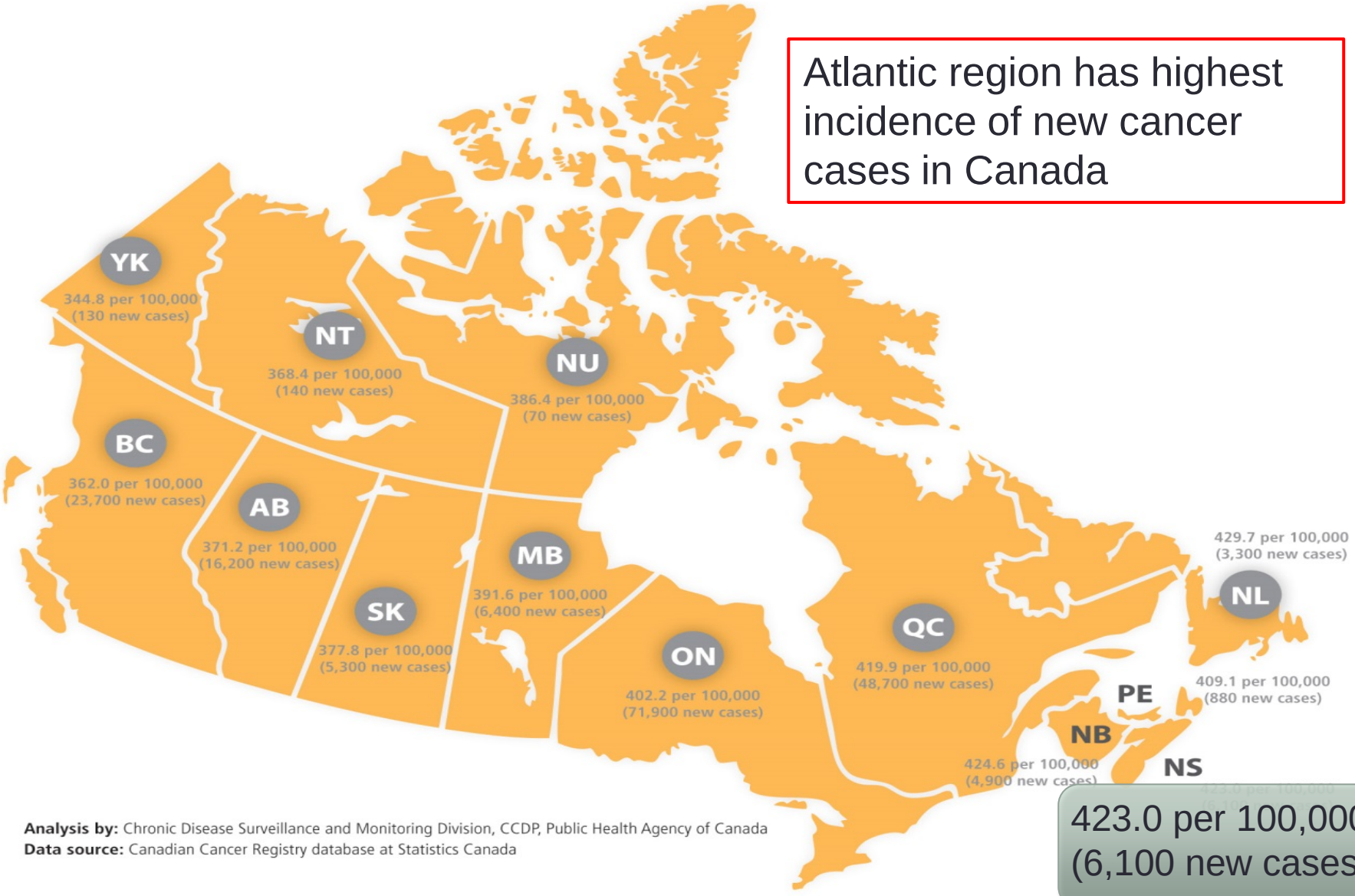
Survivor Projections by 2022 (US)



de Moor JS, Mariotto AB, Parry C, Alfano CM, Padgett L, Kent EE, Forsythe L, Scoppa S, Hachey M, and Rowland JH. Cancer Survivors in the United States: Prevalence across the Survivorship Trajectory and Implications for Care. Cancer Epidemiol Biomarkers Prev. 2013 Apr;22(4):561-70. doi: 10.1158/1055-9965.EPI-12-1356. Epub 2013 Mar 27.

US Centers of Disease Control and Prevention (CDC), National Cancer Institute (NCI), American Cancer Society

FIGURE 2.4 Geographic distribution of estimated new cancer cases and age-standardized incidence rates (ASIR) by province or territory, both sexes, Canada, 2013



Atlantic region has highest incidence of new cancer cases in Canada

423.0 per 100,000 (6,100 new cases)

