Addressing Primary Care Preventive Needs of Transgender Patients

Julie Thompson, PA

Fenway Health

Continuing Medical Education Disclosure

- Program Faculty: Julie Thompson, PA
- Current Position: Physician's Assistant, Fenway Health
- Disclosures: No relevant financial relationships. All hormone therapy for transgender people is off-label.

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Objectives

1. Morbidity and Mortality
   - Access to care
   - Transphobia/Gender abuse
2. Primary Preventive Screening Recommendations

*Dutch cohort

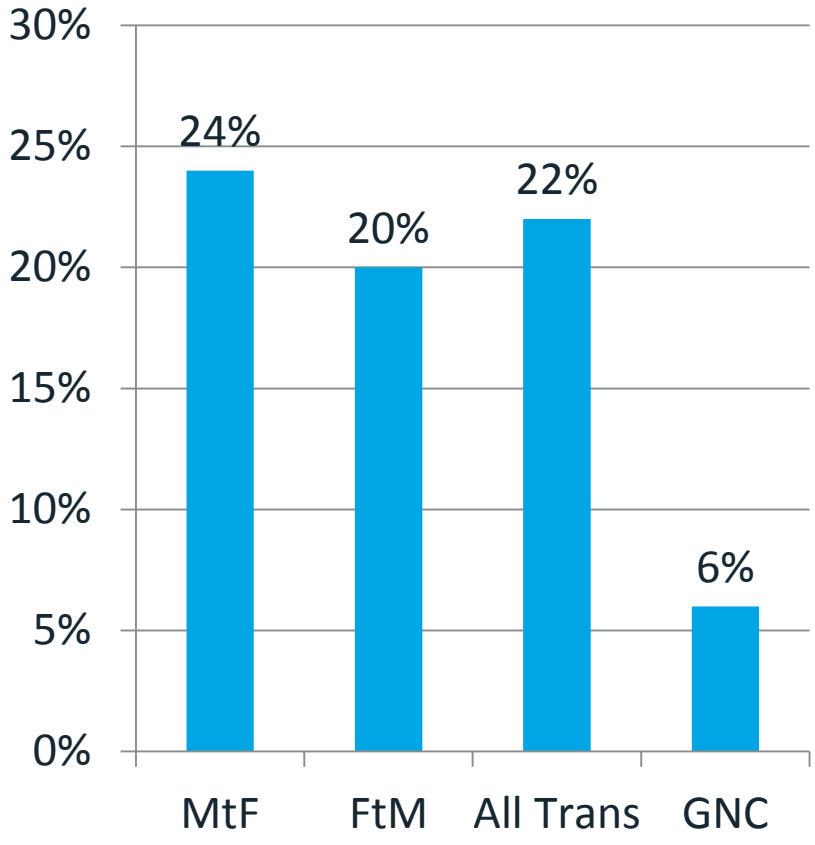
Morbidity and Mortality in the Transgender Community

- Significant increase in mortality is seen amongst transgender individuals compared to the general population.
  - Most of the increase in mortality was due to higher rates of AIDS, suicide, drug-related deaths
- Asschermann's 2011 review of Dutch patient cohort: 50% higher mortality rate in MTF patients

