Dr Asa Radix

Callen- Lorde Community Health Center
New York, USA
<table>
<thead>
<tr>
<th>Speaker Name</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Anita Radix</td>
<td>None</td>
</tr>
<tr>
<td>Date</td>
<td>April 2015</td>
</tr>
</tbody>
</table>
Learning Objectives

• Describe the epidemiology of HIV among transgender individuals

• Know the social context and challenges to the care of transgender clients

• Understand strategies to incorporate trans competent healthcare into your clinical practice

• Identify research gaps
Callen-Lorde Community Health Center, 2014

- LGBTQ clinic in NYC
- 15,000 patients, 3700 HIV+
- 3,095 patients of transgender experience
  - (1960 TGW, 400 HIV+)
  - 55% of Callen-Lorde’s trans patients are persons of color
  - 15% are homeless
  - Nearly one-third (30%) are uninsured.
Who *is* TRANSGENDER?

- A person whose gender identity or gender expression differs from that assigned at birth
- Social gender ≠ biological sex
- Not the same as sexual orientation
Terminology

Transwomen/Transfemail
Birth assigned male, identifies as female
Male-to-female, MTF

Transman/Transmale
Birth assigned female, identifies as male
Female-to-male, FTM

Gender non-conforming/Genderqueer
Range of identities that lie outside binary

Kuper 2012, Lombardi 2001, Operario 2010
REGISTRATION FORM

PATIENT INFORMATION

Legal first name: ____________
Middle name: ____________
Legal last name: ____________
Date of Birth: ____________
Social Security number: ____________
Street address: ____________
Apartment #: ____________
City: ____________
State: ____________
Zip Code: ____________

Language interpretation services needed? [ ] Yes [ ] No

We require the following information for the purposes of helping our staff use the most respectful language when addressing you, understanding our population better, and fulfill our grant reporting requirements. The options for some of these questions are provided by our funders. Please help us serve you better by selecting the best answers to these questions. Thank you.

Sex Assigned at Birth:
[ ] Male  [ ] Female

Gender Identity:
[ ] Male/Male  [ ] Female/Woman
[ ] TransMale/Transman  [ ] TransFemale/Transwoman
[ ] Genderqueer/Gender nonconforming  [ ] Decline to Answer
[ ] Yes  [ ] No

Projected annual household income for this year:

Total # of people living in household, including yourself:

Emergency Contact

Emergency contact name: ____________
Emergency contact phone: ____________

Insurance Information

Who did you select as your Primary Care Provider with your insurance carrier?

Relationship to insured: [ ] Self  [ ] Child  [ ] Spouse  [ ] Partner
Sex listed in insured’s health insurance plan: [ ] Male  [ ] Female
Insured’s birthdate: ____________
Name of insured (if different): ____________
Address of insured: [ ] Same as Patient

I verify that the above information is correct to the best of my knowledge.

X: Patient Signature

Date: ____________
How Many People are Transgender?

Equality and Human Rights Commission 2012, UK
- 1% gender variant
- 539,000 trans people in England
- 2500 people being referred yearly to GIC

Based on gender identity (BRFSS-MA), USA
- 0.5%

Transition

The process of changing gender

• Social transition
  - Appearance
  - Gender marker
  - Name

• Medical/surgical transition
Social Transition

- Social transition may include changing the appearance to align with the preferred gender
Binding & Complications

[Images of different body parts covered with material or bandages, possibly related to surgical or medical procedures.]
Genital Tucking

- Advise to avoid adhesive tape
- Examine for skin tears, infections & balanitis
Soft Tissue Fillers

