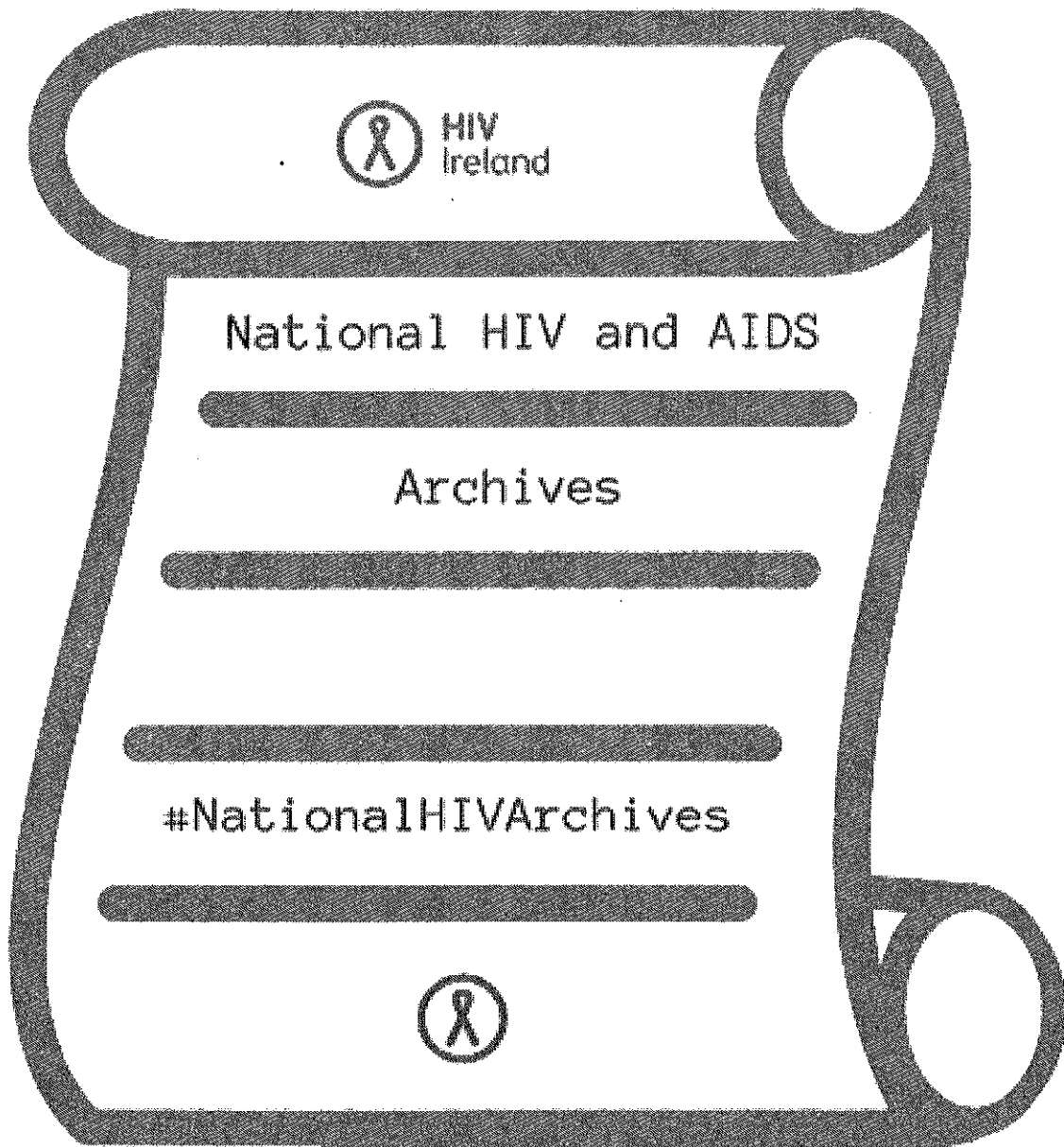


Print Media



16th to 19th March 1987

B. News
16th March 1987

Aids toll 'tells immoral tale'

The killer disease Aids is the result of sexual promiscuity that has refused to take seriously the link between actions and consequences, the Church of Ireland House of Bishops has said.

The statement said that some people will not accept the Christian emphasis on faithfulness and fidelity within marriage and abstinence outside it.

"This places on Governments an obligation to do everything possible to make people aware of the dangers of Aids and to provide advice as to how it may be contained," the Bishops said.

"It is essential that society faces up to the moral issues of this current situation. Only a re-awakening to the value of self-discipline, restraint, fidelity and awareness of the consequences of a failure to abide by such principles will disaster be averted."

The Bishops said few could doubt the potential of the condition to bring widespread misery and loss of life on a world scale.

Northern Ireland continues to be free of Aids cases this year, but there has been an increase of one to 31 in the last month of the number of people diagnosed as carriers.

About half the cases involving carriers are within the homosexual community, but experts say none of the transmission had been within Northern Ireland.

Last year the Province recorded four cases of full Aids, again contracted outside Northern Ireland. Two patients returned to England and two died.

Statistics released in Eire last month showed nine deaths and 16 confirmed cases of Aids out of a population of about 3,500,000. It was also disclosed that more than 350 people in the Republic were known to have contracted Aids-related viruses

SL

DEATH TOLL AROUND THE REGIONS . . . BUT HOPE FOR SOME

Where
the virus
has hit
hardest

We'll adopt an AIDS baby say 16 couples

LONDON fares worst in a new region-by-region AIDS survey.

The four Thames regions and East Anglia have treated 572 cases — nearly 8 per cent of the total.

But the concentration of cases in and around London might turn out to be in the patients' best interests.

The figures contain a hint that the medical experience gained is helping to keep patients alive slightly longer. Of the 572 patients treated in the South-East, 268 or 47 per cent have died so far. That compares with the national figure of 52 per cent.

The survey, by the Press Association shows that in the South, Brighton is one of the worst hit areas. Latest local health authority figures showed the death toll standing at 15 and a further six patients with the disease.

Wessex regional health authority, covering Hampshire, the Isle of Wight and parts of Dorset and Wiltshire, says there have been 16 cases with 11 deaths.

In the South West generally there have been ten cases — an increase of one over last month's figures. Eight of those died.

Warned

Twelve people have died so far in the West Midlands, with 15 other known sufferers and about 250 with positive reaction to antibodies.

In this month's AIDS league table of 17 health authorities published by the DHSS, Northern come fourth behind North West Thames, North East Thames and South East Thames.

Latest official figures show nine of the 11 known victims in Wales have died.

A Commons committee was warned recently that Edinburgh — dubbed the AIDS capital of Europe — is facing an epidemic of massive proportions with 100 people dead or dying from the disease in the next year.

Figures at the end of February showed 10 cases of the full-blown disease in Scotland with 11 deaths, the majority homosexual men.

Northern Ireland continues to be free of cases.

By JAMES GRYLLS

CHILDREN born with the AIDS virus are being given a chance in life by brave couples prepared to adopt them. There is as much as a 50 per cent chance the youngsters could develop the full-blown disease and die — and the new parents face an agonising wait of three to five years to see if this happens.

The programme to adopt an AIDS child is being run by the social work department in Tayside, Scotland.

One baby boy has been legally adopted already, a 14-month-old girl is with a foster family which is in the process of adopting her and a third family is waiting to take in the next baby born in the region who is a carrier.



THE star of ITV's *Intimate Contact* series — about a businessman who catches AIDS — admitted last night that he has taken a test for the killer disease. Daniel Massey (left) said on the Television Show that he had undergone the test which was negative, partly because it can go back eight years.

He added: 'I think of my life for the last eight years and I think that, like a lot of us in this country, one needs to be sure perhaps that one hasn't got it.'

No fewer than 16 families responded to an advert placed in a local newspaper by Tayside council seeking volunteers for the programme. Mr David Middleton, assistant director of the social work department, said: 'We believe there is no such thing as a baby that is not adoptable — and that includes children with the AIDS virus.'

'It is quite clear to everyone that families who adopt these babies will have to face the difficult and heart-breaking reality that some of the children will die of the disease. But every child deserves a chance.'

The family who adopted the baby boy — who was taken into care soon after he was born in Dundee last year — did not know at first that he was a carrier. When it became known they decided they wanted to keep him.

Mr Middleton added: 'The case of the 14-month-old girl is slightly different because we did not know of her condition.'

The prognosis for the boy is that he carries a 50 per cent risk of developing the full-blown disease and dying. The family who adopted him have been fully informed and given detailed

medical information and advice by a consultant. They will be given every help and assistance.

Tayside region has 148 known adult carriers and five children have been found to have the virus.

Isolated

An AIDS consultant said last night: 'The risk to anyone coming into contact with these babies, or anyone else suffering, is significant exposure to blood.'

'The virus has also been isolated in saliva but it is estimated that it would need one and a half litres injected into you to infect you with the virus.'

'Because of this there would be nothing to stop the parents kissing or cuddling the baby but to reassure people — and particularly parents who have adopted these children — we would suggest they wear rubber when dealing with the child's body fluids.'

'We do not know for certain if blood could contaminate urine and, in turn, infect a sensitive person who came into contact with it.'

SL

Evening Herald
16th March 1987

More opt to use condoms

By RAY MANAGH

ONLY a third of more than 100 women surveyed in a country doctor's practice used natural family planning as opposed to other methods of contraception.

Out of a total of 107, only 37 used this method. Twenty four women used natural family planning and the condom and 23 opted for the contraceptive pill.

The survey, carried out by Dr. Harry O'Meara and his wife, general practitioners in Bree, Enniscorthy, Co. Wexford, revealed that of those surveyed only 13 used the condom only. Only four favoured the intra-uterine device; three used the diaphragm and three had had themselves or their husbands sterilised.

The results of the survey, carried out between 1986 and 1987, are revealed in the Irish Medical Times.

Dr. O'Meara says that in the 1970s the pill was liberally prescribed, IUDs were fitted and NEP was encouraged. After a few years, patient dissatisfaction, especially with IUDs and with growing ethical ecological and medical anxieties about the pill, it ceased to be prescribed from 1981.

This allowed other methods to drop in popularity, in particular natural family planning and condom use.

Dr. O'Meara says he would like to see a growth in the numbers learning a full NFP method. In the short term this hinged on more young couples learning NFP and breast feeding their infants as both were connected. It was difficult to persuade patients to use a diaphragm.

Sc

Irish Press
16th March 1987

Aids and condoms

DEANERY MEETINGS in the Dublin Diocese this week were addressed by doctors on the subject of Aids. The doctor who spoke at the meeting I attended showed enormous learning on this frightening subject. He confined himself to the medical aspect. There is also, among others, the spiritual-moral aspect.

"Do not be afraid of those who kill the body but cannot kill the soul; fear him rather who can destroy both soul and body in hell". (Mt. 10; 28).

A learned doctor revealed that the failure rate of condoms, used to prevent Aids, could be as high as 50%. Wouldn't it be foolish and dangerous, even from that limited point of view, to give any kind of recommendation for the use of condoms?

The moral/spiritual failure rate is, of course, 100%. Wouldn't our Government be best serving the total welfare of our people by saying (in addition to other things): "Forget about condoms; stick to fidelity".

FR. RONNIE NEVILLE
The Presbytery,
14 Rosemount Crescent,
Clonskeagh,
Dublin 14.

54

Irish Times
16th March 1987

No AIDS cases recorded in North

NORTHERN IRELAND continues to be free of AIDS cases this year, but there has been an increase of one to 31 in the last month of the number of people diagnosed as carriers.

Specialists monitoring the spread of the virus said, however, this did not indicate a real change in the situation. The person involved was a known homosexual who returned home from Canada and informed doctors he had been diagnosed as a carrier. About half the cases involving carriers are within the homosexual community, but experts say none of the transmissions had been within the North.

Last year four cases of full AIDS were recorded, again contracted outside the North, two patients returned to England and two died.

Statistics released in the Republic last month showed nine deaths and 17 confirmed cases of AIDS. It was also disclosed that more than 350 people were known to have contracted AIDS-related illnesses.

SL

AIDS campaign does not have to ape British

SOUNDING
OFF
by John Healy



WHEN Bishop Joseph Cassidy speaks for the Irish Catholic Church it is with a candour and concerned warmth. He manages to soften the harshness of some of the cruder old-school hard-liners. They may be a dying breed, the men who got Irish Catholicism the name of being the mother-in-law of the Church of Rome. We have a few crusty young ones coming up, too, unless I miss my guess the man getting his stripe in Rome tomorrow will fit that category but anyway.

Those lordships are facing the AIDS debacle, Bishop Cassidy has given us the first reaction. It is one of loving care and concern. The cry may say, so what's the big deal, isn't that what Christianity is about? Indeed.

Those of my readers who live in multi-channel land and who have been watching the way the British are dealing with the AIDS crisis will understand immediately the brutal contrast between the secular approach of the communicators and British Government, and the approach adopted by the bench of bishops.

It is a reversal of roles. There was a time when pulp-thumping bishops like the late "Cross Michael" of Galway was the thing: when he couldn't put the love of God in his flock's hearts, he'd put the fear of God in the wombs. Today the British are hawking worn fear with a zeal which would have pleased Michael of Galway.

enough: it's their business. We are getting the overspill from television — and it's not a pretty picture. The first victim of the campaign is love itself. Suddenly romance is dead: it is gone. The age of innocence is equally dead. There is no mystery anymore, no joy anymore, no wonderment. Overnight God's greatest gift to us has become a sordid mechanical act which can kill.

about having it off and having to provide the condoms themselves. Young macho bloods thought it silly stuff to go in to Boots the chemists to buy a packet of condoms. On the other hand they didn't give a girl who produced a condom from her handbag as much as a second thought. A whore Not at all; they want to protect themselves, it's as simple as that.

But don't ask the macho boys to buy them: Rambo studs, *or névéth*.

At the same time the same macho studs have to be shown how you roll on a condom! It is some advance from a few months ago, when the TV people and the Ministry worried about the possible reaction from the public about using the word "condom."

It may be that the Condom Society is the full and final flowering of the Consumer Society. The Consumer Society flourishes on the theology of the Seven Deadly Sins (before your time, darling: ask mother about the horror of the Eighth Deadly Sin: spreading AIDS).

We were a little late getting into the Consumer Society but in Ireland and there are whole stretches of this land where the older values of the peasant society, with its basic concept of self-control: a fixed ceiling on wants, and help for the neighbour in

the whole bit is not allowed to confuse the mechanistic approach to the problem. "Sleeping around" is a way of life which is now dangerous unless you have a condom.

* * *

No, I am not saying: "No sex, please — we're Irish." We always had a good, basic and healthy attitude to sex in peasant societies until we got an overlay of Victorian morality of the kind that said even the legs of the table should be covered with a modesty tablecloth "for fear."

In our rush for equality between the sexes, there have been losses. To talk of romance and falling in love being wonderful is to risk being called sexist. Yet romance is still alive and well and the majority of young girls in Britain, as in Ireland, know that it ever really went out. The love song has a place yet even if heavy metal and Bay George dominate the Top 40. "The Girl That I Marry" might not rocket into the Top 10 today but the seamen who might just catch the words on a golden oldie show. The record shops find a new market in old tapes of King Cole and Coma and Ol' Blue Eyes himself, who can still belt out a good love number.