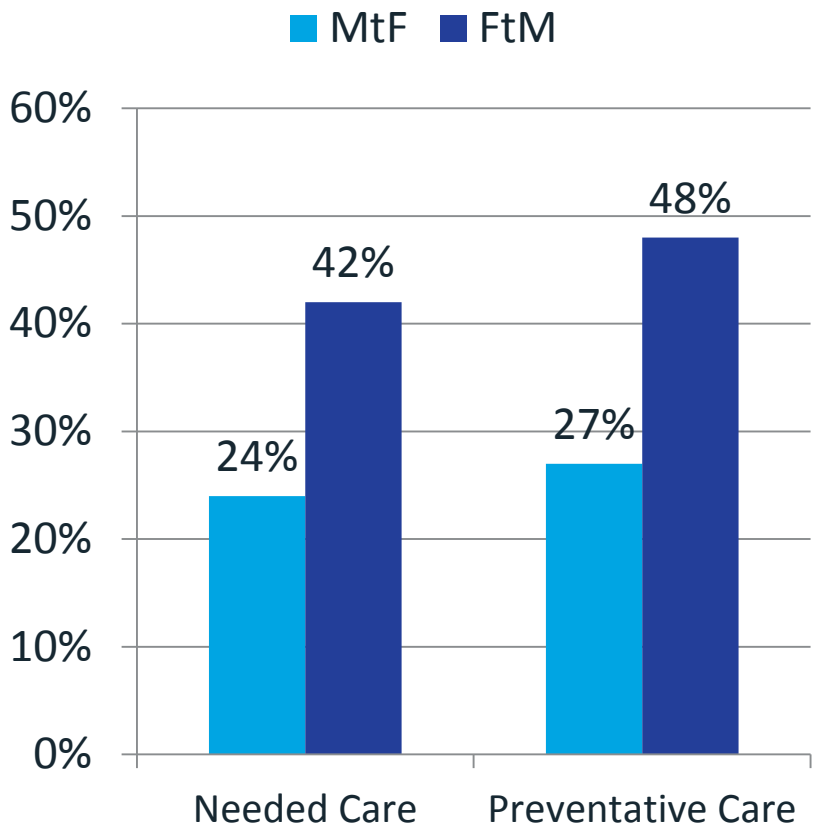
Barriers to Primary Care

Discrimination, abuse, and lack of access to care

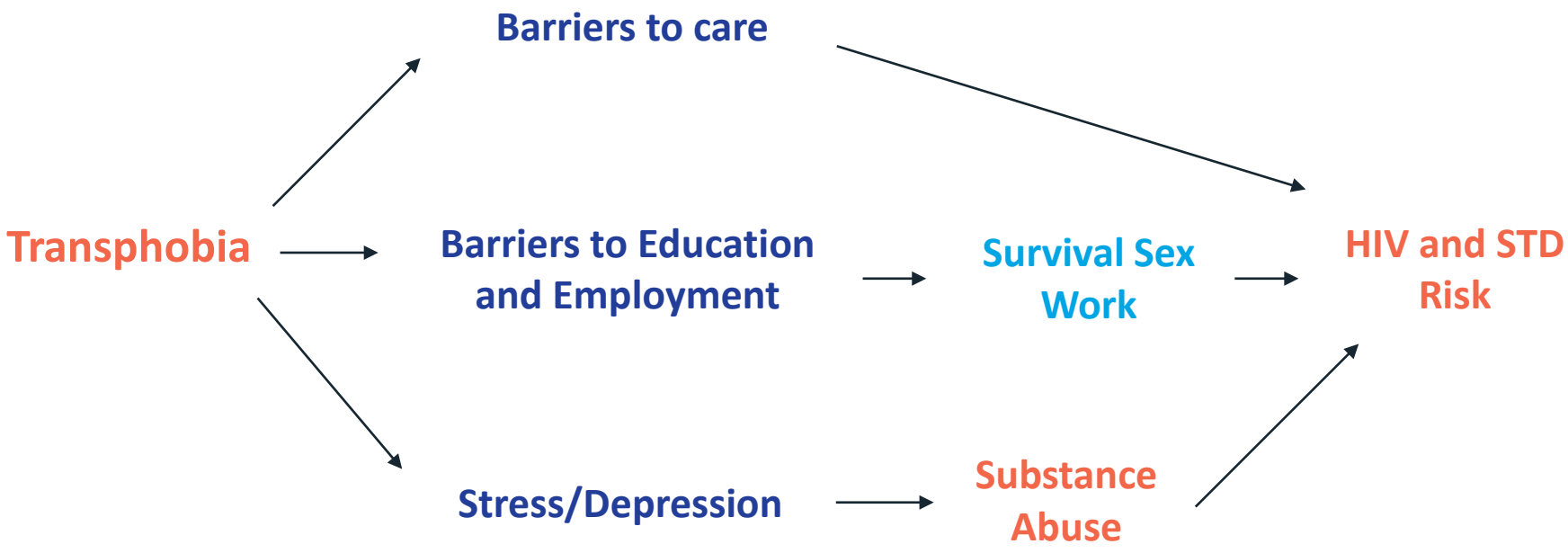
Refusal to Provide Care by Gender Identity/Expression



Postponement Due to Discrimination by Providers



Negative Impacts of Transphobia



Nuttbrock 2009, Psychiatric Impact of Gender-Related Abuse Across the Life Course of Male-to-Female Transgender Persons. JSexResearch