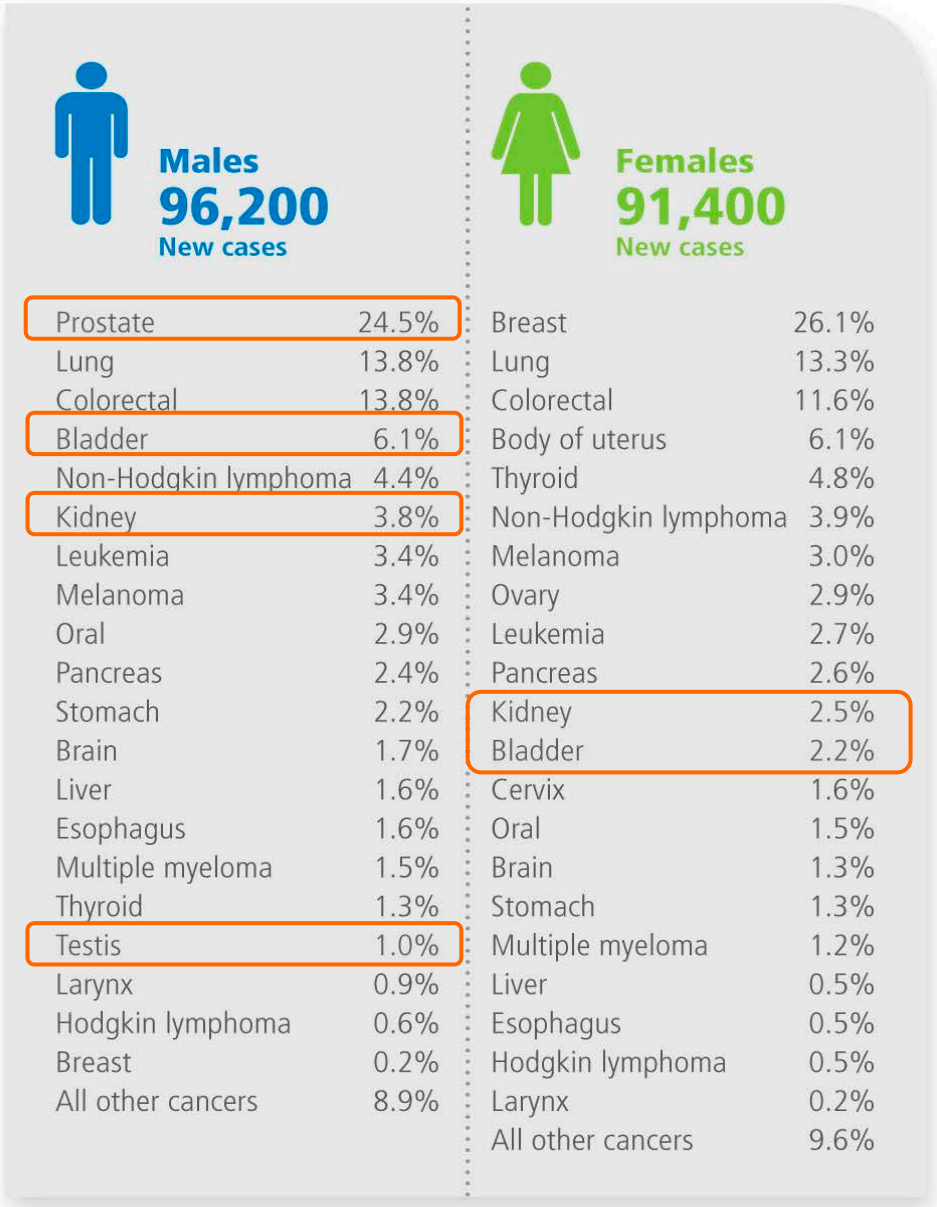
Analysis by: Chronic Disease Surveillance and Monitoring Division, CCDP, Public Health Agency of Canada
Data source: Canadian Cancer Registry database at Statistics Canada

Canadian Cancer Statistics 2013, Statistics Canada

Prostate cancer accounts for ~ 25% of all new cancer cases in men

1 in 7 males will be diagnosed with Prostate cancer

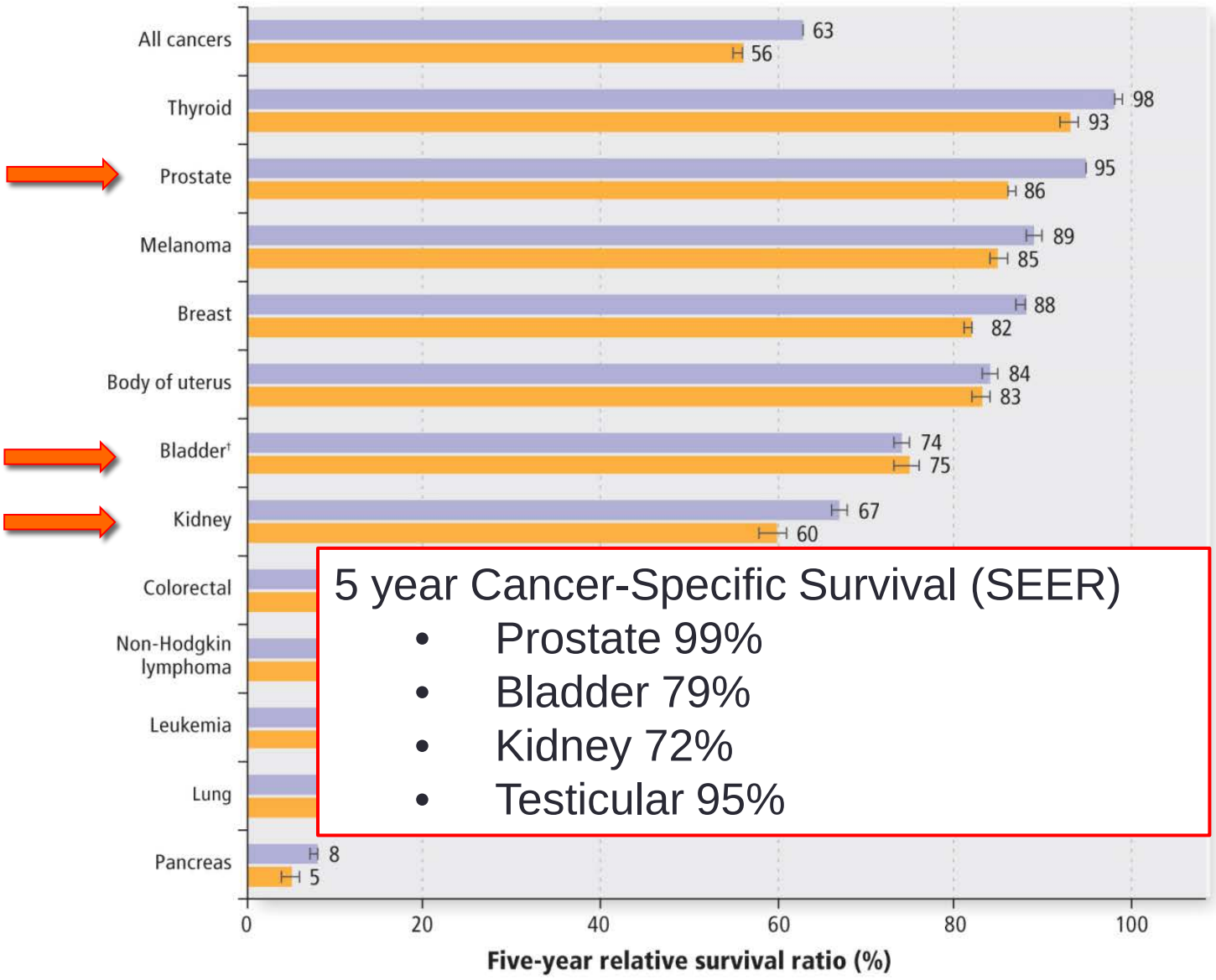
FIGURE 1.2 Percent distribution of estimated new cancer cases, by sex, Canada, 2013



Analysis by: Chronic Disease Surveillance and Monitoring Division, CCDP, Public Health Agency of Canada

Statistics Canada 2013

FIGURE 5.2 Age-standardized five-year relative survival ratio (RSR) for selected cancers, both sexes combined, Canada (excluding Quebec*), 2006–2008 versus 1992–1994



5 year Cancer-Specific Survival (SEER)

- Prostate 99%
- Bladder 79%
- Kidney 72%
- Testicular 95%

* Data from Quebec were excluded, in part, because its method for ascertaining the date of cancer diagnosis differs from the method used by other provinces and territories and because of issues in correctly ascertaining the vital status of cases.

