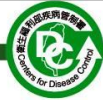


HIV in Taiwan

Surveillance & Public Health Programs

Philip Yi-Chun Lo, MD

Office of Preventive Medicine
Taiwan Centers for Disease Control



Surveillance of HIV/AIDS Cases

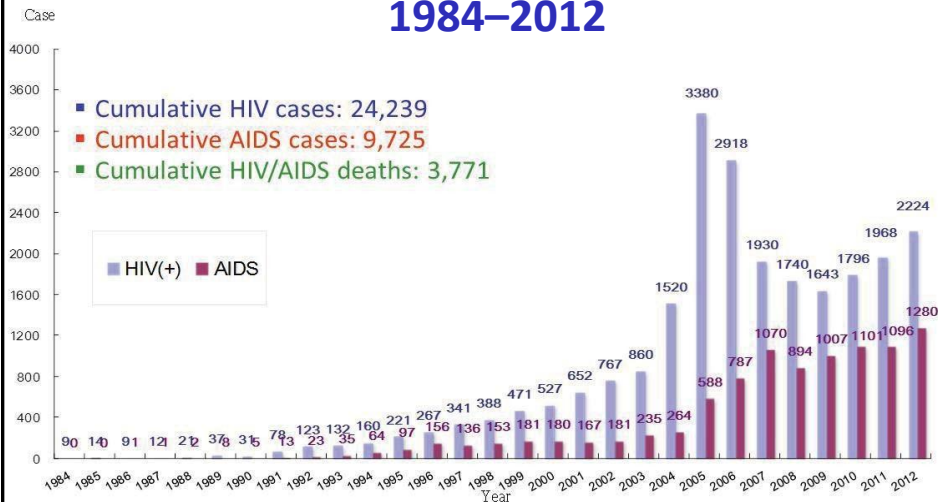
- **HIV infection and AIDS have been notifiable since 1984**
 - Physicians required to report WB(+) or PCR(+) cases to local HD & TCDC within 24 hr of diagnoses
 - Name, ID, DOB, sex, home address, phone number, date of diagnosis, nationality
 - Report OIs & CD4 count if AIDS
- **Associated public health actions**
 - Offer a pass for free HIV care in 52 designated hospitals
 - Investigate mode of transmission & contact persons at risk
 - Contact immigration if no Taiwanese citizenship





衛生福利部疾病管制署

Reported HIV and AIDS Cases — Taiwan, 1984–2012

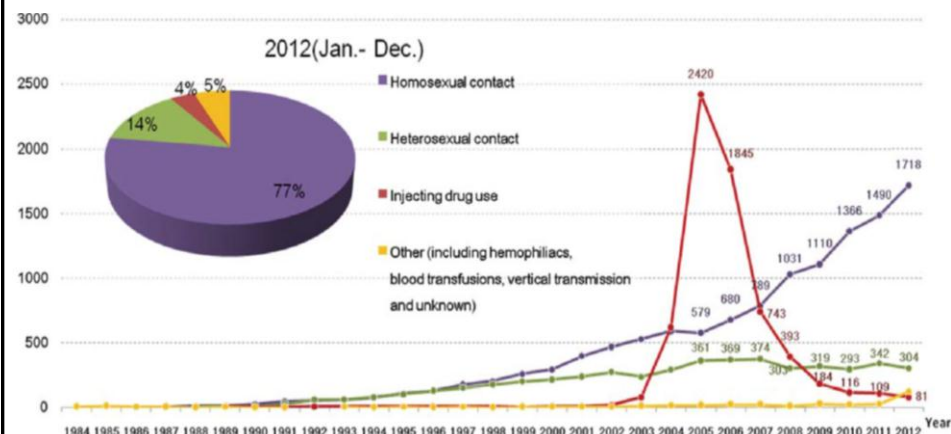


Taiwan CDC
http://www.cdc.gov.tw

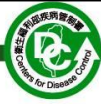


衛生福利部疾病管制署

Reported HIV Cases by Mode of Transmission, 1984–2012

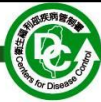


Taiwan CDC
http://www.cdc.gov.tw



Parallel Surveillance Systems

- **HIV/AIDS death surveillance** Yang CH at al. HIV Med 2008;9:535-43
 - Death identified through MOH (death certificates)
 - Attending physicians determined HIV association
- **Medical monitoring**
 - CD4, VL, VDRL, ARV use submitted by designated hospitals to centralized electronic database
 - ART regimens (+switch/stop) from NHI claim database
- **ARV resistance surveillance**
 - Treatment-naïve: newly diagnosed sample (n=200-250/yr)
 - Treatment-experienced: 50 cases through clinical request