The day we stopped using the word "fornication" and substituted "cheating" was the day we started a lot of trouble for ourselves. For the last few weeks on British television we have had people on the screens who never let the word escape from their lips. Fornication is a very old-fashioned word, like virtue, like fidelity.

In Britain, current society appears to have no vocabulary of that kind: instead the euphemisms abound and now even the word "condom" is being euphemised in a jingle: "take a Johnny to bed with you."

It may not be the business of Dr Rory O'Hanlon as Minister for Health to preach virtue and fidelity first or to say "love is forever" before adding the commercial: "But if you must fornicate, do it with a condom and reduce the risk of an AIDS infection," and none of your "take a Johnny to bed with you," or "always keep a pecker-pack in your purse."

The best — and only antidote to AIDS is in the word: DON'T. We are all human in the end, however, and it is precisely because their lordships appreciate that the failures need help, the thrust of their programme is to care for the afflicted, making a medical *neither* of help.

It sure as hell beats thumping the pulpit and "frank" British attitudes as shown on TV.

Irish Times
16th March 1987

**INFORMATION
ON AIDS**

Sir, — We, the Irish Housewives' Association, are delighted to see that the Irish Countrywomen's Association is advocating a campaign to urge the Government to mount an immediate publicity drive (particularly directed at teenagers) regarding the dangers of AIDS (Acquired Immune Deficiency Syndrome).

We wholeheartedly support their call for information and education in this matter. —
Yours, etc.,

MOIRA GUINEY,
MAIREAD ALLEN,
Jt. Hon. Secs, IHA

8 Dawson Street,
Dublin 2.

SL ✓

Irish Independent, Tuesday, March 17,

'SAFE SEX' TALKS FOR STUDENTS

Irish third-level students are being advised in the methods of "safe sex" in the run up to the summer vacations. These and other precautionary measures are being pushed in an effort to reduce the possibility of students catching the AIDS virus while abroad.

An estimated 3,000 Irish students have already received the message from a lecture tour which is presently doing the rounds of colleges here. The educational tour is being organised by the Union of Students of Ireland, which will be running a special feature on the disease in the next issue of its magazine, "pushing safer sex, explaining the nature of the disease, and dispelling some of the myths".

"During the summer holidays, thousands of Irish students are going to travel to high risk areas, or to areas where the risk is higher than in Ireland, and they must know that they cannot take any chances", USI deputy president, Sean O hArgain, told **THE SUNDAY PRESS**. "We are not going to tell people what they should and should not do, but if they are

to have sex, they must take precautions".

The union has also asked that its travel agency, USIT, prominently display any publicity material available in its offices in Dublin and around the country. Travellers booking holidays with USIT will be provided with information on the disease if they request it.

All students travelling to the United States with USIT's J-1 summer work programme are to receive a compulsory lecture when they arrive in New York, which will include information and advice on the AIDS virus. Each year, USIT brings 4,000 Irish students to the US, on the summer work programme.

The incidence of AIDS in the US, and more especially in New York, where a large number of Irish students spend their summer, is among the highest in the world.

Mr. O hArgain said USI were "Very concerned" that the Department of Health have not, as yet, given out any information on the disease.

Irish Independent
17th March 1987

Help line for AIDS

"AIDS HELPLINE" — a new telephone information service for the general public on AIDS — will be launched on April 3, which had been designated "International AIDS Day".

The helpline, whose number has yet to be announced, is being launched by AIDS Action Alliance, a recently formed group which aims to co-ordinate all aspects of AIDS prevention.

The group, which welcomes new members and support from groups or individuals can be contacted at PO Box No. 1884, Sherriff Street, Dublin 1.

54

Irish Independent
17th March 1987

Vaccine for AIDS in late 1990s

U.S. Surgeon General Everett Koop warned last night that it was unlikely a vaccine for AIDS would be available before the late 1990s.

"Today it is our hope that we will have a safe and effective AIDS vaccine generally available sometime before the end of the century — say the late 1990s," Koop said. "That's about as optimistic as we reasonably can be."

America's top health administrator was clamping speculation that a cure for AIDS was imminent after a spate of recent publicity about progress in developing a vaccine.

He urged his Press Club audience in Washington to carry his cautious outlook about a vaccine "back to the headline writers."

Koop noted that it had taken 10 years to develop a

54

Irish Independent
17th March 1987

Aids victims 'detained'

YOUNG people in Britain with the AIDS virus are being detained in secure units to take them out of sexual circulation and avoid the possibility of "revenge sex", it was claimed yesterday in London.

Labour Party health spokesman, Mr. Michael Meacher said he had been told of the units by a "private source that is wholly reliable" and he called for a Government explanation.

He told a press conference at the House of Commons: "Currently there are about 350 secure unit places in 44 community homes, where a number of young people with the AIDS virus are being detained in order to take them out of sexual circulation."

Sc

THE NEW YORK TIMES

Frustrated AIDS Patients Devise Their Own Therapies

By KATHERINE BISHOP

Special to The New York Times

SAN FRANCISCO, March 16 — People desperate to halt the progress of AIDS in their bodies, and frustrated with a medical establishment that cannot offer effective treatment, are seeking alternative therapies in the United States and abroad.

Some have traveled to France and Israel for treatments not approved in this country. Others have gone to Mexico to purchase the anti-viral drug ribavirin, not available to patients here outside research programs.

And across the country 2,000 people have sought help from a rapidly growing underground network of "guerrilla clinics" that have sprung up in response to the epidemic. In more than three dozen such

clinics, people infected with the AIDS virus are treating themselves with a variety of substances, including a chemical used in photography, a soybean derivative, a substance found in Japanese mushrooms and an herbal tea made from the bark of a Brazilian tree.

Health officials warn that there is no evidence that these substances can cure AIDS. And people who rely on these substances may not avail themselves of approved treatments that have prolonged life or relieved symptoms in other patients. Some doctors also say studies of promising drugs are being compromised by AIDS victims who fail to report their self-treatment.

But those involved in the guerrilla clinic movement argue that people with AIDS do not have time to wait for drugs to meet formal medical research and testing requirements. Among them is a lotion made in a

modest apartment here by James D. Henry, a 33-year-old worker for an orthopedic supplies company. For more than a year he has been mixing hand lotion, ethanol and the photographic chemical diisothiocyanobenzene.

Some of the mixture has gone to Scott Chapman, a 28-year-old community service worker in Seattle, who has been exposed to the AIDS virus but is otherwise well. The recipe for the substance has gone to Denver where Kevin Wells, who already has developed AIDS-related complex has been applying it once a week since early January in Minneapolis, the manager of a computer company who asked that his name not be used applies the lotion directly to the skin lesions that signal that he has Kaposi's sarcoma, an AIDS-related cancer.

"These are desperate acts and they are inevitable in the face of a disease we don't treat so well," said Dr. L. Bruce Mills, a San Francisco dermatologist whose reports of some im-

provement in treating Kaposi's sarcoma lesions in a small number of patients have given him the unwanted status of the hero of the D.N.C.B. movement. But despite "a few glowing examples" of success, he said, such therapies have not been proven successful.

Nevertheless, Mr. Henry said his own case is evidence of the benefits of alternative therapies. A year ago he was suffering from infectious associated with the AIDS virus. He had yeast infections on his skin and an oral fungus known as thrush. Today he feels healthy, has regained weight he lost and is free of symptoms. He scoffs at doctor's reports that many patients experience spontaneous, but temporary recovery from many symptoms.

More recently, the clinics have begun distributing a recipe for a homemade approximation of an experimental drug known as AL-721,

thought to interfere with the AIDS virus's attachment to its target cells. The homemade version can be kept in the freezer and eaten on bread or mixed with juice.

James M. Jacobson Jr., the chairman of Praxis Pharmaceuticals Inc. of Beverly Hills, Calif., which holds the patent on AL-721, said his company is "very concerned" about the practice. The homemade version is not the same as the company's product, he said.

Meanwhile, Mr. Henry and others argue that D.N.C.B. has not had a fair hearing in medical circles because it is a chemical that cannot be patented and no large profits are to be made from its use. One controlled study has just been approved at the University of California in San Francisco. Dr. William L. Epstein, a professor of dermatology who will work on the study, said it would help determine whether the chemical is effective.

AIDS RESEARCH.

NEW YORK TIMES, TUESDAY, MARCH 17, 1987.

P. 1

3.7

AIDS Drugs Offer Hope but Cure Remains Distant

Thousands of Patients to Test New Treatments by the End of the Year

By HAROLD M. SCHMECK JR.

This year the AIDS epidemic is being transformed from an utterly hopeless situation to one in which many, perhaps most American victims of the disease will have access to drug treatments that may give precious extra months of life.

One anti-AIDS drug appears to be nearing Federal approval, and trials of potential new drugs are being set up or expanded at a fast pace. But like every other aspect of the deadly epidemic, the drug outlook is marked by controversy and anguish.

The pace of progress seems agonizingly slow to patients who know they only have 6 to 18 months more to live.

'They Are Desperate'

"Many of them are much better informed about AIDS than the average physician, and they are desperate," said Dr. Michael Lange, of St. Luke's-Roosevelt Hospital Center in New York.

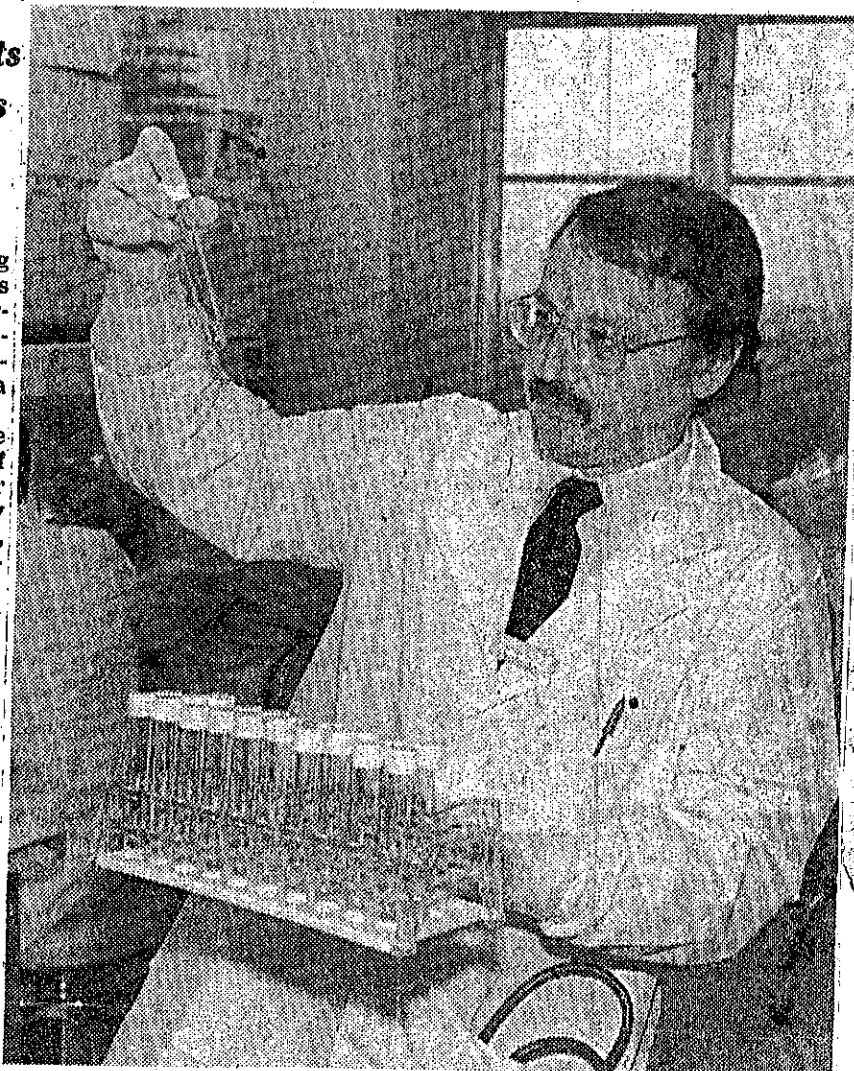
At present only a handful of drugs look promising enough for trial in patients. Most are in short supply and many patients have to be told they must wait, even for a spot in an experiment.

"I would like to try something even if it doesn't work," one patient told Dr. Lange. "Just to sit there and think and do nothing about it is very, very difficult."

Push for Treatments

On the other side is the huge effort medical scientists are making to cope with the growing menace of acquired immune deficiency syndrome. The virus that causes AIDS was discovered less than five years ago. Today, knowing its identity and having already discovered a wealth of detail about it, scientists are trying to exploit every weak point the virus offers.

Medical scientists are mounting what is probably the greatest concentrated effort ever made to find therapies for a single virus disease. And, in



The New York Times/Marty Katz

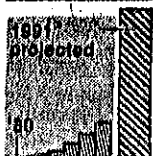
Dr. Samuel Broder of the National Cancer Institute in Bethesda, Md., holding a tray of test tubes containing AIDS-infected cells.

an unusual approach that they hope will quicken the pace of progress, Federal officials are sponsoring new research consortiums involving Government, university and industry scientists.

The drug most widely tried against the AIDS virus is azidothymidine, AZT. Nearly 5,000 patients have used it and the numbers are growing rapidly. The Food and Drug Administration is expected to approve the drug within weeks.

The evidence indicates that AZT has prolonged many lives. But so far the success is measured in months only, and the drug has harmed some patients. No one expects AZT to actually

Continued on Page C3, Column 1



AIDS: The Next Phase

Second of four articles.

(P. 1 of 5)

SW

AIDS RESEARCH

NEW YORK TIMES. TUESDAY, MARCH 17, 1987.

P. 3.

"DRUGS OFFER HOPE AGAINST AIDS, BUT A CURE REMAINS DISTANT."

Continued From Page 1

cure AIDS or to rid victims of the AIDS virus.

Almost every drug or antiviral treatment that has ever shown any prospect of combating any virus infection is being tested. The Federal drug agency has granted permission for early tests in patients of about 30 different substances that have demonstrated potential against the AIDS virus in test-tube experiments.

The Search For New Drugs

Thousands of chemicals, synthetic and natural, are being screened for activity against the AIDS virus in the laboratory. But the drug search goes far beyond screening. Working on the frontiers of biology, chemists, virologists, immunologists and molecular biologists are trying to engineer new substances to attack the virus at every specific point in its life cycle.

The new collaboration among Government scientists, universities and drug companies is being sponsored by the National Institute of Allergy and Infectious Diseases, a unit of the National Institutes of Health in Bethesda, Md.

Dr. Anthony Fauci, director of the allergy and infectious disease institute, says there are five such consortiums now. He hopes to get 20 more started by Sept. 30, the end of this fiscal year, and 20 more next year, if Congress will provide the money. A separate effort is being developed to work out the complete three-dimensional structure of all the proteins the AIDS virus makes.