† Excludes data from Ontario, which does not report *in situ* bladder cancers.

Note: These data are based on people aged 15–99 years at diagnosis and exclude non-melanoma skin cancers and adolescent (aged 15–19 years) bone cancers, which are dissimilar to those diagnosed in older adults. Since estimates are rounded to the nearest whole percent, confidence limits may be the same as the five-year relative survival ratio. Error bars refer to 95% confidence interval.

Canadian Cancer Statistics 2013; Surveillance, Epidemiology, and End Results (SEER) program 2013

Age stratification of GU cancer survivors (US)

Table. Urological cancer survivors in the United States according to age group (2007)[1]

Cancer Type	Age Group (yrs)					Total No. (% cancer survivors)
	0–19	20–39	40–64	65–84	≥85	
Prostate	119	467	463,272	1,549,851	262,404	2,276,112 (19.4)
Bladder	221	4,630	121,403	327,086	81,895	535,236 (4.6)
Kidney and renal pelvis	7,915	13,357	112,029	128,644	19,544	281,490 (2.4)
Totals	8,255	18,454	696,704	2,005,581	363,843	3,092,838 (26.4)

By 2020, ~ 4 million urological cancer survivors expected

- 3.1 million prostate cancer
- 600,000 bladder cancer
- 400,000 kidney cancer

Skolarus & Wittman. Cancer Survivorship. AUA update 2012

Economic Impact of Cancer Survivorship

- From 1994-2004 cancer related expenses increased by ~ 75%
- In 2010,
  - Overall cancer expenses ↑ to $124 billion
  - **GU cancer care ~ $20 billion**
    - Prostate $11.9 billion
    - Bladder $4.0 billion
    - Kidney $3.8 billion
- (#'s do not include testis & penile ca)

Yabroff et al J Natl Cancer Inst 2008; Mariotto et al J Natl Cancer Inst 20

What's driving this cost?

- Prostate ca.
  - ADT ($$)
  - Abiraterone, Enzulutamide ($$$$)
  - Incontinence and impotence Tx's
- Bladder ca.
  - Long-term surveillance required
    - Imaging, cysto, intravesical therapy, cystectomy
  - **Cited as most expensive of all cancers from Dx to death**
- Kidney ca.
  - ↑ incidence of SRM's based on widespread use of imaging

Avritcher et al. Urology 2006; Riley et al. Med Care 1995; Travis et al J Natl Cancer Inst 2010
Jewett & Zuniga Urol Clin North Am 2008

Surveillance of Demographic Characteristics and Health Behaviors Among Adult Cancer Survivors — Behavioral Risk Factor Surveillance System, United States, 2009

- Large proportion of cancer survivors
  - Have significant comorbidities
  - Smokers (15%)
  - Obese (28%)
  - Do not engage in physical activity (32%)
- Many not receiving recommended preventative care
  - Cancer screening (colorectal, cervical screening)
  - Vaccines
- 6.8% of cancer survivors had no health insurance
- 12% denied health insurance, life insurance, or both because of their cancer diagnosis

Underwood et al. MMWR Surveill Summ. 2012 Jan 20;61(1):1-23

JOURNAL OF CLINICAL ONCOLOGY

ASCO SPECIAL ARTICLE

American Society of Clinical Oncology Statement: Achieving High-Quality Cancer Survivorship Care

Mary S. McCabe, Smita Bhatia, Kevin C. Oeffinger, Gregory H. Reaman, Courtney Tyne, Dana S. Wollins, and Melissa M. Hudson

- Need for standardized, evidence-based practice guidelines for the management of complications and health promotion of survivors

McCabe et al. J Clin Oncol. 2013

NCCN National Comprehensive Cancer Network®

NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®)

Survivorship

Version 1.2013

NCCN.org

Continue

Late effects of GU treatments

Surgery	Urinary Incontinence Sexual Dysfunction Erectile Dysfunction Psychological Issues Scars	Metabolic abnormalities Complications / hernias Chronic Pain Paresthesias
Radiation	Urinary Incontinence Sexual dysfunction LUTS Psychological Issues Secondary Malignancies	Bowel symptoms (fecal incont, urgency, freq, pain) Hematochezia Skin Hypersensitivity Fatigue
Chemo	Toxicity Secondary malignancies CV disease Infertility Psychological issues	Metabolic syndrome Osteoporosis Cataracts Cognitive dysfunction Sexual dysfunction

Skolarus & Wittman. AUA update 2012. Cancer Survivorship

Psychological Burdens

- Fear of recurrence / death
- Body control
  - Incontinence, LUTS, bowel dysfunction, ED
- Body image
  - Removal of urinary or reproductive systems
- Social Discomfort
- Depression, Anxiety
- Difficulty in couple relationships
  - Psychosocial well-being
  - Spouse also affected
- Difficulty in Family relationships
  - Family members often become caregivers
    - Mental health problems
    - Decreased QOL