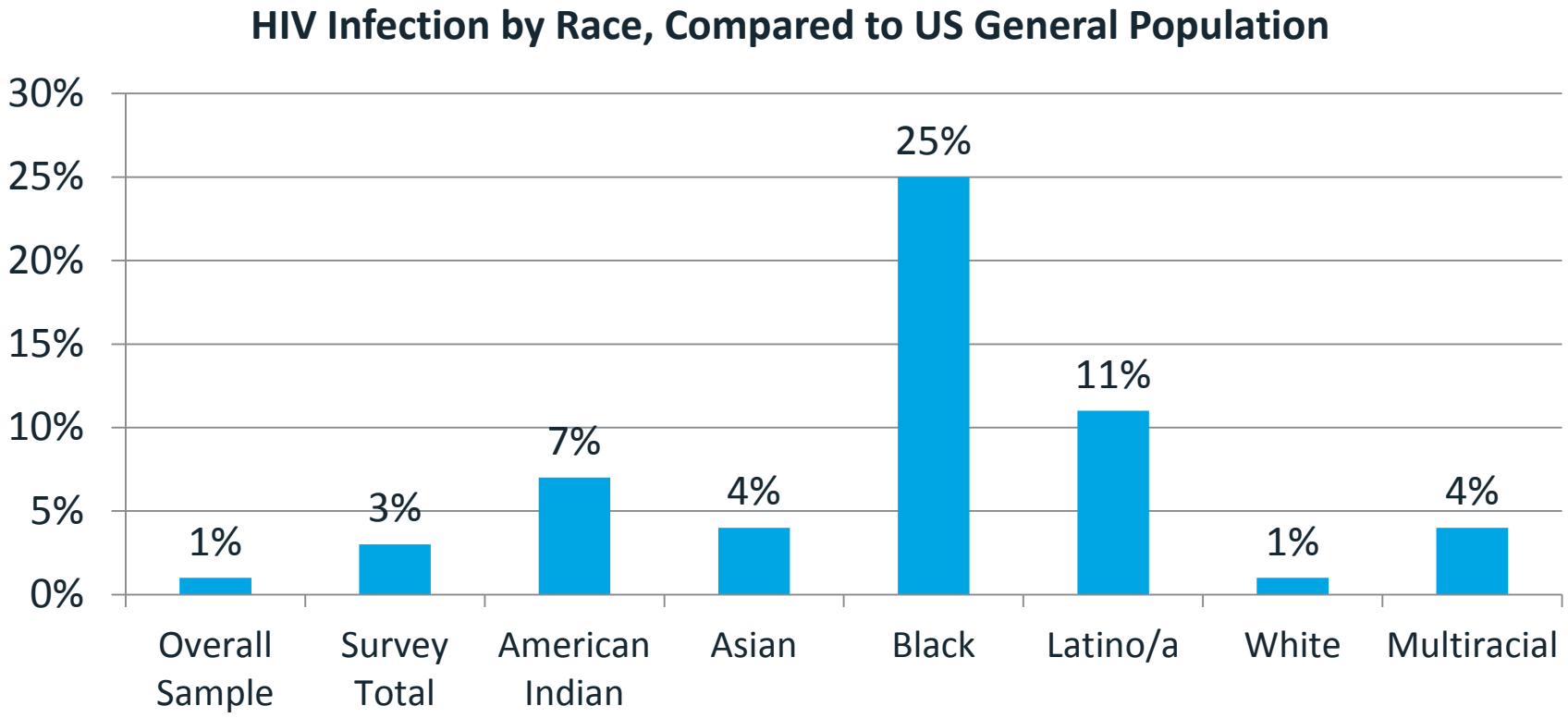
HIV Infection

NTDS – Over 4 times the national average of HIV infection

- Self-reported incidence of HIV infection was 2.64% overall, 4.28% in MtF, and 15.3% in self-identified sex workers
  - Rate of 0.6% in the general population
- HIV infection: Average rate about 27% in studies done on MTF (mostly urban) populations.
- Rates in FTM are not well-documented, seem to be low (only 0.51% in the NTDS)
  - BUT, FTM report relatively high rates of high-risk sexual behavior

Death rate due to AIDS is 30 times higher for trans individuals

HIV Infection



- Increased health disparities for trans women of color
  - In NTDS, 24.9% of black trans women and 10.9% of Latina trans women were HIV infected