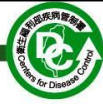


HIV Treatment Program

- **Mandated by law as free-of-charge services since 1990**
 - Included ARV, OI drugs, and associated lab testing
 - 2012 program budget (TCDC-funded) \$57,000,000
 - Expenditures in 2012 approximately \$100,000,000
- **First-line ART regimens (as of November 2013)**

Priority	\$350-550/month	Alternative	\$550-590/month
	AZT/3TC + NVP or EFV or RPV	TDF + 3TC + NVP or EFV (preferred for HBV)	AZT/3TC + LPV/r or ATV(r) or DRV/r or RGV

- **2nd-line (applicable from TCDC): ABC/3TC, TDF/FTC, ETR, MVC, ENF**



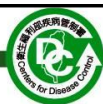
HIV Treatment Guidelines

- **When to start** (revised September 2013)
 - Opportunistic infections or AIDS-associated cancers
 - CD4 \leq 500 **NEW**
 - Pregnancy
 - Reduce transmission to serodiscordant sex partners **NEW**
 - HIV-associated nephropathy
 - HBV coinfection if HBV treatment is indicated
- **Lab monitoring**
 - Baseline: FBC, chem, VDRL, HAV/HBV/HCV, pap smear, CXR
 - Treatment-naïve: CD4 & VL every 3-6 months
 - Newly started ART: CD4 & VL 1,3 & every 3-6 months after
 - VDRL at least once annually; other lab follow-up as indicated



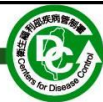
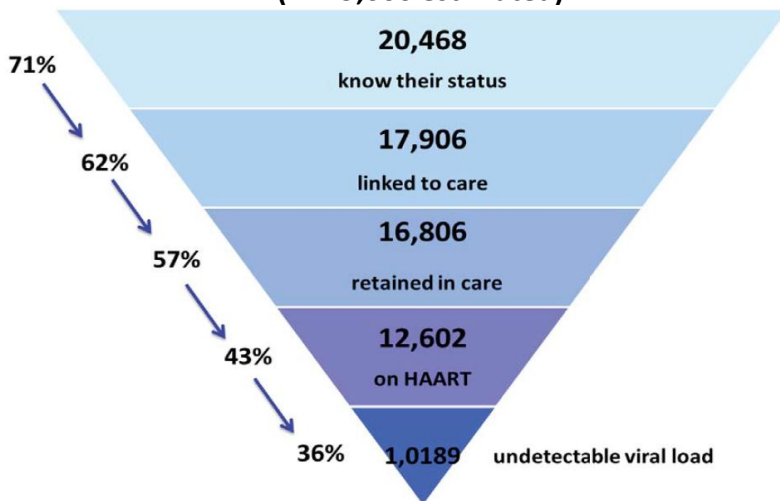
Case Management Program

- **Insufficient doctor-patient time in busy clinical settings**
 - No time for counseling and proper evaluation of adherence
 - Opportunities for public health interventions
- **HIV case management program established in 2007**
 - A case manager for every 150 HIV patients
 - Qualification: nurses or social workers with HIV knowledge
 - Provide counseling & partner notification services
 - Enhance adherence & retention in care
 - Coordinate psychosocial support



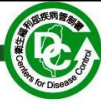
Cascade of Care – Taiwan 2012

(N=29,000 estimated)