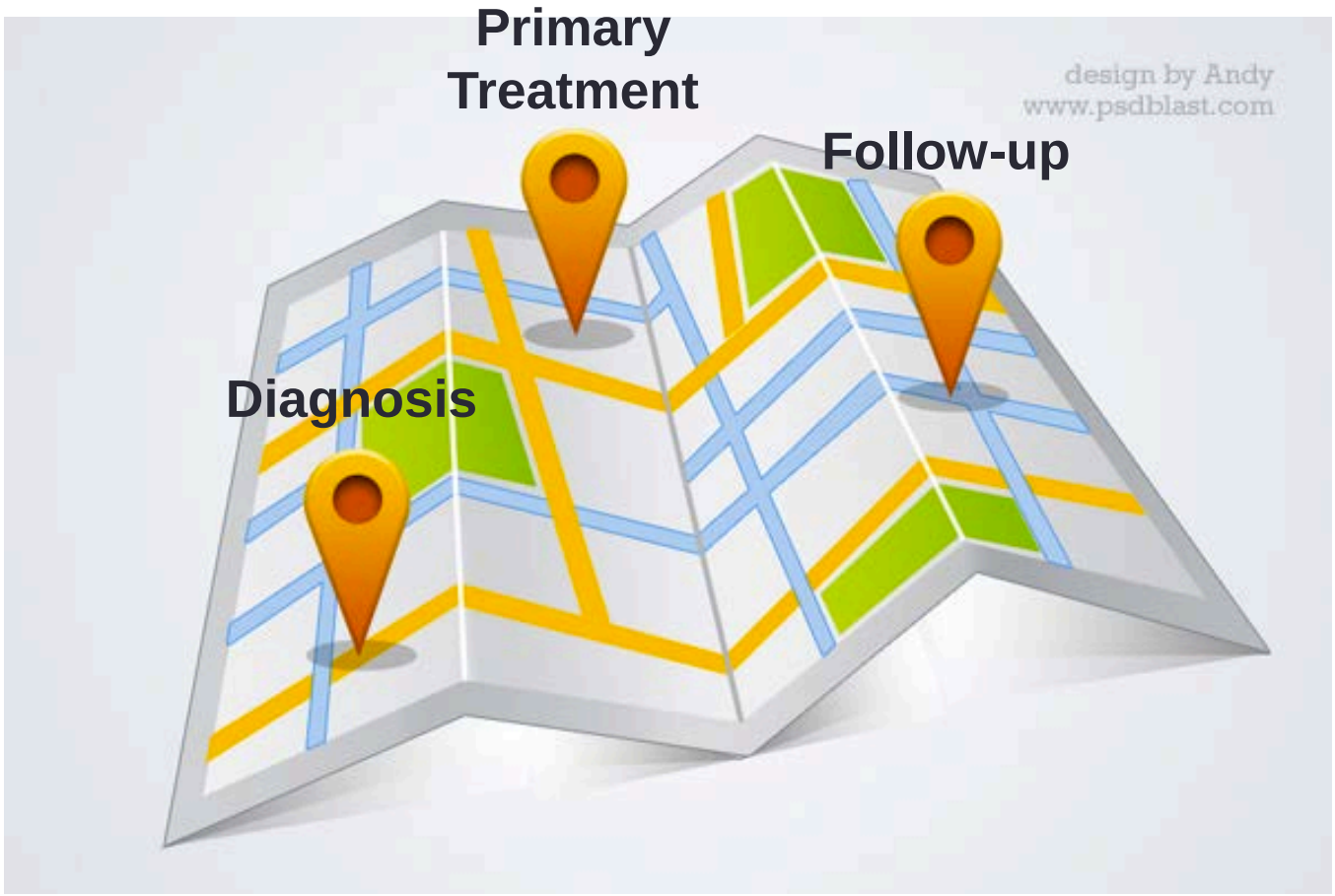
Skolarus & Wittman. AUA update 2012. Cancer Survivorship

Psychosocial Survivorship Care

- Don’t ask, Don’t tell – way of the past!
- **When pts and partners realize help is available, they are more likely to reveal private concerns**
- Simple recognition & referral can greatly improve psychological outcomes and QOL
  - Connect pts with appropriate services
    - Support groups, social workers, psychologists, psychiatrists

Jacobs et al. CA Cancer J Clin 2009

Survivorship Care Plans



What is a Survivorship Care Plan?

- Comprehensive care summary
- Communication vehicle of shared care

Urologist	Medical Oncologist	Psychologist	Social Worker
Radiation Oncologist	Family Doctor	Nurse Practitioner	Patient

- Planned, Coordinated, Efficient F/U
- Developed using evidence-based guidelines & screening instruments
- **Requirement of hospital cancer program accreditation standards in US as of 2015**

Hewitt, Green, & Stovail . 2005. From Cancer Patient to Cancer Survivor: Lost in Translation, Institute of Medicine;
NCCN Survivorship Guideline 2013

Elements of a Survivorship Care Plan:
Personalized Record of Care

- Diagnostic tests & results
- Tumor characteristics
  - Site, stage, grade, marker information
- Sx / Chemo / Rads / Hormonal therapy provided
  - agent, regimen, total dosage, clinical trial, indicators of response, toxicities experienced
- Psychosocial, nutritional, & supportive services provided
- Contact info of care team
  - Identification of key point of contact & coordination of continuing care

Hewitt, Green, & Stovail . 2005. From Cancer Patient to Cancer Survivor: Lost in Translation, Institute of Medicine

Elements of Survivorship Care Plan:
Ongoing Care Plan

- Recommended F/U & surveillance testing
  - Who should provide them
- Late and long-term effects of Tx
- Possible signs of recurrence and 2^0 tumors
- Psychosocial concerns
- Insurance, employment, and financial concerns
- Recommendations for healthy living
  - Diet, exercise, weight, smoking cessation, osteoporosis prevention
- Identification of supportive care resources

Hewitt, Green, & Stovail . 2005. From Cancer Patient to Cancer Survivor: Lost in Translation, Institute of Medicine

Online Resources

- LIVESTRONG Care Plan
  - http://www.livestrongcareplan.org
- Journey Forward
  - Care plans for breast, colon, lung, lymphoma, and prostate cancer
    - Reflect ASCO guidelines
  - http://www.journeyforward.org/professionals/survivorship-care-plan-builder
- OncoLink
  - University of Pennsylvania
  - http://www.oncolink.org

Cancer Survivorship Care Plan

SAMPLE

This Survivorship Care Plan will facilitate cancer care following active treatment. It may include important contact information, a treatment summary, recommendations for follow-up care testing, a directory of support services and resources, and other information. [1]

Survivorship Care Plan

Prepared by: Jennifer Fournier, RN MSN AOCN CHPN on 6/16/2012 at Oncology Nursing Society

General Information

Patient Name	Brian Reed
Medical record number	987654
Phone (home)	555-456-7890
Phone (cell)	N/A
Email	N/A
Date of birth	10/5/1949
Age at diagnosis	61
Support contact	Sandy Reed, 555-456-7890

Care team	
Hematologist/oncologist	Charles Dowler, 555-123-8000
Surgeon	Edward Smither, 555-123-8000
Radiation oncologist	Danny Song, 555-123-8000
Primary care physician	Michael Amos, 555-123-8000
Nurse/nurse practitioner	Jennifer Fournier, 555-123-8000
Mental health/social worker	Elizabeth Taggart, 555-123-8000