These studies should reveal more

about the virus and its "weak points" that may be good targets for drug designers, Dr. Fauci said. "Those are the kinds of approach that are going to yield results two or three years from now."

Viruses are organisms that exist on the very border between the living and the inanimate. A virus particle is a protein-coated package of genes wandering through the world of life, looking for living cells to infect. Its genes subvert the normal genetic apparatus of the infected cell and cause it to make a new crop of viruses, often killing the cell to do so.

In a recent article, Dr. Hiroaki Mitsuya and Dr. Samuel Broder of the National Cancer Institute listed eight points in its reproductive cycle at which the AIDS virus might be attacked.

The first is the actual contact between invader and victim — the binding of the virus to its target cell. From then on there are several opportunities to counterattack as the virus gets inside, sheds its coat and goes to work. The last stages are the

assembly of virus particles within the infected cell and the budding of new viruses from the cell surface. Drugs are also being sought to hamper the action of key genes of the virus.

In addition, many studies are planned to test the effectiveness of combinations of antiviral drugs and substances known to strengthen the immune defense system. Many scientists believe that, in the end, such combinations will provide the best treatment for AIDS victims.

Dr. Lionel Resnick of Mount Sinai Medical Center in Miami Beach has noted that most of the drugs now used against the AIDS virus have some effects against a key viral enzyme, the reverse transcriptase, which acts inside an invaded cell to direct formation of DNA that encodes the virus's genetic message. Toxicity is a major problem with these drugs, he said, suggesting that they are not selective enough and therefore may interfere with normal cellular enzymes that assemble strands of DNA that the cell needs.

AZT and dideoxycytidine attack at the point at which the reverse transcriptase acts. They halt the production of the DNA strands that are normally manufactured from virus RNA with the enzyme's help. DNA and RNA are the principal genetic chemicals for all living things.

Suramin and HPA-23, drugs whose early promise has now faded, were designed to inhibit the action of the reverse transcriptase.

Ribavirin throws a chemical monkey wrench into the genetic machinery at a later stage, when the nucleus of the infected cell is sending out blueprints that the cell's production sites would use to begin assembly of new virus particles. Interferon alpha is believed to attack at the final stage of virus production, the point at which a new virus particle begins to bud from the surface of the infected cell.

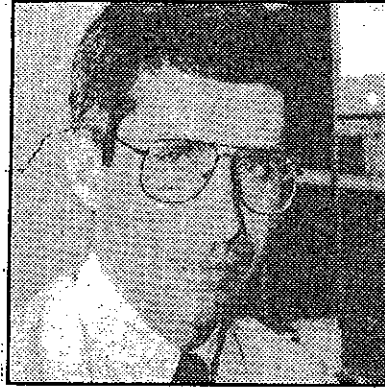
Many other experimental drugs are being considered, including AL-721, thought to hamper the virus's ability to attach itself to cells; peptide T, which interferes with virus attachment in a different way, and Fos-

carnet, which attacks the action of a key viral enzyme. Other potential drugs are artificially produced pieces of DNA that glue themselves to key segments of the virus's genetic blueprints and take them out of action.

Doctors at several research centers are planning to try AZT in combi-

nations in patients and in people infected with the AIDS virus who have not yet developed AIDS. One new study will also test the drug in patients who have developed dementia or other symptoms of brain and central nervous system infection.

The question of possible drug benefit to patients who are infected by the virus but have no symptoms of AIDS is considered particularly important.



The New York Times/Marty Katz and Rick Friedman
Dr. Anthony S. Fauci, top; Dr. Martin S. Hirsch, bottom.

Scientists see this strategy of early counterattack as probably the main hope for drugs against AIDS, whether the drug is AZT or something equally effective but less potentially toxic.

Few, if any, experts seem to expect to find a drug that will eliminate the virus from the patient's body altogether and cure the disease. Dr. William S. Robinson, a virologist and professor of Medicine at Stanford University, for example, thinks a cure is "a slim hope."

For the present, at least, the hope is for a drug or combination of drugs that will keep the virus in check so that it neither kills the patient nor cripples the immune system. But the virus is known to be capable of lingering in the human body relatively inactive for years. In addition, some seemingly logical combinations of drugs may turn out to be deadly, or counterproductive. A recent study of ribavirin and AZT together, for example, found that in test-tube experiments the two drugs seem to cancel out each other's effectiveness against the virus.

Drugs to keep the AIDS virus under control would probably have to be taken for years, perhaps decades; and that goal implies the use of something harmless enough to the patient to be tolerated over long periods.

CONTINUES.

(P. 2 of 5)

AIDS RESEARCH

NEW YORK TIMES, TUESDAY, MARCH 17, 1987

P.3. "DRUGS OFFER HOPE AGAINST AIDS, BUT A CURE REMAINS DISTANT"

Prospects For Treatment

In the immediate future, AZT will remain the best hope of many AIDS patients, experts say. By the end of the year, enough is expected to be available to treat at least 30,000 patients, although the drug is expected to be in short supply at the outset. And the manufacturer, the Burroughs Wellcome Company, has said that even after the drug, to be marketed under the name Retrovir, has been approved for prescription sale its distribution will be restricted to patients in whom prior evidence indicates the drug is more likely to help than harm.

Two other drugs, dideoxycytidine and ribavirin, also show promise although they are in less advanced stages of clinical research than AZT.

In a clinical trial, ribavirin apparently helped prevent some patients with early signs of AIDS virus infection from progressing on to AIDS, according to the manufacturer, ICN Pharmaceuticals. But few data have been released and many experts have reservations about the drug.

The near-term prospect is that the lives of many patients afflicted with AIDS will be prolonged. But that is about as far as experts will go in predicting what lies ahead, even though the number of drugs that look promising in laboratory experiments is expected to increase substantially.

In laboratory experiments, dideoxycytidine, which is chemically related to AZT, has shown promise of being at least as effective as AZT but less toxic. The drug is now in early safety testing in patients and its therapeutic promise awaits confirmation.

As to AZT, scientists stress the potential dangers as well as the benefits. The chemical has a destructive effect on the bone marrow, the ultimate source of the blood and cells of the immune defense system. But the reaction to AZT seems to vary greatly from person to person. Some people with AIDS have tolerated the drug for many months. Others have been forced to stop using it.

The F.D.A., while considering the application for licensing of AZT, has permitted a special distribution to patients who fit the profile of those in whom benefits have been established — essentially, AIDS patients who have suffered pneumocystic carinii pneumonia, an indication of severe damage to the immune system. Since the beginning of October, the number of patients receiving the drug has grown by 30 to 50 a day.

The results have been encouraging. "We've had a handful of patients who have gone a year and a half," Dr. David W. Barry, research vice president of Burroughs Wellcome, said. "Several dozen over a year and several hundred over nine months."

But some patients have died despite the drug treatment and, in others, the inexorable course of the disease has begun again despite their treatment.

The original clinical trial of AZT began in the spring of 1986 with a divi-

ceived the drug and others who received a placebo, a harmless, ineffective substance. The use of the placebos was cut short last fall, however, and all patients were given the drug when scientists discovered that there had been only one death among 145 patients receiving the drug and 19 among an almost equal number who received the placebo.

As of last Jan. 12, the most recent date for which figures are available, there had been only eight deaths among the original 145 who took the drug from the start, and 32 deaths among the others. Among 3,247 patients involved in a subsequent, widespread research trial, there were 97 deaths through Jan. 12, but only 21 deaths among those who had used the drug for three weeks or more.

"I think there are a lot of things we don't know about AZT yet," said Dr. Dr. Martin Hirsch of Harvard and Massachusetts General Hospital in Boston. "We know the short-term toxicities. We know the short-term ability to prolong life." But he added that there had not been enough time to analyze the long-term effects.

Cost is another problem; patients will presumably keep taking the drug for as long as they live, and the retail price is expected to be \$8,000 to \$10,000 a year for the needed doses.

Burroughs Wellcome, in justifying the price, says that production of AZT is complicated and expensive and that it has already borne enormous development costs. In January a company official said the company had spent more than \$80 million developing the drug, with no assurance that it would ever reach the market.

Meanwhile, the spread of AIDS is increasing. Thirty-two thousand cases have been reported in the United States so far. The Federal Centers for Disease Control in Atlanta has estimated that there will be at least 21,000 new cases and 13,000 to 15,000 deaths during 1987. That averages out to three deaths every two hours.

As they search for drugs that attack the AIDS virus infection, doctors are also working feverishly to find better treatments for the related diseases that strike AIDS victims. These include a rare form of cancer, Kaposi's sarcoma, and many infections that would not bother normal people but that attack patients whose immune defenses are ruined. There has been progress against many of these diseases, but it is still unclear how much, if at all, the life expectancy of AIDS patients has been increased.

A common problem and one of the most fateful stages in the progression of any AIDS case is the first episode of one particular infection, pneumocystis pneumonia.

A few years ago, patients often died from the first attack of this infection. Today 70 percent to 75 percent survive, according to one expert, but it is crucial that further attacks be prevented. Studies have shown that only one patient in 20 lives 18 months after that first episode occurs. Sometimes the patient dies during another attack, sometimes from other complications of AIDS.

The treatment that seems to be best against the pneumonia, specialists say, is not a new frontier anti-infection drug, but dapsone, an old and respected substance that has been known since the 1940's as a treatment for leprosy.

A study is needed to determine whether dapsone actually increases the survival of patients, said Dr. Michael Grieco, head of immunology and infectious diseases at St. Luke's-Roosevelt. It appears to do so, but the data are not sufficient to be statistically significant.

Conflict Over Access

Today the knowledge that there is no cure, that no patient has ever been known to survive AIDS and that there is a temporary shortage of many experimental drugs against the disease, has apparently generated a black market as well as amateur attempts at treatment. Some much-publicized patients, such as Rock Hudson, the film star, have made a futile journey to France for treatment with an unproved drug. More frequently, patients have gone to Mexico for ribavirin. Doctors in New York say there appears to a black market for both ribavirin and AZT in this country.

Some patients seeking AL-721 have taken the matter into their own hands, making a crude version of the drug at home.

Some doctors, familiar with this self-treatment, say they do not really object to it. Others worry over any use of a "homemade" drug because the patient has no way of knowing just what it really is and whether it is safe to take.

The F.D.A. has established special procedures for evaluating and approving potential AIDS drugs much faster than usual. The process has led to wide, though controlled, distribution of AZT years earlier than normal procedures would have dictated. Federal officials have also established a network of 19 leading medical research centers around the country to coordinate clinical trials of promising drugs — controlled scientific experiments that offer the only way of determining whether a drug helps, scientists assert.

(p.3 of 5)
CONTINUES

AIDS RESEARCH

NEW YORK TIMES, THUESDAY, MARCH 17, 1987.

P.3. "DRUGS OFFER HOPE AGAINST AIDS, BUT A CURE REMAINS DISTANT".

For many dying patients and their supporters, that has not been good enough. Health officials have faced constant, anguished pleas to let patients have access to drugs before their worth is proved.

Some officials admit to having suffered sleepless nights over the matter. But most scientists have concluded that controlled trials offer the only means of establishing the merits of new drugs. They also warn that potential AIDS drugs tend to be extremely toxic, akin to cancer drugs, and could rob victims of months of life as they offer a cruel false hope.

Without proper studies, Dr. Broder of the Cancer Institute said, "a good drug could be lost or a bad drug could be accepted as effective," causing immeasurable and perhaps irreparable harm.

The Outlook

Many experts regard AIDS as the final stage of a long virus infection that advances at a different pace in different patients. If so, the damage may be close to irreparable by the time the full-scale disease appears.

Doctors who take this view tend to be much less pessimistic about the chances of learning how to cope with the early virus infection, perhaps keeping it at bay for years or even permanently if the right combination of drugs can be found. That is why there is much current emphasis on trying the new drugs in people who are infected with the AIDS virus but have not yet developed symptoms of serious illness.

In the search for drugs of this kind, it may be a source of hope as well as challenge that the AIDS virus is the most complex example known of the class known as retroviruses. The complexity offers many different points of attack because the virus life cycle involves so many different interrelated steps.

"Although the precise mechanisms are matters of future study," Dr. Mitsuya and Dr. Broder wrote in their review, "it is clear that this retrovirus has evolved an astonishingly complex system of genetic regulation."

"With luck," the two scientists said, "the very complexity of the virus could contribute to its defeat."

Tomorrow: Search for a vaccine.

(p.4 of 5)

C/W DIAGRAM

"DRUGS IN AIDS FIGHT"
HOW THEY COULD WORK"

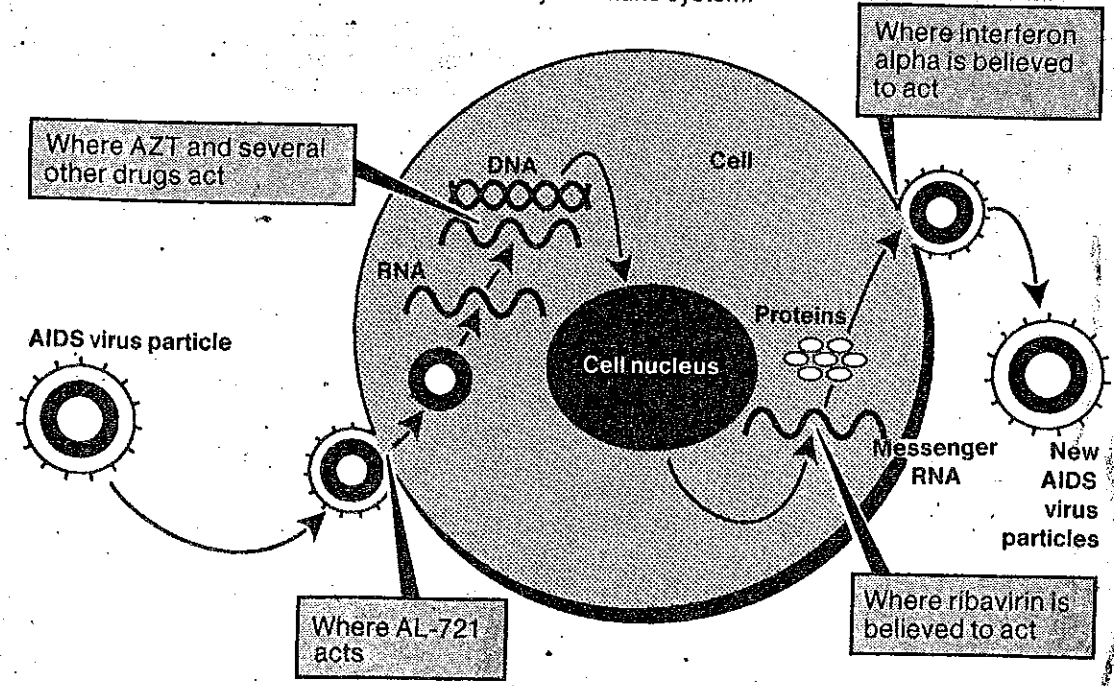
NEW YORK TIMES, TUESDAY, MARCH 47, 1987. P.3.