HIV Drug Resistance Early Warning Indicators

Indicators	WHO Target	Taiwan (2012)
1. On-time pill pick-up	>90%	90%
2. Retention in care (alive & on ART after first 12 mo)	>85%	85.1%
3. Pharmacy stock-outs (no stock-out days)	100%	100%
4. Dispensing practices (mono- or dual ART)	0%	0%
5. Viral load suppression (<1000 c/ml after first 12 mo)	>85%	89.4%

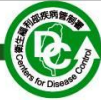
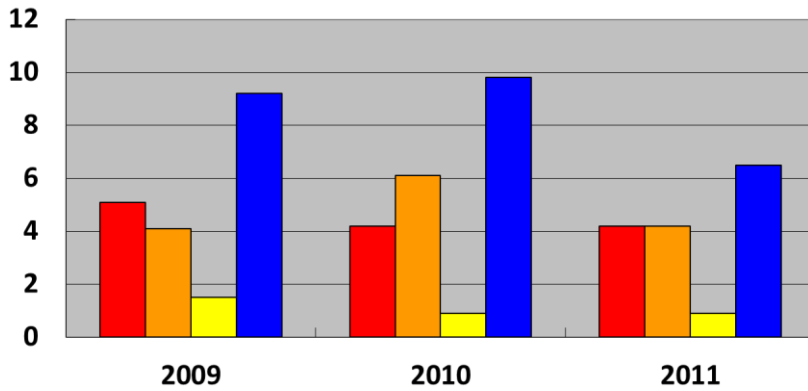


ARV Resistance Among Treatment-Naïve Patients

Drug resistance rate

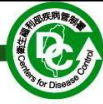
(%)

■ NRTIs ■ NNRTIs ■ PIs ■ Any drugs



ARV Resistance Upon Treatment Failure

	2010	2011
Number of submitted cases	40	50
Resistance rate		
Any drugs	27 (68%)	32 (64%)
NRTI	20 (50%)	25 (50%)
NNRTI	21 (53%)	27 (54%)
PI	4 (10%)	7 (14%)
Integrase inhibitors	NA	0 (0%)



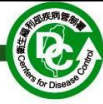
HIV Surveillance – Perspectives

- **Evaluation of HIV surveillance**
 - Based on MMWR guidance of surveillance evaluation
 - Planned to be conducted in 2014 after IRB clearance
- **Surveillance of HIV-associated coinfections**
 - STD: syphilis, gonorrhea, amebiasis, HAV, HBV, HCV
 - Respiratory: TB, invasive pneumococcal disease
 - Start with amebiasis & HCV in 2014 after IRB clearance
- **Other possibilities**
 - Adverse effects associated with ART
 - Long-term complications: CV, liver, metabolic, cancer



HIV/IDU Programs



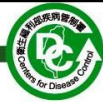
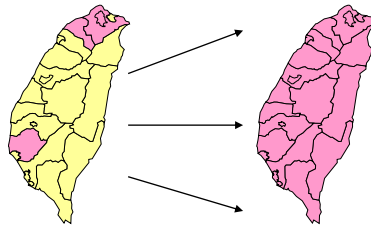


Harm Reduction Programs in Taiwan

- 2004 Awareness & inspiration
- 2005 Action plan completed & approved by Premier
Start pilot projects in 1 city and 3 counties
- 2006 Expansion into a nationwide program
- 2007 IDU/HIV epidemic began to reverse

Programs:

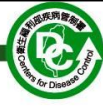
1. Clean Syringe Exchange
2. Methadone Replacement



Key to Success

- Political commitment
- Inter-ministerial cooperation at central and local levels
- Lessons learned from international partners





Clean Syringe Exchange Program

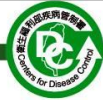
Sharps Collectors



Syringe vending machine



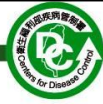
Clean Syringe Package



Clean Syringe Program – Results

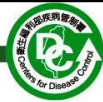
	2006	2007	2008	2009*	2010
Number of visits	74,681	439,878	449,419	408,823	352,536
# of dispatched syringes	450,649	3,634,414	4,066,114	3,097,348	3,586,071
# of returned syringes	97,930	2,054,556	2,851,615	2,550,683	3,146,714
Return Rate	22%	57%	70%	82%	88%