Background Information

Symptoms/signs	Weak urine stream
Family history/predisposing conditions	Previous biopsies confirmed to be negative for tumor in 2008; Worked in rubber industry
Other health concerns	Hypertension
Tobacco use-past	Yes
Tobacco use-current	Yes, Cessation counseling provided
Cancer type/location	Prostate cancer

Needs or concerns	
Prevention & wellness	Tobacco cessation, plant-based diet, regular exercise
Emotional or mental health	Continue with bipolar medications and follow-up
Personal relationships	Erectile dysfunction
Financial advice or assistance	Social work referral for financial assistance

Referrals provided	
Dietician	Melissa Thomas
Smoking cessation counselor	Tami Brown
Physical therapist/exercise specialist	Kelly George
Social worker	Elizabeth Taggart

Comments	
	• Keep all follow-up appointments • Report any problems that occur before next scheduled appointment • Continue screening colonoscopies

Ejaculation and Cancer Treatment

Cancer treatment can interfere with ejaculation by damaging the nerves that control the prostate, seminal vesicles, and the opening to the bladder. It can also stop semen from being made in the prostate and seminal vesicles. Despite this damage, a man can still feel the sensation of pleasure that makes an orgasm. The difference is that, at the moment of orgasm, little or no semen comes out.

Some men say an orgasm without semen feels totally normal. Many others say the orgasm does not feel as strong, long-lasting, or pleasurable. Men often worry that their partners will miss the semen. Most of the time, their partners cannot feel the actual fluid release, so this is generally not true.

Some men's chief concern is that orgasm is less satisfying than before. Others are upset by "dry" orgasms because they want to father a child. If a man knows before treatment that he may want to have a child after treatment, he may be able to bank (save and preserve) sperm for future use. (See *Fertility and cancer treatment* (http://www.cancer.org/ssLINK/sexuality-for-men-with-cancer-fertility-and-treatment.)

Some men also feel that their orgasm is weaker than before. A mild decrease in the intensity of orgasm is normal with aging, but it can be more severe in men whose cancer treatments interfere with ejaculation of semen. See "Is there a way to make orgasms as intense as they used to be?" in *Dealing with sexual problems* (http://www.cancer.org/ssLINK/sexuality-for-men-with-cancer-sex-problems).

Surgery and ejaculation

Surgery can affect ejaculation in 2 different ways. The first is when surgery removes the prostate and seminal vesicles, so that a man can no longer make semen. The other is surgery that damages the nerves that come from the spine and control emission (when sperm and fluid mix to make semen). Note that these are not the same nerve bundles that pass next to the prostate and control erections. The surgeries that cause ejaculation problems are discussed in more detail here.

Removal of the prostate gland and seminal vesicles can cause dry orgasm

The types of cancer surgery that remove the prostate gland and the seminal vesicles are called:

- Radical prostatectomy (removal of the prostate)
- Cystectomy (removal of the bladder)

A man will no longer produce any semen after these surgeries. The sperm cells made in his testicles ripen, but then the body simply reabsorbs them. This is not harmful. After these cancer surgeries, a man will have a "dry"

men ejaculate only a few drops of semen. Toward the end of radiation treatments, men often feel a sharp pain as they ejaculate. The pain is caused by irritation in the urethra (the tube that carries urine and semen through the penis). It should go away over time after treatment ends.

In most cases, men who have hormone therapy for prostate cancer also produce less semen than before.

Chemotherapy very rarely affects ejaculation. But there are some drugs that may cause retrograde ejaculation by damaging the nerves that control emission.

Second Cancers Caused by Cancer Treatment

Men whose prostates have been removed or destroyed with radiation can no longer get a new case of prostate cancer, but they can get recurrence of the original prostate cancer (the cancer can come back after treatment).

Men who are treated with radiation therapy have a higher risk of bladder cancer later on than men who had surgery to remove their prostates. They may also have a higher risk for colon and rectal cancer. This increased risk is mainly seen in men who were treated with external beam radiation therapy (EBRT). Men who had seed implants (brachytherapy) without EBRT may have a slightly increased risk of these cancers, but it is lower than what is seen with EBRT. Overall, the risk seen with radiation therapy is not high, but it can continue for more than 10 years after treatment.

The risk is likely related to the dose of radiation, as it is with other cancers. Men who get seed implants typically get less radiation to nearby organs than those who get EBRT, either by itself or along with seeds.

Newer methods of giving EBRT, such as intensity modulated and conformal beam radiation therapy, may have different effects on the risks of a second cancer. Because these methods are newer, the long-term effects have not been studied as well.

Some studies looking at the long term effects of prostate cancer treatment have found an increased risk of melanoma (a type of skin cancer) after radiation therapy, but this higher risk was seen after prostatectomy (surgery to remove the prostate) as well.

At one point, high doses of the female hormone estrogen were used to treat advanced prostate cancer. This was linked to breast cancer in some men. Estrogen is no longer a standard treatment for prostate cancer.

Follow-up care

Survivors who are treated with radiation have an increased risk of certain second cancers, so they should get careful follow-up. There are no special recommendations for watching for second cancers after prostate treatment at this time, although men who have had radiation to treat prostate cancer should be careful to follow screening recommendations for colorectal cancer to improve the chance of early detection. Your doctor will also be watching closely for recurrence of the prostate cancer. You should also report problems passing urine, blood in your urine, rectal pain, or rectal bleeding to your doctor right away.

All patients should be encouraged to avoid tobacco smoke. Men who smoke may further increase their risk of bladder cancer after prostate radiation, since smoking is a known risk factor for bladder cancer.

What Happens After Treatment for Prostate Cancer?

Completing treatment can be both stressful and exciting. You may be relieved to finish treatment, but find it hard not to worry about cancer coming back. (When cancer comes back after treatment, it is called *recurrence*.) This is a very common concern in people who have had cancer.

It may take a while before your fears lessen. But it may help to know that many cancer survivors have learned to live with this uncertainty and are living full lives. The document, *Living With Uncertainty: The Fear of Cancer Recurrence* (http://www.cancer.org/ssLINK/living-with-uncertainty-toc), gives more detailed information on this.

Follow-up care

When treatment ends, your doctors will still want to watch you closely. It is very important to go to all of your follow-up appointments. During these visits, your doctors will ask questions about any problems you may have and may do exams and lab tests or x-rays and scans to look for signs of cancer or treatment side effects.