Image. Fox, L. J Am Acad Dermatol, 2004
# Medical and Surgical Transition

<table>
<thead>
<tr>
<th>MTF – Feminizing</th>
<th>FTM – Masculinizing</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Hormones (oestrogen)</td>
<td>• Hormones (testosterone)</td>
</tr>
<tr>
<td>• Androgen blockers</td>
<td>• Chest masculinization</td>
</tr>
<tr>
<td>• Breast augmentation</td>
<td>• hysterectomy, salpingo-oophorectomy</td>
</tr>
<tr>
<td>• Vaginoplasty &amp; labiaplasty</td>
<td>• Phalloplasty</td>
</tr>
<tr>
<td>• Orchidectomy</td>
<td>• Metoidioplasty</td>
</tr>
<tr>
<td>• Tracheal shave</td>
<td>• Vaginectomy</td>
</tr>
<tr>
<td>• Facial bone reduction</td>
<td>• Scrotoplasty</td>
</tr>
<tr>
<td>• Rhinoplasty</td>
<td>• Urethroplasty</td>
</tr>
<tr>
<td></td>
<td>• Testicular prostheses</td>
</tr>
</tbody>
</table>
Case Presentation - Maria

27 year old transgender female attended the Sexual Health clinic with 5 days rectal burning & discharge
• Condomless receptive anal sex with one male partner
• Unemployed, previous sex work
• HIV screening <3 years ago – negative
• Socially transitioned at age 20
  - CEE (premarin®) & spironolactone for 5 years (internet)
  - No gender affirming surgery (SRS)
Case Presentation - Maria

Anal exam (anoscopy)
- Fissure noted, purulent blood-streaked discharge

Differential
- Gonorrhoea
- Chlamydia / Lymphogranuloma venereum
- Syphilis

Tested: anal, urethral & pharyngeal GC & CT (NAAT), HIV & syphilis serology

Treated: ceftriaxone 500mg, doxycycline 100mg bd
Laboratory results

- Anal: *N gonorrhoeae*
- Urethral: *C trachomatis*
- POC HIV test: positive
Transgender Persons & HIV

What’s different?
Transphobia

Barriers to Education & Employment (lack of ID)

Sex Work

Substance Abuse

Stress - Depression

HIV/STI Risk

1,509 reported killings of trans and gender variant people in 61 countries worldwide from 2008-2014
(Trans Murder Monitoring Project)
UK Data

Stigma & discrimination

- 65% trans persons faced harassment in the last year
- 10% were victims of threatening behaviour in public
- 26% felt discriminated against when accessing health & 17% refused healthcare services
- Up to 64% bullied at school

“I find most problems I face come from strangers in public spaces. I don’t think I’m very obviously trans but quite a few people – particularly teenagers – spot me.”
(Transsexual, 39, United Kingdom)

HIV Prevalence in TGW

Baral, Lancet 2012
HIV+ & Transgender in the UK

- 37.5% HIV prevalence among TSWs (n=24) attending GUM clinic
  - Country of origin: South America, Asia, Caribbean, Europe, UK
  - 29% syphilis, 42% substance use

- HARS now asks “2-step” question
  - Gender at birth, current gender identity

HIV Incidence

Transwomen:

- 3.4-7.8 per 100 P-Y (USA)
- 10.7 per 100 P-Y (TSW, Argentina)

MSM:

- 1.9-2.4 per 100 P-Y (USA)
- 2.3 per 100 P-Y (MSW, Argentina)

*Transgender women are 2-7 times more likely to acquire HIV than MSM

Factors linked to HIV risk among TGW

• Behavioral
  – High rates of sex work (>40%)
  – Lower rates condom use (financial, primary partner)
  – Needle sharing for hormones/silicone?

• Biological
  – Anal receptive sex
  – Neovaginal sex - penile inversion vs. sigmoid colon loop

• Increased rates of STIs
  – TGW vs. MSM
  – Syphilis, HPV, Hepatitis B & C, HSV, chlamydia

Schulden, Pub Health Rep, 2008; Bockting, Health Ed Res, 1998; Nuttbrock AJPH 2011; Toibaro, Medicina 2009; Sol dos Ramos Farias, M, 2011; Hernández et al., 2010; Tabet et al., 2002
Factors linked to HIV risk among TGW

• Gender Identity Discrimination (linked to):
  – Condomless anal receptive sex
  – Depression
  – Substance use

• Non-inclusion in STI/HIV campaigns

• HIV prevention is a low priority
  – Safety, survival, emotional
  – Gender validation