AIDS RESEARCH

Drugs in AIDS Fight

How They Could Work

When the AIDS virus invades a human cell it uses an enzyme to translate the code in its RNA, or single-stranded genetic material, into double-stranded DNA. The DNA enters the cell nucleus and subverts the cell's genetic machinery, causing it to produce messenger RNA that provides a blueprint for the formation of virus proteins. The proteins combine with RNA to form new virus particles, which bud from the cell surface. Scientists are searching for drugs that attack this process at many points and others that stimulate the body's immune system.



Eight Under Trial

Of the many drugs under study for treatment of AIDS, these eight are among those that have attracted the widest attention.

Drug	Manufacturer	Action	Status
AL-721	Procter Pharmaceuticals	Antiviral	in early human trials.
Azidothymidine (AZT)	Burroughs Wellcome	Antiviral	Shown to prolong life in some AIDS patients; now in use by nearly 5,000 patients; trials with different patient categories under way; Federal marketing approval expected soon.
Dideoxycytidine (DDC)	Hoffmann-La Roche, under Federal license	Antiviral	As effective as AZT and less toxic in laboratory tests; in early human trials.
Phosphonoformate (Foscarnet)	Astra Pharmaceuticals	Antiviral	Human trials under way.
HPA-23	Rhone-Poulenc	Antiviral	Human trials under way in Europe, early results in United States disappointing.
Interferon alpha	Several companies	Immunity stimulant and antiviral	In clinical trials both alone and together with other drugs.
Isoprinosine	Newport Pharmaceuticals	Immunity stimulant	Human trials under way.
Ribavirin	ICN Pharmaceuticals	Antiviral	Has shown promise in preventing development of AIDS in infected patients; now in further clinical trials; available to AIDS patients in some countries but not approved for this purpose in the United States.

(p.5-5)

Health task force set up

By Jim Cluskey

A TASK force with the mission of making savings that won't hit patient care has been set up within the Department of Health.

Already, health boards, and other agencies involved, have been asked to nominate individual officers, with specific responsibility to link in with the new group.

It is expected to get the whole operation into action by Easter, Health Minister Dr. Rory O'Hanlon predicted yesterday.

He saw the plan as one that would produce not just immediate cost containment, but also as a means of stimulating native supply arrangements.

"It should be possible, within a relatively short time, to determine accurately the on-going supply requirements for particular products for the country as a whole," he said.

"With this information available to potential manufacturers, I see no reason why we should not hope to achieve a situation in which local industry would supply a greater proportion of these products, rather than relying on imports."

Quite apart from the specialised products such as drugs and other medical consumables, there was quite a large market within the service for everyday items such as food for hospital patients. Here, again, he said, there was scope for local initiative.

The task force, known as a Cost Containment and Efficiency Unit, will have the immediate function, in co-operation with

health agencies funded by the exchequer, of acting as a clearing house for information on cost-saving initiatives, good practice, best prices for supplies and product evaluation.

Initially, it will be concerned primarily with the supplies area, which accounts each year for well over £125,000,000 of health expenditure.

The Minister said that on the basis of reports



● **Dr. Rory O'Hanlon TD, Minister for Health: satisfied that significant savings can be achieved.**

available to him, he was satisfied that with better organisation of purchasing arrangements, they could hope to achieve significant savings in the short term, with potential for further very significant savings in the longer term.

He added: "I am quite satisfied that we can achieve these savings without diminishing in any way the quality of treatment and care provided for patients."

Independent
18th March 1987

£8,000 for TV Aids row man

The manager of the Soho Brasserie, a fashionable London restaurant, was unfairly dismissed for allowing customers to be interviewed on television about Aids, an industrial tribunal ruled yesterday.

Mr Christopher Waud, chairman of the Chelsea tribunal, ordered the owners, Vittle Inns, to pay the maximum compensation of more than £8,000 to the former manager, Andrew Peters, 28.

Mr Peters, who had worked for the company for two years was summarily dismissed on October 16 for allowing Thames TV to interview young people at the bar.

SL

Irish Press
18th March 1987



Vincent Hanley

Hanley 'very ill'

TV presenter Vincent Hanley is very ill in St. James's Hospital in Dublin, where he is undergoing treatment for a serious illness.

The "MT USA" presenter is not receiving many visitors or calls from wellwishers and friends and is sleeping most of the time, according to friends. "There is no question of him going home," according to a hospital spokesperson. He is still very ill."

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Irish Times
18th March 1987

INFORMATION ^{1/4}
ON AIDS

Sir,—On March 9th I was listening to "Addendum" on Radio 1 which was dealing with the subject of AIDS. Kevin O'Kelly was talking to both Patricia Hegarty of USI and a Maynooth theologian about their attitudes to a government-sponsored AIDS awareness campaign. Obviously, morality entered into the discussion which centred around the use of condoms being advised by the Department of Health and whether this would promote and somehow legitimise promiscuity. The Church is entitled to its say, but the fact is that certain sections of society are at risk and all information should be made available to these sections as the Government has a responsibility to all its citizens irrespective of religious affiliation, sexual preference and position in society. — Yours, etc.

CONN Ó MIDHEACH, 1
Women's Rights Officer, 1
Students' Union,
University College, Dublin,
Belfield,
Dublin 4.

SC

Tests on Humans Near In AIDS Vaccine Hunt

By LAWRENCE K. ALTMAN

Before the end of the year, medical experts say, up to a hundred Americans will roll up their sleeves for injections of experimental vaccines against AIDS.

That will be a major step, the first human experiments in the United States in a worldwide vaccine-development effort that has no parallel in modern science and that holds the only hope for fully containing the scourge of acquired immune deficiency syndrome.

The fatal disorder has already struck more than 100,000 people around the world, international health officials estimate. The virus that causes AIDS, however, has not been isolated.

Despite the size and speed of global research effort, a proven vaccine does not appear likely for five to ten years, perhaps not before the century, in the view of leading experts.

AIDS: The Next Phase

Third of four articles.

which spreads from person to person through sexual intercourse and in blood, has already infected an estimated 10 million people and threatens tens of millions more in what officials call one of the century's most devastating epidemics.

Experiments in Africa

Already, marking an important landmark in the search for a vaccine, French and Zairian researchers working in Africa have begun to test experimental compounds in humans.

And, in perhaps the most dramatic step to date, a French scientist on the team, Dr. Daniel Zagury, has injected himself with a candidate vaccine to es-

tablish that it is safe and that it stimulates production of antibodies to AIDS virus, compounds the body makes to fight infectious agents.

American scientist is awaiting Government clearance to perform a similar experiment on himself.

Hurdles Facing Researchers

"The good news is we might," said Dr. Robert C. Gallo of the National Institutes of Health, "the bad news is that developing an effective AIDS vaccine is not going to be rapid as anyone would like."

"The prospects of a licensed vaccine in the immediate future very slim," Dr. Young said.

Researchers trying to develop a safe and effective AIDS vaccine face usually formidable scientific and ethical challenges.

Scientists are not even sure whether it will be possible to develop a vaccine against the AIDS virus.

"No one has any idea what it is going to take to make an effective vaccine," said Dr. Robert C. Gallo of the National Cancer Institute, a discoverer of AIDS virus.

The goal of a vaccine is to stimulate the production of antibodies that fight off the invading virus. People infected with the AIDS virus produce antibodies, but these, for unknown reasons, are often unable to prevent the onset of disease.

The main experimental vaccines under study make use of sub-units of the AIDS virus. The hope of researchers is that people taking a vaccine will develop certain antibodies that, if in place before invasion by the dangerous AIDS virus, can successfully defeat it.

Researchers hope a vaccine can stimulate two types of immune responses in particular. One type, neutralizing antibodies, attacks the invading virus directly. Another type, cell-mediated immunity, aims in part at bolstering defenses against the virus once it has invaded the body.

The aim of these human experiments will be to document what kinds of antibodies the candidate vaccines cause the body to create. In a process that is largely trial and error, different researchers have picked different elements of the virus that they believe are most likely to stimulate production of the best range of antibodies, while others are considering whether to use a killed version of the entire virus.

Problems To Be Solved

But even if one or another of the approaches seems promising in the early trials, researchers must confront huge technical and ethical problems as they try to prove that a vaccine actually protects people against AIDS. Scientists are asking such questions as: How can studies prove that the experimental vaccine truly repels the invading AIDS virus, since all subjects must be warned to avoid exposure to a potentially fatal disease? With whom would a study group of vaccine recipients be compared to see if they had been protected? And, even if some subjects are exposed to possible infection, how long will it take to know whether protection has been offered against a disease that often does not develop for five or more years?

Dr. Young said key decisions about testing, and evaluation of vaccines would probably be made "with much less detailed data than we would have

Officials of companies developing experimental AIDS vaccines are concerned that the potential financial inability in case a vaccine causes damage could inhibit them from marketing even a technically sound AIDS vaccine. They also wonder whether such a product would be sufficiently profitable to offset the enormous risks.

No one fully understands how AIDS virus is spread.

Without clear certainty of how to protect against progression from infection to disease, no one even knows how many different strains of the AIDS virus there are.

With no clear certainty of how to proceed, scientists making educated guesses have developed several approaches.

A Variety Of Approaches

In developing a vaccine, scientists have traditionally looked to the envelope, or protective coat, of a virus as the most likely part of the infecting agent to stimulate production of protective antibodies. They are using a variety of new techniques of molecular biology to chemically synthesize components of the virus or to extract pieces of it, in the belief that one or more proteins in the envelope will make an effective vaccine. While most researchers are focusing on the potential use of envelope proteins, others are experimenting with proteins from the inner shell of the virus.

Animals tests show that each species develops a different mix of antibodies in response to the AIDS virus, and while chimpanzees can be infected with the virus, no animals develop AIDS. For that reason, scientists see early experiments on humans as crucial. According to Dr. Gallo, the urgency of the epidemic and the progress already made in understanding the AIDS virus mean "it is time to cross the bridge" from animals to people.

Worldwide Collaboration

Preparing for difficult regulatory decisions along the road to an AIDS vaccine, the Food and Drug Administration has embarked on some unusual steps, Dr. Young said. It has hired more scientists to evaluate proposals for human experiments. And instead of waiting for researchers to come to it with their results and proposals, the agency is contacting drug companies and medical centers to keep abreast of their plans.

Agency scientists themselves are also performing some laboratory experiments to identify and verify reliable techniques. "There has never been anything like this before in the D.A.'s history," Dr. Young said.

Last fall, the National Academy of Sciences criticized the Government lack of leadership in the fight against AIDS, particularly in vaccine development.

Steps have been taken since then to improve matters. Recently Dr. Anthony S. Fauci, the director of the National Institute of Allergy and Infectious Diseases in Bethesda, Md., said he had begun to keep a list of all AIDS vaccine researchers and their areas of interest. Dr. Gallo said he believed such a list would include hundreds of researchers in at least 30 institutions around the world, many of them formally or informally linked. Dr. Montagnier of the Pasteur Institute in Paris, a discoverer of the AIDS virus, said for example that his team was collaborating with scientists in France and elsewhere on a variety of approaches to vaccine development.

The Zairian-French team caught in the Zairian rain forest last December was testing AIDS immunizations in which were begun on a small number of people without public notice, were strengthened the immune system of people with AIDS, a form of immunization known as immunotherapy.

Dr. Zagury, who is with the Pierre-et-Marie Curie University in Paris, has

people who are not already infected with the AIDS virus. The vaccine involves a protein from the outer coat of the AIDS virus called GP-160, delivered to the body in the vaccinating virus, a harmless virus that is used as the smallpox vaccine.

Dr. Fauci and Dr. Gallo say they are eager to learn the results of the experiments in Zaire because they could help speed the development of a vaccine in the United States. Preliminary results are about to be published.

In the United States, no human trials have been approved. But at least one American team has applied to the F.D.A. for such approval and another says it will do so within the next few

The team that has already applied for permission is headed by Dr. Allan L. Goldstein of George Washington University in Washington and includes, among others, Dr. Prem S. Sarin of the National Cancer Institute in Bethesda, Md., Dr. Adan Rios of the Institute for Immunologic Disorders in Houston,



Dr. Frank E. Young, Commissioner of Food and Drugs, said vaccine testing might start by the end of summer.

Dr. Paul H. Naylor of George Washington University. The team also has financing from Alpha 1 Biomedicals, a pharmaceutical company in Washington.

Human experiments would start within a few days after approval, if it is given, on the first of a projected group of 24 uninfected volunteers at George Washington University and at the institute in Houston, Dr. Goldstein said.

When he first studied AIDS patients, Dr. Goldstein said he was surprised to detect what he thought were large amounts of thymosin alpha-1 in their blood. From further research Dr. Goldstein learned that what he was detecting was not thymosin alpha-1 but rather the AIDS virus protein P-17. The two chemicals have in common a string of 18 identical amino acids, the building blocks of proteins.

Dr. Goldstein's team devised the HGP-30 vaccine by synthesizing that portion of P-17 that is common to the AIDS virus and to thymosin alpha-1. Experiments on rabbits, dogs and monkeys indicate that the vaccine spurs production of what may be protective antibodies to the AIDS virus. HGP-30 is inexpensive to produce and because it is synthetic it can be given to humans without any risk that it will cause AIDS.

Many AIDS researchers have criticized Dr. Goldstein's approach because it focused on a protein that was believed to lie deep inside the virus.

But now, in a surprising finding, researchers in West Germany have shown that although most of the P-17 protein is in the inner shell of the AIDS virus, some of it protrudes to the surface, offering the prospect that it could stimulate the body into producing the desired antibodies.

"Nothing gets more heated discussion in our staff meeting" than the HGP-30 vaccine theory, Dr. Gallo said. "They may be right, and if they are it is a big finding."

Because the core proteins of the AIDS virus are believed to be more stable than those on the surface, which seem to change over time and between viral strains, Dr. Goldstein theorizes that an HGP-30 vaccine might protect against a wide variety of strains of the AIDS virus. In addition, some studies of AIDS patients indicate that the amount of P-17 in the blood declines as disease develops, leading Dr. Goldstein to wonder if HGP-30 might even help prevent those already infected with the AIDS virus from becoming ill.

Moreover, in a forthcoming paper, Dr. Goldstein's team raises the possibility that a test for blood levels of HGP-30 might be more accurate than current blood tests for infection with the AIDS virus.

Another company, Oncogen, a Seattle biotechnology company that is a subsidiary of Bristol-Myers in New York, plans to ask the F.D.A. by the end of March for approval to test a different prospective vaccine on humans, according to Dr. George J. Todaro, the



The New York Times/Doug Wilson

Dr. George J. Todaro, scientific director of Oncogen in Seattle, said his team had been "greatly encouraged to go on" to human experiments as a result of vaccine experiments on chimpanzees.

Dr. Todaro said his team had been "greatly encouraged to go on" to human experiments with its experimental vaccine as a result of tests on chimpanzees.

Oncogen has prepared a vaccine using a combination of two of the virus's surface proteins, GP-110 (sometimes called GP-120) and GP-41. Oncogen used genetic engineering techniques to insert instructions for manufacturing GP-110 and GP-41 in the vacinia virus. When the vaccine is injected into humans, the GP-110 and GP-41 are expected to stimulate the body to produce antibodies.