Your doctor should give you a follow-up plan. This plan usually includes regular doctor visits, PSA blood tests, and digital rectal exams, which will likely begin within a few months of finishing treatment. Most doctors recommend PSA tests about every 3-6 months for the first 5 years after treatment, and at least yearly after that. Bone scans or other imaging tests may also be done, depending on your medical situation.

Almost any cancer treatment can have side effects. Some may last for a few weeks to months, but others can last the rest of your life. This is the time for you to talk to your cancer care team about any changes or problems you notice and any questions or concerns you have.

It is important to keep health insurance. Tests and doctor visits cost a lot, and even though no one wants to think of their cancer coming back, this could happen.

Prostate cancer can recur many years after initial treatment, which is why it is important to keep regular doctor visits and report any new symptoms (such as bone pain or problems with urination). Should your prostate cancer come back, your treatment options will depend on where it is thought to be located and what types of treatment you've already had. For more information, see *How is prostate cancer treated?* (http://www.cancer.org/ssLINK/prostate-cancer-treating-general-info)

Should your cancer come back, the document, *When Your Cancer Comes Back: Cancer Recurrence* (http://www.cancer.org/ssLINK/when-your-cancer-comes-back-toc) can give you information on how to manage and cope with this phase of your treatment.

Seeing a new doctor

At some point after your cancer diagnosis and treatment, you may find yourself seeing a new doctor who does not know anything about your medical history. It is important that you be able to give your new doctor the details of your diagnosis and treatment. Make sure you have this information handy:

- A copy of your Survivorship Care Plan
- A copy of your pathology report(s) from any biopsies or surgeries
- If you had surgery, a copy of your operative report(s)
- If you had radiation therapy, a copy of your treatment summary
- If you were hospitalized, a copy of the discharge summary that every doctor must prepare when patients are sent home from the hospital
- Finally, since some drugs can have long-term side effects, a list of your drugs (including chemotherapy, hormone therapy, and vaccine therapy), drug doses, and when you took them

The doctor may want copies of this information for his records, but always keep copies for yourself.

End Notes

Note 1: *Important caution.*

This is a summary document whose purpose is to review the highlights of the cancer chemotherapy treatment plan for this patient. This does not replace information available in the medical record, a complete medical history provided by the patient, examination and diagnostic information, or educational materials that describe strategies for coping with cancer and adjuvant chemotherapy in detail. Both medical science and an individual's health care needs change, and therefore this document is current only as of the date of preparation. This summary document does not prescribe or recommend any particular medical treatment or care for cancer or any other disease and does not substitute for the independent medical judgment of the treating professional.

Role of the Primary Care Provider (PCP)

- Demand for F/U care expected to rise
- Netherlands Information Network of Primary Care
  - 503 pts with prostate ca 2-5 yrs after Dx compared to age- and sex-matched controls w/o cancer
  - **Survivors had 33% more consultations annually with primary care contacts vs controls** ($p < .001$)
  - Independent of age and comorbidities
- GP's often do not know how to best care for specific concerns of survivors
  - Info for GP's increasingly important
- Recent survey of breast & prostate ca survivors
  - Strong preference to receive F/U with cancer specialists vs PCP
    - Felt PCP lack cancer expertise
    - Desire for continuity of care

Heins et al. J Clin Oncol 2012; Hudson et al. Ann Fam Med 2012

Assessment at regular intervals:

- What we often do well!
  - Current disease status
  - Recurrence
  - Functional / Performance status
  - Medication
  - Comorbidities
  - Prior cancer treatment Hx and modalities used

What we often neglect!

- Common survivorship concerns
  - Anxiety & Depression
  - Cognitive dysfunction
  - Exercise
  - Fatigue
  - Immunizations & infections
  - Pain
  - Sexual function
  - Sleep disorders

~ 50% of survivors suffer from some late effects of Tx
- depression, pain, fatigue most common

Problems can range from mild to severe, debilitating, to even life threatening

19% of Breast / Gyne / Heme survivors meet criteria for PTSD

Hewitt, Green, & Stovail . 2005. From Cancer Patient to Cancer Survivor: Lost in Translation, IOM;
NCCN Survivorship Guidelines 2013; Smith et al. J. Clin Oncol 2008; Hodgkinson et al. Gynecol Oncol 2007

SURVIVORSHIP BASELINE ASSESSMENT[b]

Please answer the following questions regarding possible symptoms that you may have experienced over the past 4 weeks:

Survivorship Concerns	Sample Survivorship Care Survey	Provider Key
Anxiety and Depression	1. Do you often feel nervous or do you worry? Yes/No 2. Do you often feel sad or depressed? Yes/No 3. Have you lost interest in things you used to enjoy? Yes/No	If YES to any question, refer to SANXDE-1
Cognitive Function	1. Do you have difficulties with multitasking or attention? Yes/No 2. Do you have difficulties with remembering things? Yes/No 3. Does your thinking seem slow? Yes/No	If YES to any question, refer to SCF-1
Exercise	1. Are you exercising or doing some physical activity for less than 150 minutes a week? Yes/No 2. Do you have any limitations to participating in the physical activities that you enjoy? Yes/No	If YES to question 1 or 2, refer to SE-1
Fatigue	1. Do you feel persistent fatigue despite a good night's sleep? Yes/No 2. Does fatigue interfere with your usual activities? Yes/No 3. How would you rate your fatigue on a scale of 0 (none) to 10 (extreme) over the past month? 0-10	If YES to either question 1 or 2, or a rating of >4 to question 3, refer to SFAT-1
Immunizations and Infections	1. Have you received your flu vaccine this year? Yes/No 2. Have you received any vaccinations recently? Yes/No	If NO to either question, refer to SIMIN-1
Pain	1. Are you having any pain? Yes/No 2. How would you rate your pain on a scale of 0 (none) to 10 (extreme) over the past month? 0-10	If YES to question 1 and a rating of >4 to question 2, refer to SPAIN-1
Sexual Function	1. Are you dissatisfied with your sexual function? Yes/No 2. Do you have any concerns regarding sexual function or sexual activity? Yes/No	If YES to question 1 or 2, refer to SSFF-1 (female) or SSFM-1 (male)
Sleep Disorder	1. Are you having problems falling asleep or staying asleep? Yes/No 2. Are you experiencing excessive sleepiness (ie, sleepiness or falling asleep in inappropriate situations or sleeping more during a 24-hour period than in the past)? Yes/No	If YES to either question, refer to SSD-1