Schulden, Pub Health Rep, 2008; CDC 2007; Nuttbrock AJPH 2011; Harawa 2005; Operario 2010
HIV Continuum of Care

Gardner et al, CID 2011; Public Health England
Higher Risk But Less HIV Screening

Transgender persons avoid medical care
• 28 % delayed care when ill
• 33% delayed preventive care
• Low rates of HIV screening (46% never tested)
• 45-65% HIV+ TGW unaware of HIV status

Engagement & Retention in Care

Delays in care related to

- Fear of disclosure of gender identity (12%)

Barriers

- Treated poorly by staff for being transgender
- Providers not familiar with transgender needs
- HIV low priority

Ashman, AIDS Care, 2010; Houston Area Ryan White Planning Council Report 2013
Initiation of ART

Transgender women

- **Less likely** to receive ART than a nontransgender person (59% vs. 82%)

- **More likely** to report lower adherence
  - 51.5% vs.68.4% (p<0.05)
  - Detectable HIV VL (63.6% vs. 52.4%)

- **Higher HIV-related mortality**

(Melendez et al, APJH 2005; Sevelius et al, JANAC, 2010; San Francisco DPH HIV/AIDS Epidemiology Annual Report, 2008)
## Community viral load (CVL) San Francisco, 2005–2008

<table>
<thead>
<tr>
<th>Sub-populations</th>
<th>N</th>
<th>%</th>
<th>Mean CVL</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Francisco</td>
<td>12,512</td>
<td>100</td>
<td>23,348</td>
</tr>
<tr>
<td>Sub-populations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transgender</td>
<td>291</td>
<td>2</td>
<td>64,160</td>
</tr>
<tr>
<td>Non-transgender</td>
<td>12,221</td>
<td>98</td>
<td>22,376</td>
</tr>
<tr>
<td>Latino</td>
<td>1822</td>
<td>15</td>
<td>26,744</td>
</tr>
<tr>
<td>African American</td>
<td>1825</td>
<td>15</td>
<td>26,404</td>
</tr>
<tr>
<td>IDU</td>
<td>1011</td>
<td>8</td>
<td>33,245</td>
</tr>
<tr>
<td>MSM-IDU</td>
<td>1791</td>
<td>14</td>
<td>36,261</td>
</tr>
<tr>
<td>Not on treatment</td>
<td>2924</td>
<td>23</td>
<td>40,056</td>
</tr>
</tbody>
</table>

Providing Trans-affirming HIV Care
Initial Assessment

- Do not assume gender identity or sexual orientation
- How do I know which pronoun to use?
  - Ask politely
  - What’s the presenting gender?
  - Echo the language you hear
  - Make an effort to use the correct pronoun consistently
# Initial Assessment - Transition History

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Transition</td>
</tr>
<tr>
<td></td>
<td>- How long has patient been living in the gender with which they identify?</td>
</tr>
<tr>
<td></td>
<td>- Social transition (binding, tucking)</td>
</tr>
<tr>
<td></td>
<td>- Hormone use, dose, duration, obtained “on the street” or prescription</td>
</tr>
<tr>
<td></td>
<td>- Silicone</td>
</tr>
<tr>
<td></td>
<td>- Future plans for surgery/hormones</td>
</tr>
<tr>
<td>2.</td>
<td>Sexual History (sex with men, women, both)</td>
</tr>
<tr>
<td>3.</td>
<td>Psychosocial issues: depression, PTSD, intimate partner violence, support network, employment, sex work and substance use</td>
</tr>
<tr>
<td>4.</td>
<td>Legal concerns: Gender recognition certificate, ID</td>
</tr>
</tbody>
</table>
Medical Assessment – Best Practices

Keep in mind:

• Transgender patients may have had previous negative healthcare experiences
  – (70% mistreatment, >19% denied care)
• Developing trust and rapport may take longer than you are used to
• Different priorities
• Pay attention to pronouns
• Avoid genital and rectal exams on first visit, if possible
• Avoid using “pre-op” and “postop”

Grant, NTDS 2010; Lambda, 2011
Trans Health Guidelines

Good practice guidelines for the assessment and treatment of adults with gender dysphoria