Genentech of South San Francisco has taken a different approach, according to Dr. David W. Martin Jr., the company's vice president for research. Using their experience in recombinant DNA technology, Genentech scientists have used a portion of the AIDS virus envelope to develop a vaccine. The protein in the vaccine is believed to be the GP-120 protein. Dr. Martin said the vaccine has been administered to two chimpanzees who were then injected with an AIDS virus. If the experiments are successful, Genentech hopes to apply for approval for human experiments "later this year," Dr. Martin said.

In general, the smaller the part of the virus used in a vaccine, the weaker its ability to stimulate immunity. Thus the "subunit" vaccines, those made from fragments of virus, tend to be weak stimulators of the body's immune system unless substances called adjuvants are added to them. The Government is also offering grants to researchers to develop better adjuvants, according to Dr. John Nutter of the National Institute of Allergy and Infectious Diseases.

Killed Virus: Is It Safe?

Some existing vaccines, such as a widely used polio vaccine developed by Dr. Jonas Salk, use killed versions of an entire virus. Many scientists have avoided this approach with AIDS because they fear that some virus particles could remain alive and cause disease.

But Dr. Salk has theorized that a killed-virus vaccine might serve two purposes: to prevent AIDS infection, and to touch off a vigorous immune response in people infected by the virus. Dr. Salk, who is working at the Salk Institute in La Jolla, Calif., theorizes that AIDS develops more quickly in some people than others because of their weaker, less persistent immunological reaction.

Dr. Salk has presented his idea at meetings to stimulate discussion among scientists about his approach. Dr. Gallo now acknowledges that "we should have been doing a lot of experiments with killed AIDS virus" much sooner.

Meanwhile, other scientists are using mixes of different proteins in the hope that one will find the Achilles heel of the AIDS virus.

Dr. Hilary Koprowski at the Wistar Institute in Philadelphia, working with colleagues elsewhere, is trying perhaps the most novel approach of all for developing a vaccine. First, a protein from the AIDS virus is injected into animals to stimulate production of an antibody. That antibody is then injected into animals to form a second antibody called an anti-idiotypic. In a further step, the second antibody is used to stimulate production of a third one, which should be a mimic of the first antibody, but less likely to be contaminated with infective materials and therefore safer. This third antibody, the theory goes, might work as a vaccine.

Chimpanzees: Limitations

So far, the chimpanzee, the closest animal relative to humans, is the only animal scientists have been able to infect with the AIDS virus. While infected chimpanzees develop antibodies and some develop swollen lymph nodes, they do not develop outright AIDS, limiting their usefulness as an experimental model. Still, many officials view this animal as the final test before judging whether to try a proposed vaccine on humans.

To date, various American research groups have injected six potential vaccines into about a dozen chimpanzees, according to Dr. George J. Galasso, an official of the National Institutes of Health in Bethesda. Many more chimpanzees have been used in other kinds of AIDS research.

Classically, a vaccine's effectiveness is tested in animals by injecting the vaccine and then, after antibodies appear, infecting or "challenging" the animal with the disease virus. Early results from such tests in chimpanzees have created uncertainty about their value in proving the worth of AIDS vaccines.

A further complication is that chimpanzees are endangered and new imports from Africa are not allowed, leaving researchers dependent on the 500 or so animals now available in the United States for medical research. Some of them are also needed for other priority medical uses and for breeding for future purposes.

To husband the scarce animals, a Federal committee headed by Dr. Galasso must now approve any proposal to use chimpanzees in Government-financed research. Although the supply of animals for AIDS vaccine testing has been ample so far, officials fear there may be future shortages.

A difficult and controversial topic for discussion at a meeting on AIDS vaccine research, to be sponsored next month by the Public Health Service, is whether scientists should bypass experiments in chimpanzees to do experiments on humans, and, if so, under what circumstances.

At least three other human vaccines — those against whooping cough, Hemophilus influenza and meningococcus — were marketed by moving directly into humans without extensive testing in animals because animals were not susceptible to those bacterial infections, according to Dr. Fauci. Never-

theless, most scientists agree that data and experience gained from chimpanzee studies could improve the design of human experiments, although an AIDS vaccine that fails in chimpanzees might still work in humans. And the National Institutes of Health, having learned that no comprehensive survey has been made of the variety of animals tested for susceptibility to AIDS, is encouraging researchers to search for smaller animals that might be alternatives to chimpanzees for testing the effectiveness of a vaccine.

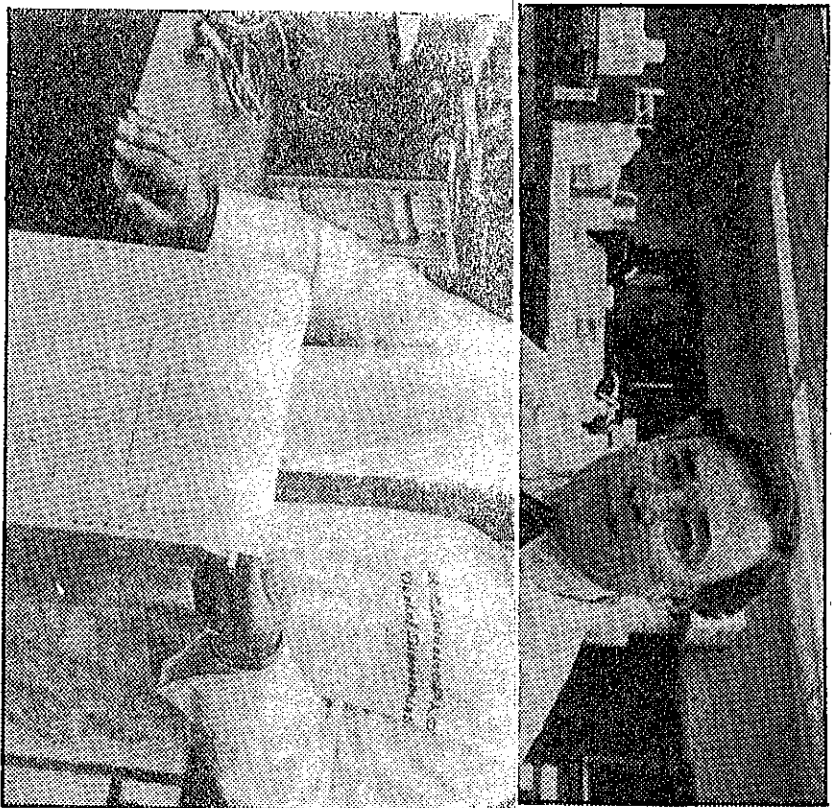
Next Stage: Ethical Issue

Although they could pose unknown risks to the volunteers, there is "no other choice" but to proceed with human experiments, Dr. Fauci said. "Vaccine development or even testing should not come to a halt until we delineate what that protective immune response is," he said.

Dr. Jeffrey C. Laurence, an AIDS researcher at New York Hospital-Cornell Medical Center, said that until researchers devised new techniques to make an AIDS vaccine, it was almost inevitable that "the science will get a little quick and dirty" as some researchers try "the shot in the dark that might provide the big break."

Experimental vaccines that survive a small number of volunteers, will not be eligible for large-scale trials of ability to protect against AIDS. The trials are likely to require fairly large populations, perhaps several thousand people in each study.

But scientists are still debating large-scale trials can be designed in a way that meets ethical standards. Provides valid data within a reasonable time. According to current thinking some trials will seek homosexual as volunteers and others will seek spouses of hemophiliacs or sex partners of intravenous drug users, according to Dr. Gary R. Noble, the AI coordinator for the Department of Health and Human Services, other experiments could involve volunteers in Africa and Haiti, where the disease more widespread than it is in the United States. But if most volunteers are taking precautions to avoid infection with the AIDS virus anyway, it will be extremely difficult to determine if the vaccine is having any useful effect.



Dr. Allan L. Goldstein of George Washington University is head of a team that has applied for permission to conduct human vaccine trials.

One conventional way of testing experimental vaccine is to give it half the volunteers and a placebo, inactive substance, to the other half. In comparison. However, experts at a recent meeting at the World Health Organization in Geneva were divided about the ethics of doing such a study with an AIDS vaccine, according to participant, Dr. Friedrich W.A. Deihard of the Max von Pettenkofer Institute in Munich, West Germany. The and other, similar issues must be clarified in the coming year so that early experiments can be succeeded by large trials as soon as evidence warrants.

If and when an effective AIDS vaccine is developed, another thorny question will arise: who should get it? The answer may depend on the social climate in Munich, West Germany. The and other, similar issues must be clarified in the coming year so that early experiments can be succeeded by large trials as soon as evidence warrants.

As obituaries and concern increase, AIDS is changing lives and scripts in Hollywood. Page C17.

mate and what epidemiologists learn about where and how fast the epidemic is spreading.

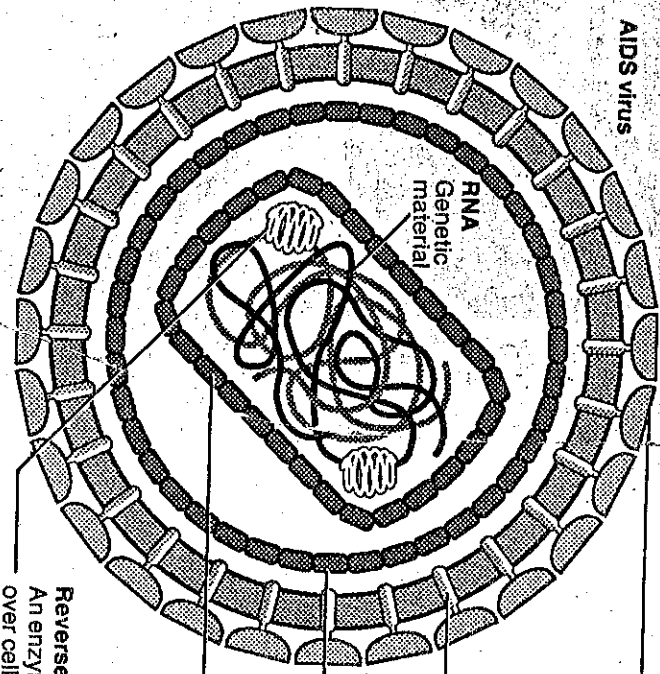
While many scientists pin their hopes on new tools of molecular biology to coming up with an AIDS vaccine, Dr. Young, the head of the F.D.A., said he was "not betting on it — I am going to plan for the worst."

The prospects are uncertain. But the nature of science is that it takes only one good idea to achieve success.

The AIDS Virus: Developing a Vaccine

Once in the body, the AIDS virus provokes production of a range of antibodies that battle it. These do not necessarily protect infected people from developing AIDS. But scientists hope that if a vaccine can induce production of certain antibodies in advance, invasion by the AIDS virus could be warded off. Scientists are trying to locate subunits of the virus that, when injected in the body, will stimulate production of protective antibodies.

AIDS virus



GP-110 Also called **GP-120** A glycoprotein, or sugar-containing protein, that helps the virus attach to and invade cells. Number refers to molecular weight, which scientists label differently.

GP-41 A glycoprotein, also along the outer coat, that plays a role in cell invasion.

P-17 A protein in the inner shell that is suspected to protrude to the viral surface; function is unknown.

P-24 A core protein; function is unknown.

Reverse transcriptase
An enzyme the virus uses to take over cells

The Current Search

Some experimental vaccines use only GP-120, others use combinations of GP-120 and GP-41 while another uses a synthetic version of part of P-17. Some experts propose using the entire killed virus, but others fear the possibility that some particles could remain alive and cause disease.

The Next Steps

Experimental vaccines are being injected into animals to see which types of antibodies are produced. Since each animal species responds differently and animals do not develop AIDS, these studies cannot reveal whether a vaccine would prevent disease.

The next step is to inject promising vaccines into small numbers of humans to determine safety and the range of antibodies that are produced. At least one French scientist has already done this and American teams plan to soon.

If tests indicate that a vaccine is safe and stimulates production of desired antibodies, complex, large-scale human trials will be started to determine whether it actually protects against AIDS, a process that will take many years.

Once safety and efficacy are determined, a vaccine can be widely distributed.

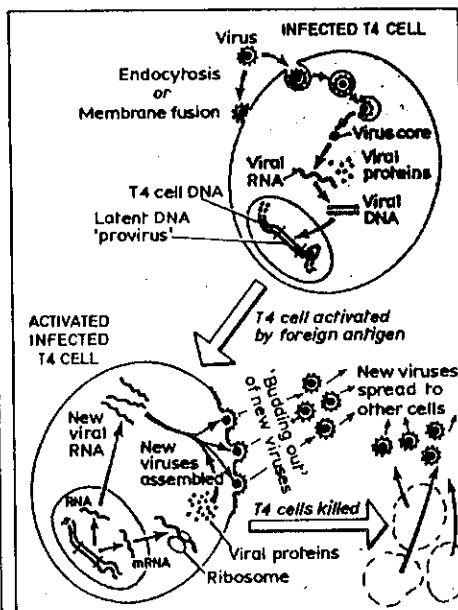
The Series on AIDS

The series so far: Part 1, on Monday, reported on the far-reaching impact of AIDS on New York City's life and spirit. Part 2, yesterday, described the hopes and frustrations in the search for new treatments, even as thousands of AIDS patients receive the first promising drug, Zalcitabine. Tomorrow, the only available defense against the AIDS epidemic.

Attack on the immune system

THE HUMAN immune system consists of many different types of white blood cells, which circulate throughout the body in blood and lymph. Some of these white blood cells produce "antibodies", which are proteins that can bind to and eliminate an incredible array of different foreign substances, called "antigens", carried by all manner of infectious organisms. Other white blood cells interact with infected or diseased cells of the body and kill them. Some white blood cells act as "helper" cells: supporting the other cells of the immune system in their defensive efforts. They may release proteins, for example, that activate and control the other cells of the immune system. Yet other kinds of white blood cell act as "suppressors", damping down the immune response when it has done its job.

The T4 cells infected by HIV are "helper" cells. So when HIV infection kills the T4 cells, the immune system is



How the virus takes over white blood cells

gradually deprived of this crucial help. The loss of T4 cells thus causes selective damage to one component of the immune system.

Strictly speaking, HIV does not kill a person with AIDS. Instead, the "immune deficiency" caused by the virus leaves the individual's body vulnerable to opportunistic infections. These infections may be mild or even go unnoticed in healthy people. Yet they can spread out of control when a deficient immune system gives them the chance. AIDS sufferers can also fall victim to some rare types of tumour, such as "Kaposi's sarcoma", which also takes advantage of a deficient immune system.

The immune system of a person with AIDS generates antibodies that bind to the virus. But as with many viruses, these antibodies offer little protection against disease. The presence of these antibodies in the blood does allow people infected with HIV to be identified however. We do not yet know what kinds of bodily defences may operate against HIV.

