

TREATMENT AND CARE

NATIONAL AIDS PROGRAMME
MINISTRY OF HEALTH
Marvin Manzanero, MD
Director
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HIV/AIDS Epidemic in Belize

1986 and up to Mar 31st, 07

□ People living with HIV/AIDS	4004
■ New HIV infections in 2006	443
□ Cumulative number of HIV infections	3898
■ New AIDS cases in 2006	43
□ Cumulative number of AIDS cases	812
■ Deaths due to HIV/AIDS in 2006	70
□ Cumulative # of deaths related to HIV/AIDS	711

National AIDS Programme

- ❑ MOH's response towards the prevention, treatment and care of those who have HIV/AIDS
 - ❑ Planned activities aimed at making full and rational use of the technical knowledge and health resources available
 - ❑ Utilizes strategies such as: Information, Education and Communication, Counseling, Diagnosis and Treatment, Contact Tracing, Surveillance and Research.
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Programme Objectives

□ General Objective

- To decrease risk and impact of STIs/HIV/AIDS through the delivery of efficient and effective HIV/AIDS services and the comprehensive management of People with STIs/HIV/AIDS
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Treatment in Belize

- Treatment has been available since 2003 free of cost to all clients meeting medical criteria
 - Exponential growth of people on treatment in last year
 - Some medications for OIs available
 - Medications for STIs and TB available
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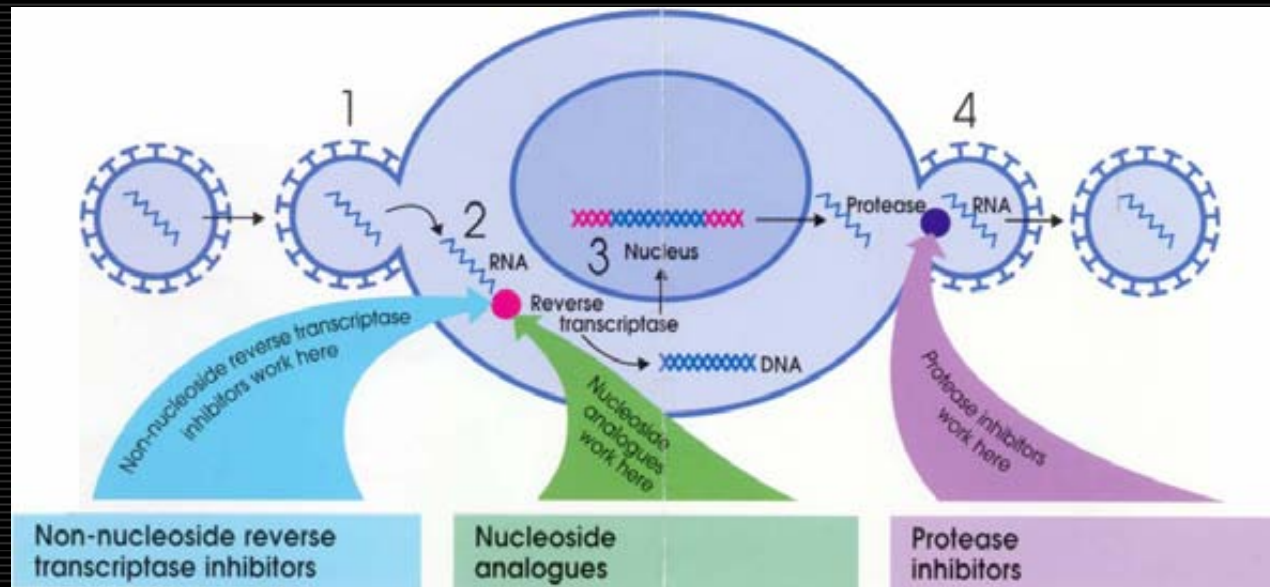
Treatment in Belize

- ❑ Currently 584 patients on ARVs
 - ❑ 55 pediatric cases
 - 8 on second line treatment
 - ❑ 529 adults
 - All adults on first line therapy
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Combination therapy