Prevention Issues

- Complex and numerous causes of increased risk
- Prevalence of trauma very high in these populations
  - Effect of trauma and violence exposure on HIV risk behaviors and adherence hard to study
- Extrapolation from studies of woman and other HIV patients supports need to directly address trauma issues

Prevention Issues

- In a study looking at 571 trans women in the NYC Metro area, lifetime prevalence of psychological and physical abuse are 78% and 50%, respectively

- Previous and ongoing trauma stands out as significant risk factor and clinically challenging
  - 38-60% past experiences of physical violence
  - 27-46% victims of sexual assault
  - Most violence attributable to gender identity or expression

Prevention Issues

- FTM population has very similar prevalence of trauma to MTF
  - Risks of acquiring HIV in this population may be underestimated

- Persistent abuse was very high during adolescence—most often perpetrated by parents or other family members

Depression and Suicide

- Suicidal ideation rates as high as 64%
- In some surveys, up to **40%** of transgender/gender variant individuals report having **attempted suicide**
- Suicide deaths 6 times higher than general population in Dutch cohort.

Depression and Suicide

- A 2009 study of 515 transgender individuals in San Francisco found that depression approaches 62% in trans women and 55% in trans men

- NYC metropolitan area survey found that 52–54% of trans women have a lifetime history of major depression