Andrew Scott

SL

Plague Years AIDS Has Been Cruel To Greenwich Village And Its Homosexuals

Signs Abound of the Dying; Businesses Are Shuttered; Some Neighbors Help Out

Hospitals Fearing the Future

By ELLEN GRAMAM and ROGER RICKLETS
Staff Reporters of THE WALL STREET JOURNAL

NEW YORK—On the playground at P.S. 41 in Greenwich Village, children eight and nine years old have devised a game called "AIDS." When a child is tagged, he "has AIDS" until he tags someone back.

In her office a few blocks away, internist Joyce Wallace sends a stock letter to mothers of her patients who die of AIDS. How many has she sent? "Hundreds," Dr. Wallace replies.

A young job applicant frets about having told a prospective employer that he has AIDS. He gets the job. It turns out the employer has AIDS, too.

AIDS has cut a cruel swath through Greenwich Village, an affluent old neighborhood of 61,000 on Manhattan's West Side. Traditionally a haven for artists, writers and bohemians, the village is generally assumed to have a homosexual population as high as 25% or 30%—altogether perhaps 13,000 people.

Accordingly, the village has become an epicenter of acquired immune deficiency syndrome, the fatal immunity disorder that in the U.S. struck first among homosexuals. Some 270,000 Americans are expected to have contracted AIDS by 1991—nearly nine times the total so far. Thus, the village's experience may serve as a harbinger for other communities as years go by.

Village Toll

Of more than 9,000 cases of AIDS reported to date in New York City, at least 700 have been clustered in the village, according to the New York City Health Department—roughly the same number counted in the whole state of Illinois. More than half have died, most of them men, many of them young. The survivors include legions of the "worried well" fearful that they, too, might be incubating the disease.

It all happened so fast. Less than six years ago, just a handful of cases had been reported, and the dying had just begun. Here in the village, the focus on bistros and coffeehouses on boutique-lined streets. But more young men these days get around with the help of canes or walkers. Wartime metaphors spring to people's lips. And the keeping of lists has become a grotesque commonplace.

Art critic and historian Robert Rosenblum sat down with his wife a few weeks ago and talked 20 dead and 10 sick with AIDS in their immediate circle of artists, museum people and collectors. "That seems overwhelming for our tiny world," he says. "It's so grisly switching back and forth from the present to the past tense—trying to remem-

Plague Years: Greenwich Village Struggles to Cope With Emotional, Social and Economic Impact of AIDS

Continued From First Page

problems," says Mindel Seidlin, the medical director of Bellevue's AIDS program. "The medications they receive are big guns, with a lot of side effects and toxicity. They receive many diagnostic procedures. They are weak, debilitated, can't feed, then—selfish, they need help to the bathroom and have severe diarrhea. And 30% develop dementia."

Robert Cecchi, the health ombudsman at the Gay Men's Health Crisis advocacy group here, estimates that AIDS patients require seven to 14 hours of direct attention a day, whereas hospitals are designed to deliver only about three. (Bellevue places the most seriously ill in a special 10-bed unit where they each get more than six hours of nursing care daily.) Mr. Cecchi says the labor-intensive aspect of the disease creates "problems in every hospital, on every floor." The GMHC receives 80 complaints a month about hospital care.

Meanwhile, hospitals here face the worst nursing shortage since World War II. When Vincent's went to Britain to recruit nursing-room nurses, it had no takers. The hospital's medical director, Lambert King, says the reason was fear of AIDS.

The cost of care is staggering. Bellevue is reimbursed at an average daily rate of about \$600 for each Medicaid-eligible AIDS patient; it receives about \$500 for those covered by private insurance. Yet the hospital says it costs around \$800 per day to treat each one. The shortfall—now totaling about \$12,000 a day—comes from city Medicaid. To qualify for the supplementary medical reimbursements, patients must be diagnosed as having AIDS under the Centers for Disease Control definition. Doctors say that such cases represent just a fraction of those actually sick. According to the CDC in Atlanta, there now are five to 10 times as many cases of AIDS-related complex, or ARC, as there are of AIDS, strictly defined.

Frightening Future
When I think five years out, it frightens me, says Bellevue's Dr. Seidlin. "The death isn't designed to take care of this any activity of patients."

An amount of training prepares residents, interns and nurses for the stress of treating the stream of young, dying patients. Some hospitals now offer counseling to their staffs, but those who deal with the repeated crises of the activity will have little time to do more than suppress their own despair. By contrast, David Kaufman, an attending physician at St. Vincent's who also has a private village practice, sees AIDS patients outside the hospital as well. "I get to know them," he says. "I see they have lives—good lives. I'm very touched by them. It sustains me."

When patients are ready for discharge from hospitals, they often have nowhere to go. They may have lost their jobs and, with savings depleted by medical bills, many can't afford to pay rent. About 650 homeless

people with AIDS live in New York City, according to the AIDS Resource Center, a village-based group that attempts to find housing. Many sleep on friends' couches, though some live on the street. And a few—city officials estimate 30 to 35 at any given time—are warehoused in hospitals because, as Mr. Cecchi puts it, "you can't discharge terminal patients to Central Park."

Long-term residences for such people are almost nonexistent. The only one of any size in the city is Bailey House, recently converted from a small Village hotel. It will eventually hold 44 men and women with AIDS.

Violent Backlash

Even in Greenwich Village, one of New York's most laissez-faire neighborhoods, the AIDS crisis has provoked a stinging backlash. Reported violent incidents committed against homosexuals here have nearly tripled in the past two years, says the New York City Gay and Lesbian Anti-Violence Project, a New York state-financed group. Between 10% and 15% of the violence occurs in the village, says David M. Wertheimer, the group's executive director. He adds that it is committed by village residents as well as by outsiders. Deputy Police Inspector Elson Geland, the commander of the precinct serving Greenwich Village, says, "AIDS gives people an excuse for violence."

One night early last year, for instance, a group of youths yelled at two men they assumed to be homosexuals. "Here come the AIDS carriers. Let's kill them," Mr. Wertheimer reports. The group assaulted the pair on a village street, hitting one on the head with a garbage can.

AIDS has also struck business, especially in the most heavily homosexual areas. Police officials say pedestrian traffic on Christopher Street, long a gathering place of homosexuals, has plunged by as much as 40% on weekend nights. The decline "has affected all of the shops," says storekeeper Rob Kilgus. These days, he says, he closes his candy shop at 8 p.m., compared with 10 or 11 p.m. two years ago. He says he knows of three shopkeepers on his block who have died of AIDS—a florist and the owners of a card shop and a store selling movie memorabilia.

Declining Bar Business

At least three bars catering to homosexuals in the village have closed for lack of business, among them a place called Peter Rabbit—and others feel the pinch. "In three years, my tips went down 30%," says Michael Loria, who last year quit his job as waiter at Julius, a village gay bar.

The backlash may be weakening as fear of getting AIDS from casual contact cools houses to fade. The opening of the Bailey House residence this winter provoked less public outcry than the opening of a much smaller facility did a year earlier. Three

doors up Christopher Street from the gay residence, Charlotte's Cafe, a restaurant specializing in food of the Southwest, opened March 1. "We knew about Bailey House," says Larry Peters, the restaurant's general manager, "but we got a good lease."

Real-estate prices in the village seem generally to be unaffected by AIDS and the omnipresent signs of the disease. Vacancy rates are low, as always, prices high. Any softness seems typical of New York market conditions generally.

Besides provoking reaction, the AIDS crisis has prompted an outpouring of volunteer sacrifice that is itself changing lives. Jane Ellen Best, 29, who was a financial adviser at Sanford C. Bernstein & Co., and Ganga Stone, 45, who managed a food-vending business, quit their jobs to organize God's Love We Deliver. With 50 volunteers, the group distributes meals donated by restaurants to people with AIDS.

With hospitals and social agencies ill-prepared for the burdens of this epidemic, much of the long-term care of the sick has fallen to friends, families and volunteers. It has been a heroic mobilization, and Mr. Sherhoff, the psychiatrist, and his roommate, Phil, took over the exhausting daily care of Mr. Sherhoff's brother, Henry, who had AIDS. Henry Sherhoff lived out the last 11 months of his life in the two men's living room, which was equipped with oxygen tank, wheelchair and other apparatus. "Phil didn't like Henry much—I didn't even like Henry much," Mr. Sherhoff says. "But my family was amazed by Phil's behavior—how a 'complete stranger' could display such kindness. It taught my parents another definition of family."

Changing Lives

AIDS, which is transmitted through sexual contact or intravenously, is also changing the lives of people who aren't involved, and hope to stay that way. The Anti-Violence Project's Mr. Wertheimer says half a dozen of his friends who are homosexual now abstain from sex. Others have sought refuge in stable, monogamous relationships.

Yet, Mr. Wertheimer says, "there is still great misinformation, especially among the young." A city-commissioned videotape on AIDS is being shown at schools in many other cities, but New York youngsters have yet to see it. The controversial tape still is being revised for local consumption, a school-board official says.

By all accounts, heterosexuals, who statistically still are in less danger, have been much slower than homosexuals to change their sex lives. A village nurse who deals with many AIDS patients admits she "isn't cautious about safe sex" with her boyfriend of four months. "We are where the gay community was five years ago," she says. "It's funny how we all self-de-

counted in the whole state of Illinois. More than half have died, most of them men, many of them young. The survivors include legions of the "worried well" fearful that they, too, might be incubating the disease.

It all happened so fast. Less than six years ago, just a handful of cases had been reported, and the dying had just begun. Here in the village, the focus on bistros and coffeehouses on boutique-lined streets. But more young men these days get around with the help of canes or walkers. Wartime metaphors spring to people's lips. And the keeping of lists has become a grotesque commonplace.

Art critic and historian Robert Rosenblum sat down with his wife a few weeks ago and talked 20 dead and 10 sick with AIDS in their immediate circle of artists, museum people and collectors. "That seems overwhelming for our tiny world," he says. "It's so grisly switching back and forth from the present to the past tense—trying to remember who has died, who is dying."

Reverent Overload

Psychiatrist Michael Sherhoff calls it reverent overload. "You can't finish mourning the death of one friend," he says. "When you're hit with another." Because the disease is invariably fatal, he adds, mourning begins with the diagnosis. AIDS has killed Mr. Sherhoff's own brother, many friends, 13 patients and seven residents of his 46-unit apartment building, he says.

Many villagers haven't felt the epidemic that intensely, of course. But AIDS can intrude unexpectedly in daily life. JoAnne Bennett, a nursing-magazine editor, tells of visiting a local shop after returning from vacation. "I remarked to the clerk that he looked a lot thinner," she says. "He said he had been sick and suddenly, it checked. You came to realize it is the butcher, the baker, the candlestick maker. It is your neighborhood, and people will get sick."

About once a day, police in the village precinct answer an AIDS emergency call. At the school attached to St. Luke in the F. A. S. Episcopal church, children pray during chapel for a cure for AIDS. Many of their parents' friends have died, explains Lucia Ballantine, the assistant rector. Since the first of the year, the church has held six funerals for men who died of AIDS.

Forming Groups

No fewer than 60 AIDS support groups are offered each week in the village areas, healing circles, bereavement groups, groups for parents of people with AIDS, groups for women with AIDS (one provides baby sitting), a group for veterans with AIDS and a group conducted in Spanish.

Hospitals spill over with patients in acute stages of the illness. At St. Vincent's Hospital—where 15 years ago survivors of the Titanic sinking were taken—the surge of AIDS admissions has helped push the general occupancy rate up to 97%. Officials say it is now often difficult to find beds for new patients of any kind. At Bellevue Hospital, a big municipal facility close to the village, the average daily-AIDS census is 65 patients up from 30 two years ago. AIDS patients now occupy more than a third of the beds in Bellevue's internal-medicine service. Hundreds more are seen for outpatient treatment.

Sheer numbers, of course, don't tell the full story. AIDS patients are needier than most, requiring hospital stays twice the average length. An AIDS patient's stay at Bellevue averages 22 or 23 days, compared with nine days for other internal-medicine patients. "They have multiple immediate

Scientist first to test AIDS vaccine

A PROTOTYPE vaccine against AIDS is being tested by a scientist — who has injected it into himself.

Researchers around the world have already developed a number of candidate vaccines which they are testing on animals.

But Daniel Zagury, of the Universite Pierre et Marie Curie in Paris, has now taken the vital next step of starting tests on human volunteers.

He is believed to be the first person to test the vaccine, although

it has now also been given to a small number of people in Zaire, one of the African countries hard hit by the AIDS virus.

The development, reported by Zagury and fellow researchers in the British science journal Nature, will fuel hopes that a vaccine to prevent the spread of AIDS will be found soon.

The scientists monitored Zagury once a week for nine weeks following immunisation, and said they did not detect any defects in his body's immune system.

They did, however, detect neutralising antibodies. The results, they said, show that immunisation of humans can trigger a primary immune response, not only against the immunising strain of the virus, but also to a lesser degree against a very different strain.

They do not know, however, whether this immune response is strong enough to protect people against AIDS. Nobody is yet taking the risk of being vaccinated

and then being deliberately exposed to the virus to find out.

And in America, drug maker Bristol-Myers said today it had developed a potential vaccine against AIDS and will ask the federal government this month for permission to test it in humans.

Scientists say developing an effective AIDS vaccine is the only real hope for controlling the spread of Acquired Immune Deficiency Syndrome, which has struck an estimated 100,000 people around the world.

SC

Evening Press
19th March 1987

TRIES OUT AIDS VACCINE ON SELF

A FRENCH researcher has injected himself and several other volunteers with a potential AIDS vaccine, the first time such a test has been carried out on humans, according to a letter published today in the scientific journal Nature.

In the experiment, which other researchers have called "daring" and "exciting work" the French doctor, Daniel Zagury of the Pierre and Marie Curie University in Paris, reported feeling no ill effects.

More importantly, he reported that his body raised immune defences against two widely differing strains of the AIDS virus. This may be important because a vaccine against one strain of the AIDS virus does not necessarily protect against the many strains in existence.

Zagury's experience does not show that the vaccine can prevent AIDS infection, but lays the groundwork for a full-scale test.

Zagury and the government

of Zaire — one of the nations hardest hit by AIDS — plan to begin a much larger test of the possible vaccine, with hundreds of volunteers, if the preliminary work continues to be promising.

The work also gives weight to the growing consensus among researchers that it is not necessary and may not be very useful to try to prove the effectiveness of an AIDS vaccine in chimpanzees before working with humans.

As the report was published, researchers said that several biotechnology companies have tried vaccines on chimpanzees to see if they can raise antibodies, which disable infecting microbes.

Zagury said he injected himself several months ago with vaccine created by Bernard Moss and his colleagues at the U.S. National Institutes of Health.

Asked if he were afraid, Zaguryt said there was no reason to think the vaccine would be unsafe. "But the night following the vaccination I was still not asleep by five in the morning."

● American drug maker Bristol-Mayers said today it had developed a potential vaccine against AIDS and will ask the US Food and Drug Administration (FDA) this month for permission to test it in humans.

It is the second US research organisation to seek permission for human testing of an AIDS vaccine. A team headed by Dr. Allan Goldstein of George Washington University in Washington was the first.

An FDA spokesman has said it is possible human testing of AIDS vaccines might begin by the end of the summer, but the marketing of such a vaccine was still probably years away.