- ❑ HIV is continually reproducing - and it uses CD4 cells as factories to produce more virus.
 - ❑ The drugs work at different parts of the HIV lifecycle
 - ❑ Available drugs work in one of four ways:
 - i) reverse transcriptase inhibitors (RTIs, nukes)
 - ii) NNRTIs - non-nukes
 - iii) protease inhibitors (PIs)
 - iv) entry inhibitors (T-20)
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HIV Treatment



bind directly to reverse transcriptase and prevent reverse-transcription of RNA to DNA

incorporate themselves into the DNA of the virus, resulting in incomplete DNA that cannot create new virus

prevent HIV from being successfully assembled and released from infected cells

HAART (Highly Active Anti-retroviral Therapy)

consists of combinations of all 3 drugs

Choice of drugs

- ❑ There are now approx 20 approved anti-HIV drugs and more in development
 - ❑ Some are more potent than others
 - A few cannot be used together (ie d4T and AZT)
 - ❑ Recent studies and guidelines recommend using two RTIs and either one NNRTI or one PI-based combination as being most effective:
 - i) AZT / 3TC / efavirenz
 - ii) AZT / 3TC / lopinavir/r (Kaletra)
 - ❑ BUT many other combinations are better for some people: - every drug has different advantages and disadvantages, and newer drugs are being used as first line therapy
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HIV MEDICATION CHART

NUCLEOSIDE ANALOGS

Combivir®
(AZT plus 3TC)
Glaxo



3TC®
(lamivudine)
Glaxo



Hivid®
(zalcitabine or ddC)
Roche



Retrovir®
(zidovudine ZDV or AZT)
Glaxo



Trizivir®
(AZT plus 3TC plus abacavir)
Glaxo



Videx™
(didanosine or ddi)
BMS



Zerit™
(stavudine or d4T)
BMS



Ziagen®
(abacavir)
Glaxo



NON-NUCLEOSIDES

Rescriptor®
(delavirdine or DLV)
Agouron



Sustiva®
(efavirenz)
DuPont



Viramune®
(nevirapine or NVP)
BI



ANTI-RETROVIRAL ADJUNCTS

Hydrea®
(hydroxyurea or HU)
BMS



PROTEASE INHIBITORS

Agenerase®
(amprenavir)
Glaxo



Crixivan®
(indinavir or IDV)
Merck



Fortovase™
(saquinavir soft gel capsules or FTV)
Roche



Invirase®
(saquinavir capsules or SQV)
Roche



Kaletra™
(lopinavir/ritonavir)
Abbott



Norvir®
(ritonavir or RTV)
Abbott



Viracept®
(nelfinavir or NFV)
Agouron



The right treatment

- ❑ HIV treatment is different to other medications
 - ❑ Weak treatment (less than 3 drugs) or missing doses (even one dose a week) will lead to resistance, and the combination will fail
 - ❑ Once resistance develops it never reverses
 - ❑ Resistance will make the next combination less likely to succeed - because there is cross-resistance between most drugs in each class
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Resistance