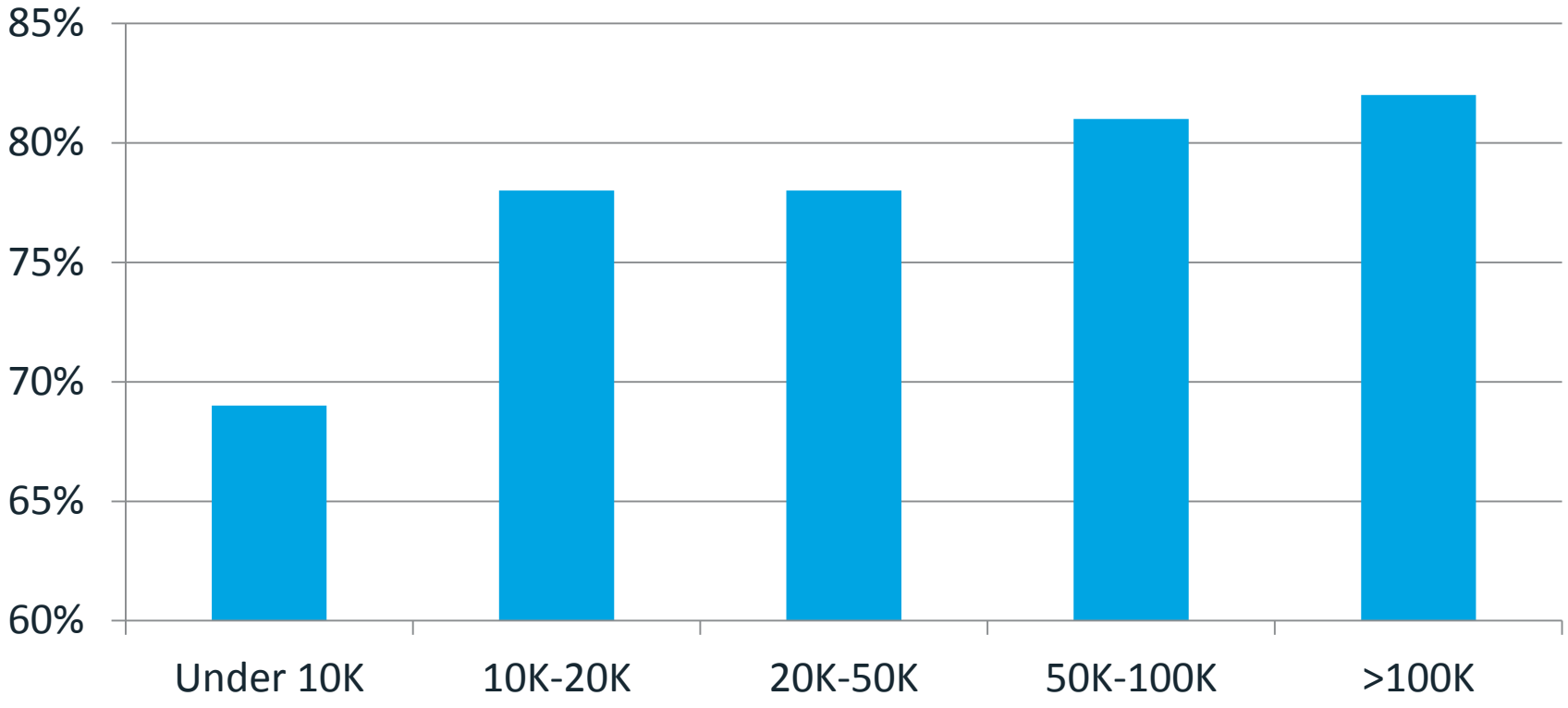
Depression and Suicide

- Impact of hormones on Depression and SI
  - Risk of worsening depression vs Reduction of stressors

- Raymond et al 2014 — Accessing transition-related medical care and impact on mental health issues, suicidal ideation, and substance use
  - High rates of physical violence due to being "visibly gender non-conforming." Suicide attempts were significantly related to experiencing physical violence
  - Suicide and engagement in HIV-related risk behaviors explained has coping responses to extreme discrimination
  - **Hormonal therapy assoc w/ higher scores in general and mental health
  - **Hormones, breast augmentation, and genital surgery all assoc w/ lower odds of SI, binge drinking, and drug use
    - African Americans and Latinas were estimated to have the lowest utilization of any transition-related medical care

Depression and Suicide

Percentage Reporting Improved Job Performance After Living Full-Time in Accordance with Gender Identity



*** This is despite 51% of these same individuals reporting harassment at work**

Substance Abuse

- Drug-related deaths in MTF were 13 times higher than in the general population in the Dutch cohort.

- NTDS: >1/4 of respondents misused drugs or alcohol to cope with mistreatment due to gender identity or expression

Substance Abuse

- The Transgender Community Health Project sampled 392 trans women and 123 trans men finding that 23% have a history of substance use treatment
  - lifetime use of cannabis 90%,
  - cocaine 66%,
  - LSD 52%,
  - crack cocaine 48%, and
  - heroin 24%.
- One-third of the sample had used injection drugs, not including hormones, in the past
- Various studies have shown 26 to 62% percent prevalence of substance use disorders in transwomen

Impact of Housing Status on Drug Use in Youth

Substance	Homeless Youth on the Street	Homeless Youth in Shelters	Non-Homeless
Tobacco	81%	71%	49%
Alcohol	81%	67%	57%
Marijuana	75%	52%	23%
Crack Cocaine	26%	8%	1.4%
Intravenous Drugs	17%	4%	1%
Other Drugs (stimulants, hallucinogens, inhalants)	55%	34%	16%

Sex, Drugs, and Suicide

High rates of discrimination and overall lack of supports at home and work

+

Barriers to seeking medical care: disrespect, harassment, violence, outright denial of service

+

Widespread **lack of knowledge** in provider about the health needs to transgender and GNC people

=

Lack of access to quality health care

— AND racial bias also presents a sizable risk of discrimination for TG people of color in virtually every major area of society

Health Care Maintenance

Routine Screenings

** Treat anatomy that is present **

Health Care Maintenance FTM

Health Care Maintenance FTM

Pap smears

- As per natal females
- Testosterone can cause atrophy of the cervical epithelium mimicking dysplasia
- Increase in “unsatisfactory” samples seen: 10.8% (10 times higher than in natal women)
  - longer latency to follow-up testing

Potter, 2014 J Gen Intern Med. FtM Patients Have a High Prevalence of Unsatisfactory Paps Compared to Non-Transgender Females: Implications of Cervical Cancer Screening
Potter, 2014 Am J Prev Med. Pap Test Use is Lower Among FtM Patients than Non-Transgender Women

Health Care Maintenance FTM

Pap Smears

Customize the pap test	Gender Affirming Communication		Provider Control and confidence in trans competence
Provide Options: -bring support person -keep shirt on -pediatric spectrum -topical anesthetic -water-based lube -consider low dose anxiety med	**Avoid**: -gendered language (women's health) -female anatomical terms	**Focus on:** -Gender neutral language -masculine identity -professional language	**Emphasize:** -provider has experience in trans care -Patient strategies for exercising control of exam

***Consider using self-administered vaginal swab for HPV DNA detection to screen for Pap/Colpo**

Healthcare Maintenance FTM

Endometrial hyperplasia

- Futterweit, et al (1986): 9/19 FtM patients had proliferative endometrium at the time of hysterectomy; 3/19 had endometrial hyperplasia.