October 2013

Standards of Care
for the Health of Transsexual, Transgender, and Gender Nonconforming People

The World Professional Association for Transgender Health

Guidance for GPs, other clinicians and health professionals on the care of gender variant people

Endocrine Treatment of Transsexual Persons:
An Endocrine Society Clinical Practice Guideline
Feminising (MTF) Regimens

Oestrogens + Anti-androgens

Usually therapy is with combinations of anti-androgens or “blockers” and oestrogens

Hembree, JCEM 2009, 94(9):3132–3154
## Oestrogens

<table>
<thead>
<tr>
<th>Hormone</th>
<th>Starting Dose</th>
<th>Average Dose</th>
<th>Maximum Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oestradiol oral</td>
<td>2mg daily</td>
<td>4mg daily</td>
<td>8mg daily</td>
</tr>
<tr>
<td>Oestradiol gel</td>
<td>0.75mg bd</td>
<td>0.75mg tds</td>
<td>1.5 mg tds</td>
</tr>
<tr>
<td>Oestradiol patch</td>
<td>25 mcg daily</td>
<td>50 mcg-100mcg daily</td>
<td>150 mcg daily</td>
</tr>
<tr>
<td>(preferred over 40, smoker)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conjugated oestrogen Premarin®</td>
<td>1.25-2.5mg daily</td>
<td>5mg daily</td>
<td>10mg daily</td>
</tr>
<tr>
<td>Ethinylestradiol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not recommended</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Maintain oestradiol (<200 pg/ml)
- ½ dose post gonadectomy

Adapted from UK Good practice guidelines for the assessment and treatment of adults with gender dysphoria, 2013 & Hembree, JCEM 2009, 94(9):3132–3154
## Androgen Blockers

<table>
<thead>
<tr>
<th>Anti-androgen</th>
<th>Starting Dose</th>
<th>Average Dose</th>
<th>Maximum Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spironolactone</td>
<td>50mg daily</td>
<td>150mg daily</td>
<td>400mg daily</td>
</tr>
<tr>
<td>Finasteride</td>
<td>2.5 mg daily</td>
<td>2.5mg daily</td>
<td>5mg daily</td>
</tr>
<tr>
<td>Cyproterone Acetate</td>
<td>50 mg daily</td>
<td>150 mg od</td>
<td>150mg od</td>
</tr>
<tr>
<td>Goserelin</td>
<td>3.6mg/month</td>
<td>3.6mg/month</td>
<td>3.6mg/month</td>
</tr>
<tr>
<td>Leuprolide acetate</td>
<td>3.75mg/month</td>
<td>3.75mg/month</td>
<td>3.75mg/month</td>
</tr>
</tbody>
</table>

- After orchidectomy - stop androgen blockers
- Maintain serum testosterone level <55 ng/dl

Adapted from UK Good practice guidelines for the assessment and treatment of adults with gender dysphoria, 2013 & Hembree, JCEM 2009, 94(9):3132–3154
Effects of feminizing therapy

- Breast development
- Slowing of androgenic hair loss
- Fat redistribution (smaller waist, wider hips)
- Testicular atrophy
- Decrease in erections
- Reduction in prostate size
- No effect on beard hair - electrolysis required
Displaces androgens

8 months on CGHT

20 months on CGHT
Adverse effects

Oestrogens

Venous thrombosis/pulmonary emboli (ethinylestradiol)
Hypertriglyceridemia
Elevated blood pressure
Gallbladder disease
Macroprolactinoma

Spironolactone

Hyperkalemia
Hypotension

Cyproterone

Hepatic toxicity
Meningioma
Depression

Hembree, JCEM 2009, 94(9):3132–3154
Lab Monitoring on CGHT

Periodic laboratory testing

(Initially every 2-3 months for 1 year, then q 6-12 months)

- MTF: fasting glucose, lipid profile, liver function, potassium, haemoglobin, serum oestradiol, testosterone, prolactin (less than 400 mU/l)

- STI screen (3 months)

Adapted from UK Good practice guidelines for the assessment and treatment of adults with gender dysphoria, 2013 & Hembree, JCEM 2009, 94(9):3132–3154
Antiretroviral Therapy & Cross Sex Hormones
Antiretrovirals & Hormones

• Data based on studies with oral contraceptives (ethinylestradiol)
• Oestrogens metabolized by CYP3A4
• Protease inhibitors & NNRTI interactions possible
  – Avoid using unboosted fosamprenavir with oestrogens - APV C\text{min} \downarrow 20\%
  – Boosted proteases reduce oestradiol levels, monitor oestradiol levels 2-4 weeks after ARV change
Things to be aware of...