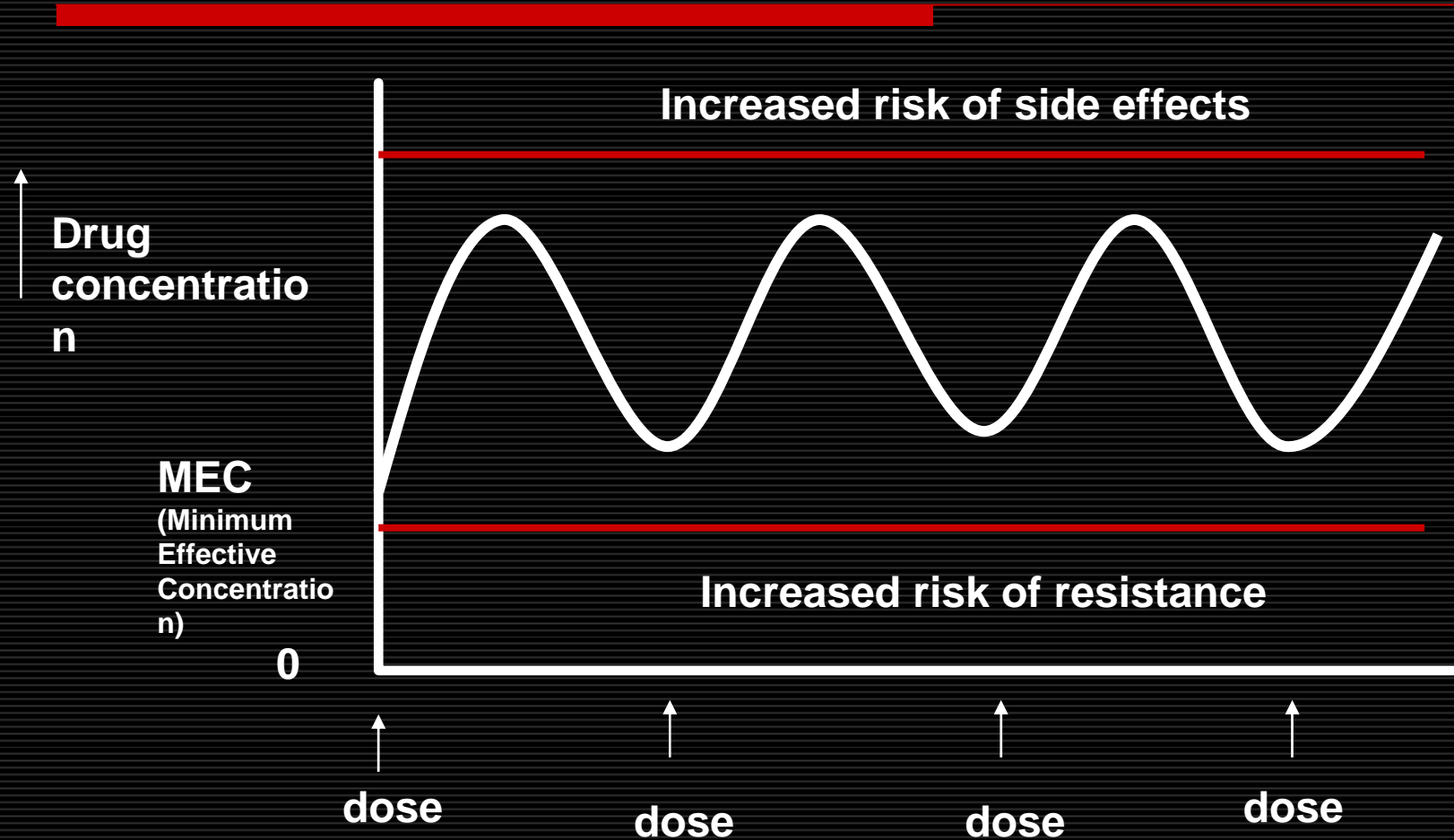
- ❑ When HIV reproduces - it makes mistakes - so new virus is not exactly the same
 - ❑ Most of these changes do not matter, but some will stop HIV drugs from working
 - ❑ Resistance only develops when you are taking treatment with a detectable viral load
 - ❑ Main cause of resistance is poor adherence
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Adherence

- ❑ A 'little' HIV treatment is very dangerous
 - ❑ Treatment needs to be 'all or nothing'
 - ❑ Missing doses (even one dose a week) can lead to resistance if you do this regularly
 - ❑ This is because you need to keep levels of each drug in your combination above a minimum level
 - ❑ Once you start treatment, getting a strategy to never miss a dose is the most important thing you have to do in your life. Especially critical for first months.
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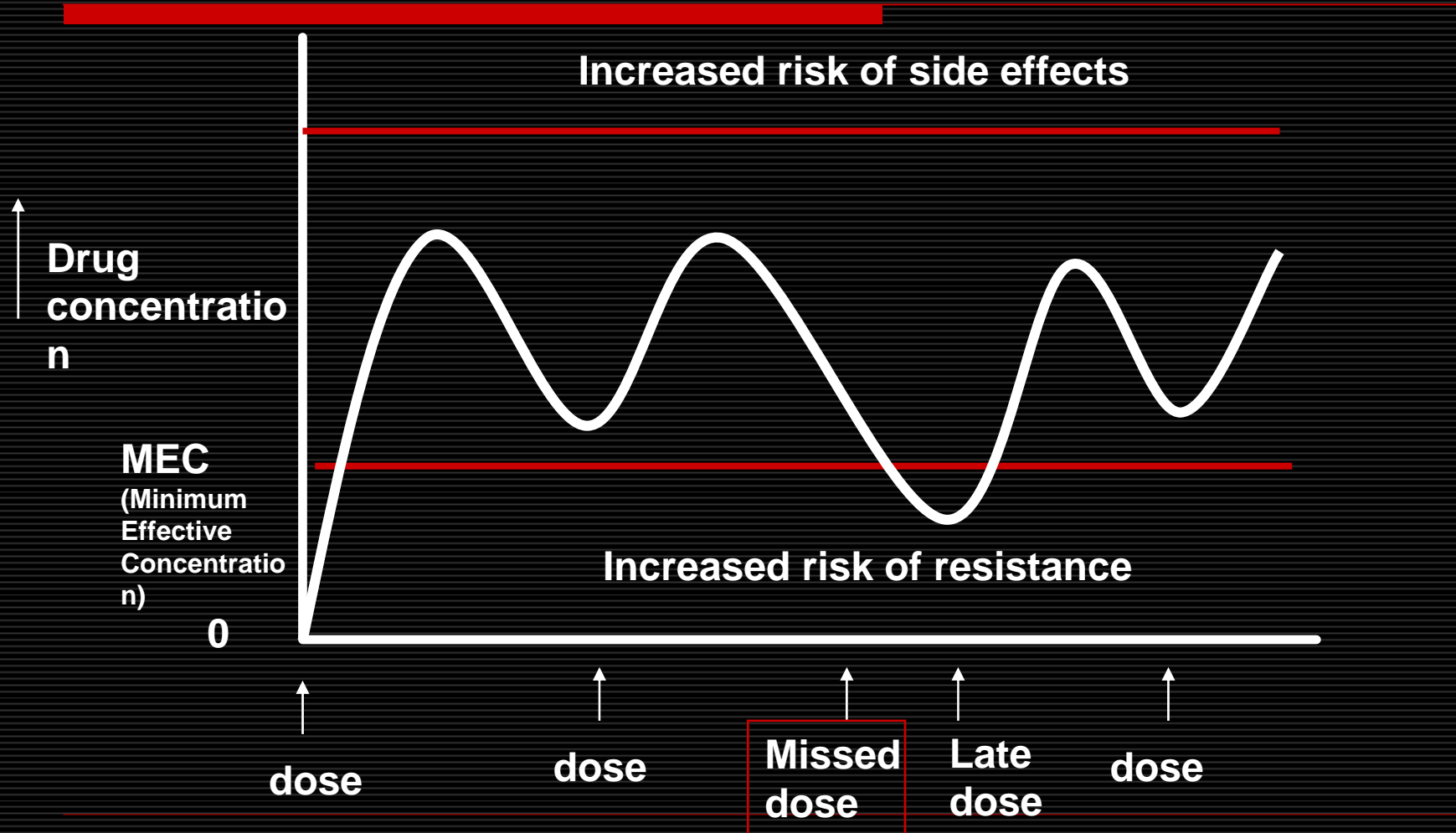
Drug levels and resistance