- Perrone, et al (2009): 27 FtM undergoing endometrial bx; all had atrophic endometrium similar to menopausal controls.
- Grynberg, et al (2010):112 FtM given androgen for at least 6mo prior to THSO - endometrial atrophy in 45%

- Urban, Teng & Kapp (2010): First case report of endomtrial carcinoma in an FtM patient after 7 years on testosterone tx

Health Care Maintenance FTM

WPATH SOC 2011 recommend hysterectomy and oophorectomy after 5 years of hormone treatment for FtM because of unknown effect on genital organs

Health Care Maintenance FTM

Mammograms and CBE

- As per natal females if no chest reconstruction
- if post-op, yearly chest exam

- 2009 Grynberg, et al: 100 mastectomies in transmen after average of 3.7 years on T.
- - 93% with decreased glandular tissue and increased fibrous connective tissue

2008 Gooren: only 1 reported case of breast CA in FtM cohort, so 5.9/100,000 incidence

Health Care Maintenance FTM

Bone density screening

- There have been mixed results in studies looking at bone density measures in FtM patients:
  - Overall protective: Larger cortical bone size, but not necessarily increased density overall
  - Increased muscle mass / mechanical loading
- Consider over age 50 and on testosterone for >5 years
- The level of LH is inversely proportional to bone density measures — may be a marker for adequate levels of testosterone to preserve bone mass

Health Care Maintenance FTM

Contraception

- Testosterone does not reliably prevent ovulation
- Consider LARCs without estrogen
  - Mirena IUD
  - Depo-Provera
  - Nexplanon

Health Care Maintenance FTM

Cardiovascular Disease

- No increased risk of cardiovascular events in short and medium-term follow ups
- Testosterone can increase blood pressure
- Increased LDL and decreased HDL

- In Asscheman's 2011 series, only 1 MI in FTM at age 72 after 42 years of testosterone tx.

Health Care Maintenance FTM

- What we do know is that trans men have an increase in obesity compared to their natal male counterparts (though not natal female), poor lipid profile, and potential increase in hematocrit

- Trans men have increased smoking rates compared to the general public

**ALL of these factors together lead to concern for possible future cardiovascular events

Healthcare Maintenance for FTM

Diabetes

- Slightly higher prevalence of Diabetes type 2 than control, BUT almost all diagnosis made BEFORE starting testosterone therapy
  - Increased endocrine screening prior to initiation of hormone therapy

- Higher incidence of PCOS-like changes of the ovaries after exposure to testosterone
  - Insulin sensitivity

Health Care Maintenance MTF

Healthcare Maintenance MTF

- **Pelvic exam/PAP smear**
  - Pelvic exam to assess surgical site, and then follow ups for general genital issues or concerns
  - Pap only if the penis has been used to create a neo-cervix

Healthcare Maintenance MTF

- **The pH and microflora of the neo-vagina**
  - Differs significantly from a natal female vagina

1. Lack of lactobacilli
   - Natal females primarily colonized with lactobacilli, which gives antimicrobial protection
2. Alkaline environment — lower estrogen in vaginal tissue —> no up-regulation of proton pumps and lack of protective mucus production
3. Mixed microflora of aerobe and anaerobe species — typically found on the skin, intestine, or bacterial vaginosis

** We know more complex BV - specifically presence of anaerobes — are difficult to treat

   - Consider treatment with clindamycin or amoxicillin

- NO candida seen

1. No proper advice on optimal vaginal hygiene, but some speculate best to douche with warm water alone

Healthcare Maintenance MTF

- **Prolactinoma**:
  - . 3 cases of prolactinomas have been found in MTF patients, one 14 years and two 20yrs after initiation of hormone tx
    - So, not clear how long to monitor
  - ** Consider checking at least one after 1yr on treatment
    - - ? check yearly for 3yrs

- * From Tom Waddel Health Center protocols:
  - If prolactin < 25, continue to monitor
  - 25-40 Check for other sources of estrogen and other meds; monitor
  - >40 Decrease dose of estrogen by half or stop, recheck in 6 to 8 weeks
  - >100 STOP estrogen and recheck in 6 to 8 weeks