5

The economics of AIDS

—the stakes are high

EP 19/3/87

THIS column has to do with economics. AIDS is an economic problem as well as a social one. It will cost money to treat; the tragic deaths of young people will involve the waste (to the economy) of the money spent on their education. So why should not this column deal with it?

There is talk of a national campaign; but if anything is clear at the moment, it is that there is no call for a national campaign. For all the evidence is that AIDS is contacted by members of isolated groups. Why then have a national campaign?

The British Department of Health gave a breakdown of the 599 British cases up to November, 1986:

Homosexuals.....	533
Haemophiliacs and recipients of blood.....	33
Heterosexuals infected abroad largely in Africa.....	16
Drug addicts.....	12
Heterosexuals infected in UK.....	4
All the above belong to isolated groups, except the	

The Right Idea

By Hugh Munro

heterosexuals, who are a mere 3 p.c. of the whole. If we say that homosexuals form 1/20th of the UK population, then, since 25 times as many homosexuals get AIDS as heterosexuals, then it can be seen that homosexuals are 500 times more likely to contact AIDS than heterosexuals. Indeed if we confine our attention to the 4 heterosexuals who contacted it in the UK (and it is this the campaign is trying to stop) then homosexuals are 2,500 times more likely to generate AIDS than heterosexuals.

So why, then have a national campaign, directed without regard to their orientation, at all those who engage in sexual activity? It seems crazy.

All sports have dangers, a few like mountain climbing and motor racing being perhaps the worst. If we had a situation where mountain-climbing was proved to cause 90 p.c. of all sporting deaths and to be 2,500 times more dangerous than sport as a

whole, and a few other specialist sports were known to be highly dangerous, who would mount a national campaign for safety in sport which did not concentrate on mountain climbing?

And therein lies the rub. There are grave risks in mounting a national AIDS campaign which deals realistically with the role of homosexuality. It positively invites the public to see homosexuals as lepers. It should not be done. And because we cannot mount a realistic national campaign, we should not mount an unrealistic one. The problem is too serious for that. Surely the first approach must be to approach the homosexual community and offer them help and finance to deal with the AIDS problem inside that community. After all, they know best what motivates homosexuals.

And the emphasis on the condom shows little awareness of people's psychology. If two people who know themselves

not to have AIDS have intercourse, they do not need to use a condom. When one of them insists on a condom, he/she is in effect saying to the partner either "I may have AIDS but still want to put you at risk by having intercourse with you" or "I feel that whatever you say, you may have AIDS." Either way, the whole transaction of intercourse is devalued to a matter of calculating promiscuity.

What do homosexuals think of all this? It would be important to know. It does seem clear that they are addicted to risk. The way in which high-placed Englishmen regularly get caught being involved, like Oscar Wilde, in tatty involvement with rent boys, bears evidence to this. I cannot see the use of the condom as being particularly attractive to them.

But we do not know the answers to all these problems; and it is widely premature to embark on a national campaign until we do. The state, after all, cannot claim great skill in these matters. One failed brucellosis campaign is enough. This time the stakes are far higher. We need to get things right.

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(NDO (414) 19/3/87)

Japan to ban Aids carriers

From Andrew Horvat
in Tokyo

JAPAN and South Korea are planning tough measures aimed at preventing the spread of Aids. Both countries have relatively few Aids victims at present and both are about to pass laws which will prohibit the entry of foreigners infected with the disease.

Foreigners hoping to go to Korea to work will be required to present the results of blood tests indicating that they are free of Aids. The proposed Japanese bill is said to give immigration authorities the right to deny entry to individuals whom they suspect of having the disease.

It is not clear how the Japanese intend to do this. A Japanese company has, however, perfected a machine which can perform Aids tests on 240 blood samples in half an hour.

Tourists will still be permitted to enter South Korea without blood tests. But the government there is planning to force all of the country's prostitutes, who must carry health certificates at all times, to undergo tests for Aids.

Officials of both countries have

refused to comment on the proposed legislation. An official of Japan's health ministry told *The Independent* that "a number of measures are being considered".

The Korean law will empower prosecutors to ask for fines and prison sentences for "carriers who infect others with the fatal disease", according to the *Korea Herald*, a newspaper which closely reflects government thinking.

Provisions for sentences of up to one year in prison and fines of £1,300 have been deleted from the latest version of the Japanese bill. Even in its diluted form, however, the Japanese bill has encountered opposition from haemophiliacs, doctors and civil rights advocates. The majority of Japan's 29 known Aids victims are haemophiliacs who contracted the disease through blood products imported from the US.

The most controversial aspects of the bill are provisions which will make it illegal for persons

with Aids to engage in sexual activities, and which will empower doctors to report to the authorities the names and addresses of those who do so.

It is not clear how local authorities intend to enforce the no-sex rule, but local authorities will have the right to fine those who are suspected of having Aids but who refuse to undergo medical tests.

The father of a haemophiliac boy who contracted the disease from contaminated blood denounced the bill on television, saying: "It is about to turn victims into victimisers in the eyes of the public, through a combination of ignorance and prejudice."

The move to punish those who spread Aids can be traced in Japan to the death in January of a prostitute, Japan's first female Aids victim. Unconfirmed reports indicating that the prostitute was infected by a bisexual foreign sailor caused an outburst of xenophobia. Signs in English now warn foreigners against entering massage parlours and many bars throughout Japan.

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Test on Aids vaccine

A SCIENTIST in France was yesterday believed to have become the first person to test a prototype vaccine against Aids — by injecting it into himself.

Researchers around the world have already developed a number of candidate vaccines which they are testing on animals.

But Daniel Zagury, of the Université Pierre et Marie Curie in Paris, has now taken the vital next step of starting tests on human volunteers.

He has been vaccinated himself, and the vaccine has also been given to a small number in Zaire, one of the African countries hard hit by the Aids virus.

The development, reported by Zagury and fellow researchers in the British science journal *Nature*, will fuel hopes that a vaccine to prevent the spread of Aids will be found soon.

The scientists monitored Zagury once a week for nine weeks following immunisation, and said they did not detect any defects in his body's immune system.

They do not know, however, whether this immune response is strong enough to protect people against Aids. Nobody is yet taking the risk of being vaccinated and then being deliberately exposed to the virus to find out.

Experts stress that the tests do not mean that a vaccine has definitely been found. That task is expected to take several years.

Irish Press
19th March 1987

AIDS—a tip from the British?

THE HEALTH Education Bureau has come in for a lot of criticism because of its delay in preparing a suitably blunt and hard-hitting anti-AIDS TV campaign.

Part of the problem reportedly lies in the difficulty of finding actors and actresses to take part in the short AIDS films — after all, since Harp Lager had to go to England to find "Sally O'Brien and the way she might look at you," it must be well nigh impossible to find an Irish actress willing to make her name by giving the hero something even more perturbing than a come-hither glance . . .

But our health authorities have finally prepared their campaigns . . . with a little help from a most unlikely source! Margaret Thatcher, of all people, had an unwitting hand in getting the campaign off the ground.

When the former Taoiseach, Dr. FitzGerald, was in London earlier this year for the meeting of the 12 EEC heads of Government, and all 12 premiers were seated around the table, Mrs. Thatcher took the opportunity to give them all a sneak preview of the UK AIDS programme in the form of information packages.

But unlike the rest of the Prime Ministers, who politely skimmed through the literature and left them behind, Dr. FitzGerald packed his into his briefcase, took it back to Dublin on the plane and passed it on to former Health Minister Barry Desmond, who in turn gave it to the officials drawing up plans for the Irish campaign.

Whether or not the brains of the best British admen and medics will be picked for the fight against the illness in this country, we will have to wait and see.

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Irish Times
19th March 1987

● John Polindexter

Thousands in AIDS test scare

THOUSANDS of haemophiliacs may have contracted AIDS from commercially processed blood coagulants, and multinational pharmaceutical companies may have to pay millions in compensation to victims, industry experts said in Bonn yesterday.

"It's an unprecedented catastrophe," said Mr. Karl-Hermann Schulte Hiller, a lawyer who specialises in product-liability litigation. Damages could reach DM500 million (£187.18 million) in West Germany alone, according to an early industry estimate.

The problem came to light on Tuesday when the weekly news magazine Der Spiegel reported that about half of the country's 6,000 haemophiliacs were sero-positive, meaning they have been infected with the Acquired Immune Deficiency Syndrome virus, and could go on to develop the so-far incurable disease.

Numerous complaints have already been lodged against various pharmaceutical companies, the magazine reported.

At the Frankfurt Stock Exchange, the reaction

was immediate — the West German chemical giant, Bayer, saw its stock plunge four per cent, as did the large insurance companies that cover the pharmaceutical industry.

Bayer issued a statement on Tuesday acknowledging that products for the treatment of haemophilia manufactured before 1985 could have transmitted the AIDS virus. Coagulants produced since then were safe, a Bayer spokesman, Mr. Heiner Springer, added.

● Meanwhile single men seeking life insurance or mortgage cover are likely to face an AIDS quiz into their sex lives.

Insurance companies will want to know about their life styles to ensure they are not at risk of contracting the killer disease.

Only if they can prove they are living alone or in a 'Monogamous relationship' will they stand a chance of being insured with many companies.

And anyone shown by a new catch-all question to be homosexual or a drug abuser could be turned down or face a heavily loaded premium.

Sc

New York Times
19th March 1987

Blood Donors In Soviet Face AIDS Testing

NVT

19/3/87.

MOSCOW, March 18 (Reuters) — Millions of Soviet blood donors are to be screened for the AIDS virus to prevent the spread of the disease through blood transfusions, a leading Soviet scientist said in a newspaper interview published today.

2.26

The scientist, Viktor Zhdanov, head of the Virology Institute at the Soviet Academy of Medical Sciences, told the Government daily Izvestia that some 30 AIDS patients were now registered in the Soviet Union, but two-thirds of them were resident foreigners.

The first known case of acquired immune deficiency syndrome, detected in 1986, was that of a Soviet girl who contracted the virus through a blood transfusion.

Dr. Zhdanov said that although the deadly virus posed much less of a threat here than in the United States and Western Europe, the Soviet Union was determined not to let it go unchecked.

Soviet Search for Vaccine

Soviet scientists are searching for a vaccine against the virus, which breaks down the body's ability to fight disease, Dr. Zhdanov told the newspaper, and the mass screening of blood donors will begin soon, he said.

Systematic checks, made according to medical ethics, will also be carried out among high-risk groups, including drug addicts, Dr. Zhdanov said.

"A healthy family life is diametrically opposed to sexual perversion and every citizen should know that sexual perversion is not only immoral but also dangerous," he added.

Dr. Zhdanov's comments follow earlier official press reports about AIDS, which portrayed the virus as a problem of the decadent West.

Some articles even suggested that the disease had been manufactured in Pentagon germ warfare laboratories.

54

Researcher Describes a Promising AIDS Therapy

By PAUL LEWIS

Special to The New York Times

PARIS, March 18 — Dr. Daniel Zagury, the first researcher known to test an experimental AIDS vaccine on human beings, today disclosed details of the vaccine's trials and described what he said were promising experiments with a new kind of therapy against the deadly disease.

In an interview in his cluttered laboratory here, the nervously intense French immunologist stressed that he does not claim to have found a cure for acquired immune deficiency syndrome, a viral disease that cripples the body's defenses against a variety of lethal cancers and infections.

But Dr. Zagury, who heads the department of cellular physiology at the University of Pierre & Marie Curie, said that two critically ill AIDS victims in Zaire had "recovered dramatically from their symptoms" as a result of his treatment.

Although close to death early last year, the two Africans have been able to resume work and lead fairly normal lives for the last eight months after undergoing an experimental new therapy that involves manipulation of their white blood cells outside the body, Dr. Zagury said.

Long-Term Prospects Uncertain

The two patients are still infected with the AIDS virus, however, meaning that they could suffer a relapse of the disease.

"We don't know what will happen to



Keystone Paris Picture Group/Jean-Pierre Baron

Dr. Daniel Zagury in his laboratory at the University of Pierre & Marie Curie in Paris.

them in the future or what side effects there could be," Dr. Zagury said.

Another eight patients were treated by the same method at the end of last year, said Dr. Zagury, who has not yet published details of the blood treatment. He said he hoped to release some results later this year.

The French immunologist spoke on the day that the British journal *Nature*

published the first sketchy scientific report on an experimental vaccine developed by Dr. Zagury and colleagues from France and Zaire. Dr. Zagury injected the vaccine into himself last year and then into several Zairian volunteers in an effort to prove its safety and to see whether it would stimulate production of disease-fighting antibodies and other immunological reactions.

Two Reactions Noted

The team's experimental vaccine uses a protein from the coat of the AIDS virus that is delivered to patients inside the vaccinia virus, a harmless organism used in smallpox vaccinations. The team is the first to attempt human trials of an AIDS vaccine, although some American groups expect to do the same in the coming months.

In the *Nature* report, the scientists said that the candidate vaccine had stimulated two important immunological reactions. One was "production of neutralizing antibodies," which attack the invading virus directly. The second was a "cell mediated" immune response, which allows the body to attack infected cells.

The experiment is the first step in a long process of developing an effective vaccine. The scientists have not established whether these immune reactions, which are present in AIDS patients but do not defeat the disease, could successfully fend off invasion by the AIDS virus. Scientists hope that if immunity is built before infection it could offer protection.

The scientists said they regarded the production of cell-mediated immunity as especially important because it might help a vaccine cope with the diversity of strains of the AIDS virus. They said that neutralizing antibodies were less likely to attack a variety of different strains. The candidate vaccine had no side effects, according to the report.

Therapy Called Promising

Other scientists familiar with Dr. Zagury's work provided further details about the experimental therapy.

Dr. Jean-Paul Escande, of Tarnier Hospital in Paris, described the reported recovery of the two African patients as "altogether extraordinary." He said that while victims often have periods of recovery before suffering a relapse, "it is very, very rare to see such a dramatic improvement in patients when they have sunk that low."

Dr. Jacques Leibowitch of the René Descartes University in Paris described Dr. Zagury's results as "potentially a very important breakthrough which shows that techniques of cell manipulation can make a real contribution."

Dr. Leibowitch said that Dr. Zagury told him he had treated white cells, removed from the patients' blood, so that they developed "a coating of viral protein." The treated cells were then reintroduced into the bloodstream where they apparently stimulated a renewal of white blood cells.

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For Now, Lone Weapon On AIDS Is Prevention

By PHILIP M. BOFFEY

As the death toll from AIDS continues to mount and hopes recede for developing a vaccine or cure any time soon, the nation is turning more vigorously and more desperately to the only available defenses against the epidemic: prevention.

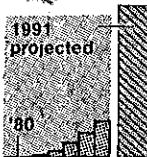
Educational and public health measures to prevent the spread of the AIDS virus from person to person are gaining momentum. The campaign has already spurred a broad awareness of AIDS throughout much of the country and important changes in behavior among some people thought to be most at risk. But no one believes that nearly enough has been done.