- Higher CVD mortality
  - Increased deaths from CVD HR 2.5 (1.2–5.3)
  - Ethinyl estradiol 3.64 (1.52–8.73)
  - Fatal stroke <65 years, SMR 2.11 (95% CI: 1.32–3.21)

- Lower BMD
  - Screen for osteoporosis (DXA)

- “if you have it, check it”
  - Screen organs that are present

CVD Risk Factors & HIV

- **Tobacco**
  - High smoking prevalence 30.7% among transgender persons
- **Hyperlipidemia on hormones**
  - Increased triglycerides (MTF, FTM)
  - Decreased HDL (FTM)
- **Inflammation**
  - Early increase IL-6, IL-1 and IL-8 (MTF)
- **HIV**
  - Less likely to be on ART, less likely to have undetectible VL

Bye et al, 2005; Wilson et al, 2009; Elamin 2010; Melendez et al, APJH 2005; Sevelius et al, JANAC, 2010;
Creating a Welcoming Space

• Use language that is sensitive to transgender identities throughout facility
• Accommodations that are trans inclusive/gender neutral
• Attention to pronouns, names
• Training for all staff
• Targeted health promotion
Acknowledgements

Rona Vail, MD, Susan Weiss, FNP, Peter Meacher, MD & the Callen-Lorde Team

aradix@callen-lorde.org
ADDITIONAL SLIDES
NHS Gender Clinics

- The Gender Identity Clinic, Charing Cross, London
- The Tavistock and Portman NHS Foundation Trust, Tavistock Centre (under 18)
- The Laurels Clinic of Gender and Sexual Medicine, Devon
- Leeds Gender Identity Service, Newsam Centre, Leeds
- Northern Region GD Service, Newcastle
- Northamptonshire Gender Dysphoria Service, Daventry
- Nottingham Gender Clinic
- Town Close Gender Identity Clinic, Norwich
- Porterbrook Clinic, Sheffield
- Gender Identity Clinic, Hergest Unit, Ysbyty Gwynedd, Bangor, Wales
- Sandyford, Gender Identity Services, Glasgow
Trans in the UK

- Initial referrals handled by GP
- Generally the medical transition is handled by the specialist services – gender identity clinic
- 7 specialist clinics GICs focused on transition, 3 specialist genital reconstruction centers, since April 2013 all have been commissioned and funded centrally
- clinicQ, joint venture with local NHS provider Trust
Protections

• Sex discrimination Act 1975 – unable to discriminate on the basis of sex for employment, education, housing, goods, facilities, services

• Sex Discrimination (Gender Reassignment) Regulations 1999 & Sex Discrimination Regulations 2008 extended protections to those who have undergone gender reassignment

• Gender Recognition Act 2004 – gender recognition certificate, legal recognition, including birth certificate change
Special Concerns for Trans Men

- Even less known about risk among FTM clients
  - Prevalence of HIV 0-3%
  - Prevalence of STIs 6-37%

- Risk Behavior
  - 26% transgender men start having sex with men after initiation of hormones
  - High rates of unprotected anal/frontal sex
  - Substance use during sex
  - Sex work

- Biology
  - Testosterone → atrophic vaginitis

(Herbst, 2008; Conare, 1997; Kenagy, 2002; Reisner, 2010; Rowniak, 2011)
Androgen Blockers

Spironolactone
- K⁺-sparing diuretic
- Interferes with testosterone production and blocks androgen receptors

5-α-reductase inhibitors: Finasteride, Dutasteride
- Decrease synthesis of 5-α-dihydrotestosterone