If level continues to be elevated, consider pituitary MRI

If prolactin falls, can re-start estrogen at lower dose and recheck in 6 to 8 weeks

Healthcare Maintenance MTF

- Mammography and CBE
  - Only five reported cases of breast cancer in MTF individuals
  - Degree and duration of estrogen exposure
    - WHI: Progestin, with estrogen, increases risk of breast cancer
  - *Patients over age 50 who have been on feminizing endocrine agents over 5 years

Healthcare Maintenance MTF

Prostate exam

- as per natal men
  - Androgen antagonists may falsely decrease serum PSA levels
  - Feminizing hormonal therapy appears to decrease prostate volume and the risk of prostate cancer but to an unknown degree.
  - In natal men, orchiectomy before age 40 appears to prevent prostate CA.

  - 3 reported cases of prostate cancer in the Dutch cohort (2011) All three had started hormone therapy after age 50.

Healthcare Maintenance MTF

Bone Density Screening

- Somewhat mixed results — Increase in osteopenia and osteoporosis compared to natal men, but generally preserved compared to natal women
  - Observed lower BMD in MTFs PRIOR to start of estrogen therapy
  - Start of androgen-blockers for ~1yr, before prescribing estrogen therapy

- Decreased levels of bone turnover markers in setting of hormone therapy
- **Consider if over age 60 and off estrogen therapy for longer than 5 years**
  - not routinely indicated prior to orchiectomy

Healthcare Maintenance MTF

Cardiovascular Disease

- Higher cardiovascular mortality rate in trans women than the general population
- Maj Factors - Estrogen types (ethinyl estradiol), cyproterone acetate, serum hormone levels, smoking status, obesity, baseline CV health

- Exogenous estrogen can increase blood pressure.
  - Spironolactone can lower BP.
- Increased HDL and decreased LDL cholesterol, but increased triglycerides.

Healthcare Maintenance MTF

- **Cardiovascular Risk** — Gooren, et al (2011), 966 MTF patients
  - Longer follow up than previously, revealing increased mortality rate of CVD
  - Increased weight, visceral fat, impaired glucose sensitivity, small increase in BP; increased HDL, decreased LDL
  - Ethinyl estradiol assoc w/ 3-fold increased risk of CV death

- Recommendations:
  - Avoid prescribing ethinyl estradiol at any point
  - Consider transdermal or low-dose oral estradiol in patients >40yrs old
  - Lifestyle behaviors — healthy diet, smoking cessation, exercise — can reduce cardiovascular risk!

Healthcare Maintenance MTF

Venous thromboembolism

- In the Dutch cohorts, rates of 2.6% annually in first year, falling to 0.4 % thereafter, with 1 – 2% risk of death from PE,
  - BUT all but 1 of these patients was using oral ethinyl estradiol
  - Similar to CVD rates seen on controlled natal females using OCPs with high dose (50mcg) ethinyl estradiol

- Belgian cohorts also showed increased incidence of VT (6-8%), but ONLY in patients treated with ethinyl estradiol

Healthcare Maintenance MTF

Diabetes:

- Estrogen can impair glucose tolerance
- Higher prevalence of DM, but almost all diagnoses made BEFORE starting estrogen therapy in trans female

HIV Prevention

PrEP and HIV Prevention

- HIV prevalence among U.S. trans women: 28% (Herbst et al, 2008)

- 34 times more likely to acquire HIV than the general US population (Baral et al, 2013)

- Pre-exposure prophylaxis (PrEP), the first efficacious biomedical HIV prevention approach

(Grant et al, 2010)

PrEP and HIV Prevention

- ** 62% of YTW met criteria for PrEP indication, but only 5 % reported ever taking PrEP
  - PrEP interest
  - number of recent anal sex partners
  - lower collective self-esteem scores

Kuhns 2015, AIDS Behavior: 180 YTW age 18–29 years enrolled in an on-going HIV prevention intervention were analyzed to examine factors associated with PrEP indication (Proj Lifeskills)

PrEP and HIV Prevention

- FtM San Francisco with 392 transwomen and 123 transmen (Clements-Nolle et al., 2001) found HIV prevalence for transwomen to be 35% and for transmen 2%.
  - it was noted that 50% of the transmen in this study identified as gay or bisexual men
  - over 60% of all the transmen reported previous unprotected vaginal sex with a non-trans male
  - 27% reported unprotected anal sex with a non-trans male partner.