*One-to-one exchange of used syringes for clean ones was initiated in 2009



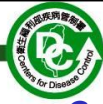
Programs in Correction Facilities

- Health education & counseling on behavioral risks
 - Provided by local HDs and NGOs to illicit drug users who were on probation or prison inmates
 - Total : 406,000 person-times/year (education)
 - Survey (2005) revealed only 38% of IDUs knew that HIV can be transmitted through needle sharing
 - Survey (2011): awareness increased to 98%
- HIV testing and treatment programs
 - HIV testing mandated for all new prison inmates
 - Regular HIV clinical services (including ART) in the prison



Methadone Replacement Program





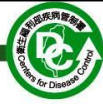
Cost Effectiveness of Harm Reduction Program (2005-2008)

- **Cost: \$30 million**
 - Methadone, clean syringes, condoms, education materials, administrative and personnel cost
- **Benefit: save \$150 million**
 - Prevent 15,000 new HIV cases (save \$84 million)
 - Prevent 300 deaths from overdose (earn \$2.7 million)
 - Increase employment among IDUs (earn \$20 million)
 - Decrease 3,000 drug-related offenders per year (save judicial administrative cost \$43 million)
- **Cost-effectiveness ratio was 5 to 1**



HIV/MSM Programs & NGOs

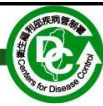




HIV/MSM Programs in Taiwan

- **LGBT health centers**
 - Frequently associated with LGBT bookstores/cafes
 - Educational activities
 - HIV/STD testing and counseling services
 - Mental health services
- **Educational programs**
 - Culture-appropriate educational materials
 - “Positive” talks
 - Consultation hotline & social media
- **Free condoms / condom vending machines at venues**



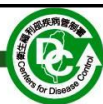


Major NGOs involved in HIV Services

- **Taiwan Lourdes Association**
 - Originally Lourdes Home: switched from orphan care to HIV services in 1997; officially registered as NGOs in 2006
 - Speak for PLWHAs in response to HIV policy and media events
 - Activities – peer support groups, “Positive” gathering
 - Social media – Facebook, web forum, online radio
- **Persons with HIV/AIDS Rights Advocacy Association (PRAA)**
 - Founded by PLWHAs and their family / friends in 1997
 - Advocate human rights for PLWHAs (including non-citizens)
- **Taiwan AIDS Foundation – Education/VCT/PLWHA Support**

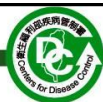
The collage displays four distinct web pages:

- Lourdes:** The website of the Taiwan Lourdes Association, featuring news articles, a calendar, and contact information.
- PRAA:** The website of the Persons with HIV/AIDS Rights Advocacy Association, with a focus on human rights advocacy and community support.
- PLWHA Forum:** A forum for PLWHAs, showing a list of members and their profiles.
- Valley of Heart:** A website with a focus on HIV education and support, featuring a search bar and various articles.