Anxiety & Depression

- Affect ~ 30% of survivors (all-comers)

- Fear of recurrence
  - Distress and worry related to surveillance and physical symptoms
- Social Isolation
- Work or financial problems

- Significant impact of QOL
  - 2x incidence of suicide among pts with cancer and survivors in US vs general pop

- Survivors with untreated emotional distress
  - less likely to adhere to recommended F/U and engage in health promoting activities

Stanton J Clin Oncol 2012;Hoffman et al. Arch Intern Med 2009
Misono et al. J Clin Oncol 2008; NCCN Survivorship Guidelines 2013

Managing Anxiety & Depression

- **Routine exercise**
  - Level 1 evidence
    - Weekly aerobic exercise reduced depressive symptoms in a dose-response fashion

- Referral to Psych
  - Medications
  - Supportive psychotherapy
  - Cognitive behavioral therapy

Early identification and treatment is important

Brown et al.Plos One 2012; Piet, Wurtzen & Zachariae. J Consult Clin Psychol 2012

Exercise

- Many survivors become deconditioned
  - Survivors may have impaired CV fitness
- RCTs indicate exercise safe and effective for majority
  - **Risk assessment advised**
  - Consider referral to physical therapist, certified trainer
- **Exercise linked to decrease mortality**
  - Men who walked ≥ 3 hrs/wk at moderate-to-brisk pace had ~50% ↓ in all-cause mortality, 60% ↓in PCa-specific mortality

Kenfield et al. J Clin Oncol 2011; Richman et al. Cancer Res 2011; Galvao et al. Eur Urol 2013

Nutrition and Physical Activity Guidelines for Cancer Survivors

Cheryl L. Rock, PhD, RD[1]; Colleen Doyle, MS, RD[2]; Wendy Demark-Wahnefried, PhD, RD[3]; Jeffrey Meyerhardt, MD, MPH[4]; Kerry S. Courneya, PhD[5]; Anna L. Schwartz, FNP, PhD, FAAN[6]; Elisa V. Bandera, MD, PhD[7]; Kathryn K. Hamilton, MA, RD, CSO, CDN[8]; Barbara Grant, MS, RD, CSO, LD[9]; Marji McCullough, ScD, RD[10]; Tim Byers, MD, MPH[11]; Ted Gansler, MD, MBA, MPH[12]

- All pts encouraged to avoid inactivity and return to daily activities ASAP

- General recommendations (adults 18 - 64 yrs)
  - ≥150 min of moderate-intensity or 75 min of vigorous activity per week, or an equivalent combination
  - 2-3 weekly sessions of strength training that include major muscle groups
  - Stretch major muscle groups and tendons on days other exercises are performed

Rock et al. CA Cancer J Clin 2012; NCCN Survivorship Guidelines 2013

Effects of Exercise on Treatment-Related Adverse Effects for Patients With Prostate Cancer Receiving Androgen-Deprivation Therapy: A Systematic Review

Jason R. Gardner, Patricia M. Livingston, and Steve F. Fraser

J Clin Oncol 2014 Feb.

- Aerobic and/or resistance training demonstrated
  - ↑ muscle strength
  - ↑ cardiovascular fitness
  - ↑ functional task performance
  - ↑ lean body mass
  - ↓ fatigue

Can Supervised Exercise Prevent Treatment Toxicity in Prostate Cancer Patients Initiating Androgen Deprivation Therapy: A Randomised Controlled Trial

Cormie et al. BJU Int. 2014 Jan 27

- 63 pts on ADT randomized to 3 mth supervised aerobic and resistance exercise program or usual care
- Supervised exercise group
  - Preserved lean muscle mass
  - Prevented gains in body fat
  - ↑ CV fitness
  - ↑ muscle strength
  - ↓ cholesterol
  - ↓ fatigue
  - ↑ **sexual fxn**
  - ↓ **psych distress**
  - ↑ **mental health**

Fatigue

- 17-20% of cancer survivors experience persistent fatigue
  - 1/3 of recurrence-free PCa survivors

- Negatively impacts QOL
  - ↓ participation in activities
  - Often report higher levels of emotional distress

- Multifactorial
  - Physical / psychological / environmental / physiological factors
  - Anemia, deconditioning, poor nutrition, sleep d/o, depression

- Often peaks near the end of radiation therapy
- Chemo pts may experience increasing fatigue with each Tx cycle

- NCCN Guidelines for Cancer-Related Fatigue (2014)
- Cochrane Review (2008)– Drug therapy for cancer-related fatigue

Siegel et al. Cancer treatment and survivorship statistics, 2012. CA Cancer J Clin 2012; Storey et al. Ann Oncol 2012

Immunizations & Prevention of Infections

- Survivors are at ↑ risk for infection
  - Chemo, rads, corticosteroids
- Prevented by education, antimicrobial prophylaxis, and use of vaccines

- NCCN encourages
  - Influenza
  - Pneumococcal
  - Tetanus, diphtheria, pertussis
  - Human papilllomavirus

For all survivors!

Pain

- Often ineffectively managed
  - Lack of training by health care providers
  - Fears of side effects and addiction

- Pelvic pain may occur following pelvic rads
  - Fistulae, proctitis, cyctitis, dyspareunia, enteritis

- Multidisciplinary approach recommended
  - Pharmacologic medications
    - Opiods, NSAIDS, muscle relaxants, antidepressants, anticonvulsants
  - Physical therapy / exercise
  - Psychosocial / behavioral interventions
    - Relaxation therapy, CBT
  - Interventional procedures (ie. Nerve blocks, TENS)

Sexual Dysfunction in Urology

- Penectomy
- Damage to neurovascular bundles
- Post RPLND
- Pelvic rads
- ADT

- ↓ QOL, loss of viability as a sexual partner, ↓ self-esteem
  - Grief, mourning
  - Sad, vulnerable, embarrassed, unalterably changed

Whitmann et al. J Sex Martial Ther 2011; Couper et al. Psychooncology 2006

Assessing Sexual Functional (male)

SEXUAL HEALTH INVENTORY FOR MEN (SHIM)[1]

Sexual health is an important part of an individual's overall physical and emotional well-being. Erectile dysfunction, also known as impotence, is one type of very common medical condition affecting sexual health. Fortunately, there are many different treatment options for erectile dysfunction. This questionnaire is designed to help you and your doctor identify if you may be experiencing erectile dysfunction. If you are, you may choose to discuss treatment options with your doctor.