Leuprolide acetate
- GnRH analog, main use as puberty blocker

Cyproterone Acetate
- Synthetic steroidal antiandrogen drug
- Progestogen and antigonadotrophic properties
**Mortality from Cardiovascular Disease**

<table>
<thead>
<tr>
<th>Number of events cases/controls 1973–2003</th>
<th>Outcome incidence rate per 1000 person-years 1973–2003 (95% CI)</th>
<th>Crude hazard ratio 1973–2003 (95% CI)</th>
<th>Adjusted hazard ratio 1973–2003 (95% CI)</th>
<th>Adjusted hazard ratio 1973–1988 (95% CI)</th>
<th>Adjusted hazard ratio 1989–2003 (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Any death</strong></td>
<td>Cases: 27/99, Controls: 7.3 (5.0–10.6)</td>
<td>2.5 (2.0–3.0)</td>
<td>2.9 (1.9–4.5)</td>
<td>2.8 (1.8–4.3)</td>
<td>3.1 (1.9–5.0)</td>
</tr>
<tr>
<td><strong>Death by suicide</strong></td>
<td>Cases: 10/5, Controls: 2.7 (1.5–5.0)</td>
<td>0.1 (0.1–0.3)</td>
<td>19.1 (6.5–55.9)</td>
<td>19.1 (5.8–62.9)</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Death by cardiovascular disease</strong></td>
<td>Cases: 9/42, Controls: 2.4 (1.3–4.7)</td>
<td>1.1 (0.8–1.4)</td>
<td>2.6 (1.2–5.4)</td>
<td>2.5 (1.2–5.3)</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Death by neoplasm</strong></td>
<td>Cases: 8/38, Controls: 2.2 (1.1–4.3)</td>
<td>1.0 (0.7–1.3)</td>
<td>2.1 (1.0–4.6)</td>
<td>2.1 (1.0–4.6)</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Any psychiatric hospitalisation†</strong></td>
<td>Cases: 64/173, Controls: 19.0 (14.8–24.2)</td>
<td>4.2 (3.6–4.9)</td>
<td>4.2 (3.1–5.6)</td>
<td>2.8 (2.0–3.9)</td>
<td>3.0 (1.9–4.6)</td>
</tr>
<tr>
<td><strong>Substance misuse</strong></td>
<td>Cases: 22/78, Controls: 5.9 (3.9–8.9)</td>
<td>1.8 (1.5–2.3)</td>
<td>3.0 (1.9–4.9)</td>
<td>1.7 (1.0–3.1)</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Suicide attempt</strong></td>
<td>Cases: 29/44, Controls: 7.9 (5.5–11.4)</td>
<td>1.0 (0.8–1.4)</td>
<td>7.6 (4.7–12.4)</td>
<td>4.9 (2.9–8.5)</td>
<td>7.9 (4.1–15.3)</td>
</tr>
<tr>
<td><strong>Any accident</strong></td>
<td>Cases: 32/233, Controls: 9.0 (6.3–12.7)</td>
<td>5.7 (5.0–6.5)</td>
<td>1.6 (1.1–2.3)</td>
<td>1.4 (1.0–2.1)</td>
<td>1.6 (1.0–2.5)</td>
</tr>
<tr>
<td><strong>Any crime</strong></td>
<td>Cases: 60/350, Controls: 18.5 (14.3–23.8)</td>
<td>9.0 (8.1–10.0)</td>
<td>1.9 (1.4–2.5)</td>
<td>1.3 (1.0–1.8)</td>
<td>1.6 (1.1–2.4)</td>
</tr>
<tr>
<td><strong>Violent crime</strong></td>
<td>Cases: 14/61, Controls: 3.6 (2.1–6.1)</td>
<td>1.4 (1.1–1.8)</td>
<td>2.7 (1.5–4.9)</td>
<td>1.5 (0.8–3.0)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Dhejne C et al. (Plos One 2011)
British HIV Association
BHIVA

21st Annual Conference of the
British HIV Association (BHIVA)

#BHIVA2015

21–24 April 2015

The Brighton Centre, Brighton, UK