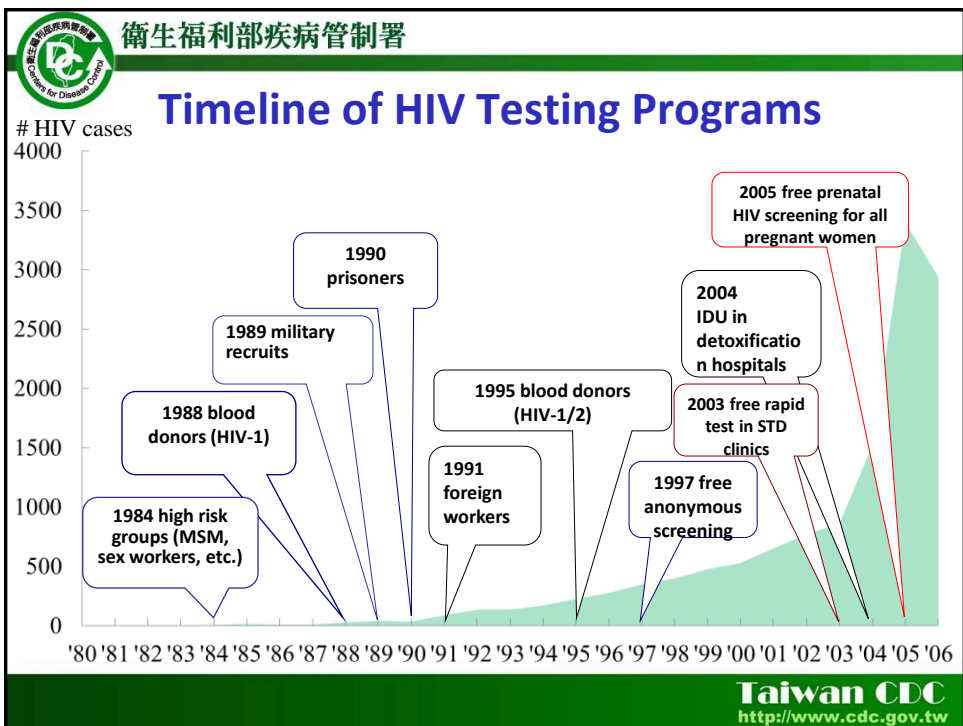
Challenges & Lessons Learned

- **Discrimination & stigma of sexually-transmitted HIV**
 - Major barrier (even within TCDC or among MSM)
 - Complicated by increased recreational drug use & bareback sex
 - TCDC-initiated MSM-targeted efforts worsen HIV-MSM labels?
- **Lessons learned**
 - Institution-wide mobilization and stigma reduction
 - Take cultural sensitivity into public communication
 - Work through LGBTCs/NGOs to deliver MSM-targeted services
 - Engage educational authorities in efforts toward young MSM



HIV Testing Programs (selected)





衛生福利部疾病管制署
Centers for Disease Control

Universal Antenatal HIV Testing

- Offered at the first prenatal visit during first trimester
 - If first visit is beyond first trimester, test for HIV at any visit
 - Repeat testing during 3rd trimester for women at high behavioral risk (STD history, sex workers, IDUs)
 - ELISA or PA –based; confirmed with WB if positive
 - Test-positive women are enrolled into MTCT programs
- Annual cost of universal antenatal HIV testing
 - \$1,500,000 for approximately 200,000 women screened

Taiwan CDC
<http://www.cdc.gov.tw>



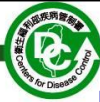
Universal Antenatal HIV Testing – Results

Year	No. of screen	Coverage	HIV(+)	Positive rate (per 100,000)	HIV baby
2005	235,791	-	27	11.45	5
2006	199,428	95%	31	15.54	4
2007	206,165	98%	7	3.39	0
2008	200,148	99%	6	2.99	1
2009	186,624	99%	3	1.60	0
2010	187,729	99%	3	1.59	0
2011	221,788	99%	2	0.90	0
2012	226,230	99%	6	2.65	0



Rapid-test-based Testing Campaigns

- **I-Check: October 15–December 15, 2012**
 - I-group: snowball recruitment by voluntary group leaders through social networks (award: \$3 per recruitment) Blood
 - I-partner: partner referral by HIV+ individuals Blood
 - I-at home: 100,000 Oraquick available through venues or mails
- **Cost: \$600,000 for 15,621 persons screened**
- **Results: 193 (1.2%) HIV+ identified; 108 linked to care**
- **We-Check: August 1–October 31, 2013**
 - I-group & I-partner remained
 - Oraquick tests available through LGBT centers



HIV in Taiwan – Highlighted Issues in Debate

- **Remove restrictions on HIV entry, stay, and residence**
 - One of the remaining 43 countries/areas with such restrictions
 - One of 19 countries/areas that deport individuals if HIV+
 - TCDC resolution – revise the law by end of 2014
 - Controversy – free-of charge ARV treatment for non-citizens?
- **Manage budget deficit of treatment program**
 - “Treatment as prevention” – But where is the money?
 - AZT/3TC/NNRTI-based priority regimens – more side effects
 - Copay? Only allowed up to \$20/per visit
 - Brand name vs. generic drugs



Thank you for your attention