Taking drugs at the exact time makes sure that you keep above a minimum level



Drug levels and resistance

Accuracy of your dosing will keep you out of the risk zone for resistance



Principles of ARV therapy

- ❑ Non-discrimination
 - Free and universal access
 - ❑ Cost effectiveness
 - ❑ Optimal quality
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Goals of Therapy

- ❑ Increasing life expectancy;
 - ❑ Decreasing mortality;
 - ❑ Decreasing morbidity through AIDS-related diseases;
 - ❑ Improving the quality of life in HIV/AIDS patients;
 - ❑ Increasing adherence to therapy thus halting resistance
 - ❑ Increasing compliance to therapy;
 - ❑ Facilitating access to ARV therapy for eligible patients
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ARV – Initiation Criteria

- Clinical
 - Immunological
 - Virological
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Clinical Category	CD4 Cell Count	Plasma HIV RNA	Recommendation*
Symptomatic (AIDS or severe symptoms)	Any value	Any value	Treat
Asymptomatic AIDS	<200 cells/mm ³	Any value	Treat
Asymptomatic	200–350 cells/mm ³	Any value	Treatment should usually be offered; controversy exists for patients with viral load <20,000 c/mL due to low probability of AIDS-defining diagnosis within 3 years.
Asymptomatic	>350 cells/mm ³	>55,000c/ml (bDNA or RT-PCR)	Some experts would treat because viral load above this threshold predicts a 3-year risk of AIDS of ≥30% despite high baseline CD4 cell count. Some would defer therapy and monitor CD4 cell count more frequently.

What do we have in Belize? - adults

- ❑ Lamivir - \$0.11
 - ❑ Duovir (lamivudine + zidovudine) - \$0.33
 - ❑ Ritonovir - \$4.38
 - ❑ Efavir - \$0.99
 - ❑ Indinavir - \$0.53
 - ❑ Nevirapine - \$0.12
 - ❑ Stavudine - \$0.07
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What do we have in Belize? – pediatric

- Lamivudine - \$7.00 bottle
 - Nevirapine
 - Zidovudine
 - Didanosine - \$83.64
 - Abacavir - \$53.00
 - Kaletra (lopinavir / ritonavir) -
\$192.88
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IN THE WAR AGAINST HIV/AIDS



INFORMATION IS YOUR BEST WEAPON

National AIDS Programme, MOH

- ❑ 1st Floor, East Block Building,
 - ❑ Independence Plaza, Belmopan
 - ❑ mmanzanero@health.gov.bz
 - ❑ 822-2325 / 2497/ 2059 ext. 81305
 - ❑ Fax: 822-2942
 - ❑ www.health.gov.bz
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