Each question has several possible responses. Circle the number of the response that best describes your own situation.

Please be sure that you select one and only one response for each question.

OVER THE PAST 6 MONTHS:

1. How do you rate your confidence you could get and keep an erection?		Very Low	Low	Moderate	High	Very High
		1	2	3	4	5
2. When you had erections with sexual stimulation, how often were your erections hard enough for penetration (entering your partner)	No Sexual Activity	Almost Never or Never	A Few Times (Much Less Than Half The Time)	Sometimes (About Half the Time)	Most Times (Much More Than, Half The Time)	Almost Always or Always
	0	1	2	3	4	5
3. During sexual intercourse, how often were you able to maintain your erection after you had penetrated (entered) your partner?	Did Not Attempt Intercourse	Almost Never or Never	A Few Times (Much Less Than Half The Time)	Sometimes (About Half the Time)	Most Times (Much More Than, Half The Time)	Almost Always or Always
	0	1	2	3	4	5
4. During sexual intercourse, how difficult was it to maintain your erection to completion of intercourse?	Did Not Attempt Intercourse	Extremely Difficult	Very Difficult	Difficult	Slightly Difficult	Not Difficult
	0	1	2	3	4	5
5. When you attempted sexual intercourse, how often was it satisfactory for you?	Did Not Attempt Intercourse	Almost Never or Never	A Few Times (Much Less Than Half The Time)	Sometimes (About Half the Time)	Most Times (Much More Than, Half The Time)	Almost Always or Always
	0	1	2	3	4	5

PROVIDER KEY: Add the numbers corresponding to questions 1-5. **TOTAL:** _____

The SHIM further classifies ED severity with the following breakpoints: 1-7: Severe ED 8-11: Moderate ED 12-16: Mild to Moderate ED 17-21 Mild ED

Cappelleri & Rosen et al. Int J Impot Res 2005;NCCN Survivirship Guidelines 2013

Assessing Sexual Function (female)

BRIEF SEXUAL SYMPTOM CHECKLIST FOR WOMEN[1]

Please answer the following questions about your overall sexual function:

1. Are you satisfied with your sexual function?
__ Yes __No
If no, please continue.

2. How long have you been dissatisfied with your sexual function?

3a. The problem(s) with your sexual function is:
(mark one or more)
__1 Problem with little or no interest in sex
__2 Problem with decreased genital sensation (feeling)
__3 Problem with decreased vaginal lubrication (dryness)
__4 Problem reaching orgasm
__5 Problem with pain during sex
__6 Other:

3b. Which problem is most bothersome? (circle)
1 2 3 4 5 6

4. Would you like to talk about it with your doctor?
__Yes __No

Hatzichristou et al. J Sex Med 2010; NCCN Survivirship Guidelines 2013

Sleep Disorders

- Insomnia
- Excessive sleepiness
- Sleep-related movement or breathing D/Os
- Parasomnias

- Improvements in sleep lead to improvements in fatigue, mood, and QOL
- Many physicians do not know how to screen, assess or Tx sleep disorders

Richardson et al. Br J Cancer 2011

Sleep Hygiene

- Recommended that all patients receive supportive education and information on sleep hygiene

GENERAL SLEEP HYGIENE MEASURES[1,2,3]

- Regular exercise in the morning and/or afternoon
- Increase exposure to bright light during the day
- Avoid exposure to bright light during the night
- Avoid heavy meals or drinking within 3 hours of bed
- Avoid alcohol, caffeine, nicotine too close to bedtime
- Enhance sleep environment
  (dark, quiet room, comfortable temperature)
- Set aside a worry time
- Avoid looking at the clock

Kupfer & Reynolds NEJM 1997; Lippmann et al. South Med J 2001; NCCN Surviviorship Guidelines 2013

A Pan-Canadian practice guideline: prevention, screening, assessment, and treatment of sleep disturbances in adults with cancer

Doris Howell · Thomas K
Sheila Garland · Charles
Karin Olson · Jonathan
as the Sleep Disturbance
of the Canadian Partner

Support Care Cancer (2013) 21
DOI 10.1007/s00520-013-1823

Sleep-Wake Disturbances In Adults with Cancer Part 2: Differential Diagnosis and Management

Practice Guideline: Sleep disturbance

Mild Sleep Disturbance	Transient Insomnia Symptoms	Insomnia Syndrome
• Occasional sleep disruption that does not impair daily functioning • Ability to carry out Activities of Daily Living (ADLs) = usual or desirable functioning (e.g., daily tasks, work, social life, other)	• Difficulty falling asleep at night or getting back to sleep after waking (takes more than 30 minutes to fall asleep, stay awake for >30 minutes) • Waking up frequently at night • Sleep feels light, fragmented, unrefreshing (poor sleep quality) • Sleepiness and low energy throughout the day • Disturbance occurs <3 times/week	• Symptoms of insomnia 3 nights a week or more for at least one month • Impairment of daily activities • Impairment of psychological function • Negative expectations regarding sleep • Hyper-arousal such as hyper-vigilance or racing thoughts about sleep at bedtime • Learned sleep-preventing associations
Care Pathway 1 Prevention and Supportive Education	*Care Pathway 2* Specific Interventions	*Care Pathway 3* Specific Interventions

Non-Pharmacological Interventions

- Preventive and supportive education as in Care Pathway 1 should be used as an adjunct to more specific non-pharmacological interventions
- Cognitive-behavioural therapy (CBT) specific for insomnia (CBT-I) is the most effective intervention to improve sleep problems based on trials in the general population and cancer patients
- CBT-I can initially be provided as a self-administered intervention or by trained front line providers but insomnia syndrome is best managed by a psychologist or other specialist in CBT-I (face-to-face or online formats).
- Other interventions such as exercise may also be helpful for transient insomnia

Pharmacological Interventions

- Pharmacological agents as appropriate on a short-term or intermittent basis (e.g., see indications section for pharmacological agents). Special monitoring is required for cancer patients on pharmacological agents and for adverse effects in combination with cancer treatment and other medications.
- Utilize lowest effective dose (e.g., minimize daytime sedation and confusion)

Conclusion

- Increasing number on cancer survivors
- Many experience late and/or long-term effects of cancer and Tx
  - Physical problems
  - Psychosocial problems
- Survivor concerns need to be addressed on regular basis
- Many concerns are best cared for by multidisciplinary team
- Survivorship care plans likely headed our way