PrEP and HIV Prevention

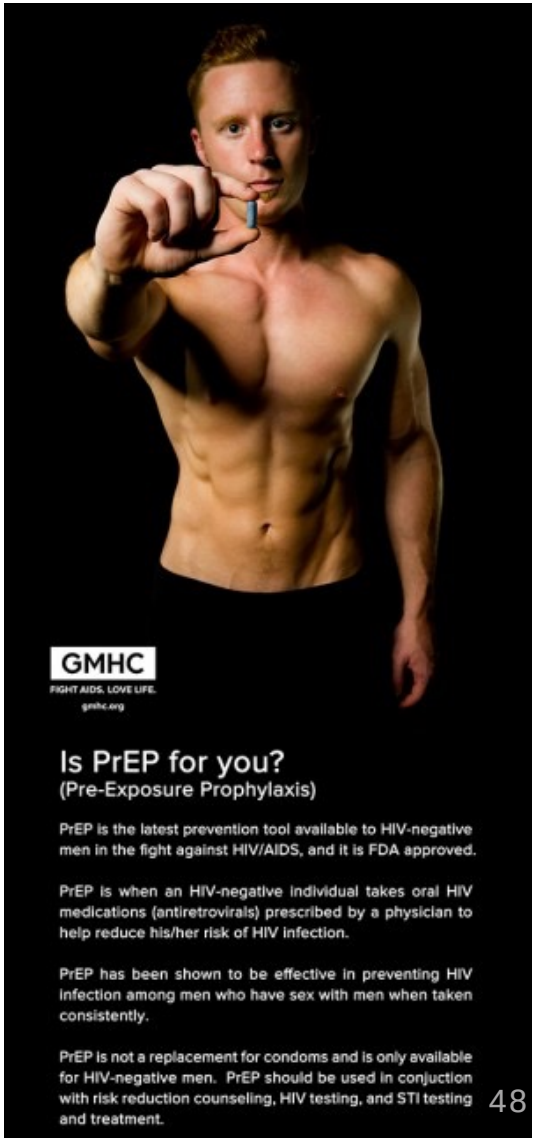
- Sevelius (2009) Impact of gender identity and expression on sexual decision making and contribution to sexual risk:
  - unequal power dynamics
  - low self-esteem
  - need for gender identity affirmation

PrEP in settings of low self-esteem, sex work, uneven power dynamics

= Empowerment

PrEP and HIV Prevention

- History of Invisibility



PrEP and HIV Prevention

- Disaggregating transgender women and men from MSM in PrEP research is imperative to improve HIV prevention efforts
  - Nikki Calma,Jae Truesdell, Jae Sevelius, PhD, Emily Arnold, PhD CAPS, UCSF

- Trans individuals are not served by the dissemination of information to MSM networks, and they do not benefit from programming and services that are developed for MSM

PrEP and HIV Prevention

- **Distrust**
  - Information dissemination needs to come from **within** their communities
  - **Education and trust within primary care settings**

Preventive Care Recommendations

- This is what we know **NOW**
  - Aging of cohorts
  - US studies
  - Increase access and care to gender-affirming treatment for adolescents

Resources

- **UCSF Center of Excellence for Transgender Health Guidelines**
  - http://transhealth.ucsf.edu/trans?page=lib-00-00
- **Tom Waddell Health Center**
  - https://www.sfdph.org/dph/comupg/oservices/medSvs/hlthCtrs/TransGendprotocols122006.pdf
  - Vancouver Coastal Health Guidelines
  - http://transhealth.vch.ca/resources/careguidelines.html
- **The Endocrine Society Guidelines (First published September, 2009)**
  - http://www.endo-society.org/guidelines/final/upload/Endocrine-Treatment-of-Transsexual-Persons.pdf
- **Transline**
  - http://project-health.org/transline/
- **Surgical options:**
  - http://www.surgery.ubc.ca/presentarch/SRS.pdf
  - http://ai.eecs.umich.edu/people/conway/TS/SRS.html#anchor66325
  - http://ai.eecs.umich.edu/~mirror/FFS/LynnsFFS.html
  - http://ai.eecs.umich.edu/people/conway/TSsuccesses/TSsuccesses.html
  - http://www.thetransitionalmale.com/

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