In New York and New Jersey, former drug addicts have been hired to roam the streets, warning addicts who inject heroin and cocaine into their veins that contaminated needles can spread the virus and that they should either give up their habit or sterilize their needles.

In the homosexual bars of New York

City, some worried homosexuals wearing safety pins as a sign that they will practice only "safer sex," refuse anal and oral intercourse without protection of a condom.

In a majority of the nation's large school systems, educators have introduced new and sometimes controversial lessons about AIDS, teach youngsters how to avoid the disease,



AIDS: The Next Phase

Last of four articles.

ther by abstaining from sex and drugs, or, if abstinence is refused, using condoms and shunning the most risky behaviors.

And in a rising number of states around the country, public health officials are stepping up efforts to track the spread of the virus throughout the population, to encourage possible victims to get themselves tested and warn the sex or needle-sharing partners of those found infected that they, too, may be in danger.

The campaign is facing enormous

Continued on Page B10, Column 1

Hopes on Treatment

A French researcher describes promising experiments with a new blood therapy used with AIDS patients in Africa. Page B10.

Battle Against AIDS Fought With Lone Weapon: Prevention

Continued From Page 1

obstacles but is also achieving some unexpected successes in steady local efforts far from public view. Jerry De Jong, a 30-year-old drug abuse counselor in San Francisco, was greeted with suspicion when he first ventured into gay areas of the city that have concentrations of drug addicts and prostitutes. But by hanging around the neighborhood, handing out free cigarettes and making it clear he was not a police officer, he gradually won the confidence of the outcasts.

For the addicts, he offered vials of bleach to sterilize their needles or referrals to drug abuse treatment centers. To the prostitutes, he handed out condoms, as many as 600 a week in all. One of his most difficult clients was a transsexual prostitute and drug addict who was infected with the AIDS virus and presumably spreading it to her customers and fellow addicts.

At first she insisted that her customers would never accept condoms. So one day in August, Mr. De Jong took sexual paraphernalia to her room and spent an hour and a half demonstrating how easily a condom could be applied. He blew up 23 condoms like balloons, giving the room a festive appearance as prostitutes and addicts gathered to hear his talk on avoiding AIDS.

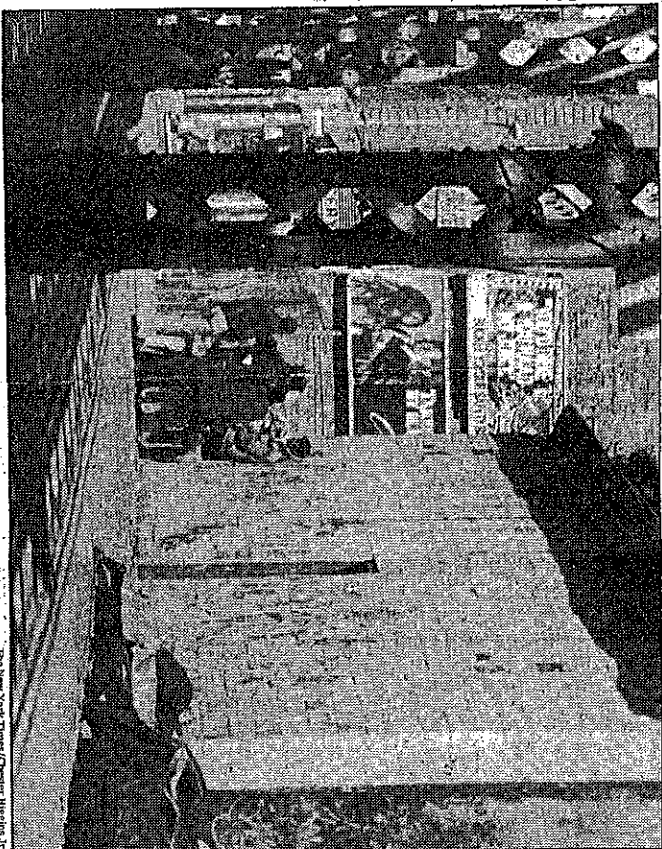
"I got the message across," Mr. De Jong said. "The transsexual now reports that she is now using both bleach and condoms regularly."

3 Ways of Spreading Virus

These emerging prevention efforts all seek to give people information that will enable them to protect themselves from a virus that, for all practical purposes, is spread in only three ways, all of which can be avoided: sexual intercourse with an infected person, inoculation of the virus into the bloodstream, or transmission from an infected pregnant woman to the fetus inside her.

But persuading many of those most at risk to protect themselves is proving to be a formidable task, health officials say. Drug addicts desperate for their next fix and accustomed to using what ever needle is handy, dirty or not, are now being asked to think instead of the long-term consequences. Spreading the virus who have survived on the sexual freedom of the past two decades are now being told that monogamy, or at least condoms, may save their lives.

Most homosexual men are believed to be aware of the danger and many report that they have changed their behavior. But officials worry that some who only occasionally engage in homosexual intercourse may not realize just how rampant the AIDS virus already is among homosexuals and how risky even a single unprotected encounter can be. Never before have public health officials been able to extinguish an epidemic by changing human behavior on a mass scale. But until scientists come up with an effective drug or vaccine for acquired immune deficiency



Outreach workers, themselves former addicts, trailing to drug users on a street in the Bedford-Stuyvesant section of Brooklyn. They warn the addicts who inject drugs that contaminated needles can spread AIDS.

most health authorities believe the reporting system is quite accurate and comprehensive in charting the course of the full-blown disease.

Where the surveillance falls down, all experts agree, is in tracking the spread of the virus, which often sneaks stealthily in a person for years before causing symptoms of AIDS.

One pathway for the virus has been virtually cut off: medical transfusions and blood products. In 1985, a laboratory test was introduced to detect the antibodies to the AIDS virus, enabling blood banks to screen all donations. The blood banks also counsel anyone who has had a homosexual experience or injected drugs in recent years not to donate blood, with the result that most authorities consider the blood supply as safe as it has ever been.

Now health officials are beginning to make more systematic use of the blood test to track the virus in the population. A recent national conference of health officials vetoed the idea of mandatory blood tests to look for the virus in all hospital patients or marriage license applicants. Experts concluded that the cost would be enormous, relatively few infected people would be found and

sweeping through singles bars, swingers' clubs and colleges or high schools, that sort of transmission has thus far been minor.

The overwhelming majority of the AIDS cases attributed to heterosexual transmission so far have been caused by intravenous drug users, especially in the Northeast.

In New York City, almost 90 percent of the cases attributed to heterosexual contact have involved the sex partners of intravenous drug users, state drug officials say. There has been very little further transmission from those sex partners to others, although health officials worry that this may increase in the future. Poor, black and Hispanic residents of Northeastern cities have been especially afflicted by drug-related AIDS.

"The problem will not burn out," said Don C. Des Jarlais, coordinator for AIDS research in the New York State Division of Substance Abuse Services. "Probably 95 percent of all heavy drug users in this country are active heterosexuals. Unless we get them all to use safe sex, we face a problem of heterosexual transmitting which could become self-sustaining."

the city's 200,000 addicts already carry the virus.

So far the infected addicts, who are far less mobile than the typical homosexual man, have not spread the virus rapidly to other parts of the country. Drug-related AIDS has been most prevalent in New York and northern New Jersey.

In an effort to curb further drug-related spread, officials have started new programs to reach both the addicts and their sex partners. New York State has trained 30 to 40 former addicts to go into areas of high drug use, where they urge addicts to take a blood test to see if they are infected, to stop sharing needles or at least to clean their needles and syringes with bleach or alcohol.

New Jersey has hired 28 former addicts to warn drug users how to avoid AIDS and to dispense condoms that only the addicts to three free weeks of medication at a treatment center. Some 85 percent of the company have been redeemed, according to Dr. Ronald Altman, medical director of the state's AIDS program. In San Francisco, outreach workers

chais say, is a shortage of treatment programs for addicts who do seek help in beating their deadly habit. Even before the AIDS epidemic, addicts had to wait three months or more to gain admission to treatment programs in New York City. Health officials are increasing the number of treatment slots and reserving some slots for addicts reached by the AIDS workers. But even so, Dr. Des Jarlais said, "We need to be providing much more treatment." In New Jersey, Dr. Altman added, "Our treatment centers are being overwhelmed."

Private Groups: A Pivotal Role

Virtually all experts agree that strong educational campaigns are needed, including measures aimed specifically at groups such as schoolchildren, college students, minority groups and people who are particularly vulnerable to infection such as prostitutes or the sex partners of intravenous drug users.

Federal efforts to mount a national AIDS education campaign have been slowed by arguments over "dirty words" in proposed information brochures and by high-level disagreements over whether education should stress abstinence from sex and drugs or safe ways for parake of sex and drugs. Only this week, after sharp criticism in Congress, did the Reagan Administration issue its plan.

Under the new strategy, the Government will provide accurate information about AIDS to states and communities, but will leave it to local officials and school districts to decide precisely what is taught. While the possible value of condoms in preventing transmission of the AIDS virus will be noted, the report said education should emphasize "responsible sexual behavior" — based on fidelity, commitment and maturity, placing sexuality within the context of marriage.

Federal officials have some ambivalent measures in mind, including mass media advertising and the mailing of AIDS literature to every household in the nation. Meanwhile, schools, colleges and private groups around the country have been urged to develop their own programs, sometimes with Federal aid. Some of the more vigorous and imaginative AIDS education programs have been mounted by private groups, particularly organizations that spread the word about the health crisis among homosexuals. The Gay Men's Health Crisis in New York, for example, has been showing a film on safer sex techniques that promises "not action that will 'keep sex sleazy, tender, impulsive' and not make it boring."

In Minnesota, Captain Cloutman, a muscular actor dressed in a blue uniform, was one of the cities hit hardest by AIDS, was a notable exception, starting AIDS education in the fifth grade, along with instruction about other sexually transmitted diseases. Virtually all the school programs describe how AIDS is transmitted and most cite explicit ways to avoid infection. "Abstinence is the best protection," says a New York City teacher's guide, but "the use of condoms and avoidance of anal intercourse" can reduce the threat, too.

The New York City schools provide two AIDS lessons to both junior and senior high school students as part of the family living and sex education curriculum. The high school program devotes an entire lesson to civil rights issues raised by the blood tests that detect infection with AIDS, including the possibility that infected people would face discrimination in work, school, housing or insurance.

The schools are a crucial target for AIDS prevention because students are reaching the age where many experiment with sex and drugs. But whether the brief AIDS lessons are having any major effects is not yet known. Whatever is going on in the schools right now is inadequate, said Dr. Lloyd Koops, chief of the office of school health at the Centers for Disease Control. Many schools and communities lack the information and resources to implement a good program.

Harsh Views Of the Effort

All of these efforts together, most experts assert, still fall far short of what is needed to arrest the epidemic.

The fledgling prevention campaign has been slowed by uncertainties over how to cope with the epidemic's reality: to become, the epidemic's reality over frank discussion of sexual and drug practices, and concern about threats to the civil rights of AIDS virus carriers and AIDS victims. Most doubting of all, some experts say, has been a lack of strong Federal leadership and a failure to commit the resources that leading health experts believe are necessary.

The United States Public Health Service plans to spend \$75 million on AIDS information and education in the current fiscal year and almost \$104 million the following year, according to testimony presented to a House subcommittee on Monday. But critics consider those amounts only a fraction of what is needed. The National Academy of Sciences charged in October that the Federal response to AIDS had been "woefully inadequate" and called for expenditures on education and public health measures to reach \$1 billion a

Agencies Gear Up

Officials have used some of the traditional public health methods for combating the epidemic but have been slow to put others into effect, either because they would not work effectively against AIDS or because of concern that AIDS victims would suffer unjustified discrimination in jobs, schools, housing or insurance coverage.

The fight against AIDS has been hampered from the start, many experts say, by the historical accident that, in the United States, the virus first afflicted homosexual men and intravenous drug users, two outcast groups whose ways of life had already subjected them to abuse and discrimination. Thus any measures identifying or drawing attention to an AIDS victim carried a strong likelihood of causing the victim social damage as well.

Drug Addicts: Crucial Target

The most urgent target of the prevention campaign, according to many authorities, is the intravenous drug users who make up the second largest group of AIDS victims, after homosexuals. The drug addicts are far behind the homosexuals in organizing to protect themselves, and they pose the greatest immediate threat of spreading the virus to the heterosexual population through intercourse with their sex partners, experts say.

Although most people who worry about the spread of AIDS among homosexuals visualize the disease

drug users. Once it gained a foothold, the virus spread rapidly, infecting 40 percent or more of the addicts in various cities around the world within a few years, according to published reports.

The social custom of sharing needles spread the virus among friends and acquaintances, and the "shooting galleries" in such cities as New York and Newark, where addicts can rent injection equipment and return it for rental to other customers, spread the virus quickly. Blood tests performed on several thousand addicts in New York City suggest that 50 percent to 60 percent of

The Series on AIDS

Part 1, on Monday, reported on the far-reaching impact of AIDS on New York City's life and spirit. Part 2, on Tuesday, described the hopes and frustrations in the search for new treatments, even as thousands of AIDS patients receive the first promising drug. Part 3, yesterday, reported that despite rapid progress in a worldwide research effort, a vaccine against AIDS may not be available for many years, if ever.

sex guidelines and condoms, and the Good Fairy of Safe Sex, another actor dressed in drag, has waded a woad over homosexual audiences.

These novel measures are sponsored by the Minnesota AIDS Project, which also conducts workshops, a telephone hot line, visits to the schools, and public advertising.

The Health Issues Task Force of Cleveland has taught bartenders, a frequent source of neighborhood contact, how to promote safe sex, and the Philadelphia AIDS Task Force has produced a "trap" record on AIDS that has been played in discotheques and on radio stations, according to the United States Conference of Mayors, which has channeled funds to many projects.

The highly motivated, generally well-educated homosexual groups have taken the lead in AIDS education. But now such mainstream organizations as the American Red Cross, and shortly the health and life insurance trade associations, are distributing brochures about AIDS. Many colleges have begun to promote safer sexual practices, sometimes by handing out free condoms. Some 90 colleges sent representatives to an AIDS symposium sponsored by the University of California at Berkeley last month.

The most important educational tools by far, virtually all experts agree, have been the news media. Yet many people still do not know much about AIDS and only a minority are changing their sexual behavior, national polls indicate.

In January a poll of 800 adults for NBC News and The Wall Street Journal found that only 7 percent had changed their sexual behavior after becoming aware of AIDS, precisely the same percentage as was found 11 months earlier. In a CBS News poll of 823 adults last October, 41 percent of the respondents said they did not know much about AIDS and only 11 percent had changed their sexual habits because of fear of AIDS. But twice as many of the youngest adults, or 25 percent of those under 30, had taken sexual precautions.

The most encouraging results were found in a poll of 1,511 adults for ABC News and The Washington Post this month. Some 37 percent of the sample, and fully half of those under 35, were taking steps to avoid exposing themselves to AIDS, up from 22 percent in September 1985. The most common changes were cutting down or eliminating sexual contacts.

Schools Take Action

A survey of 73 of the country's largest school districts, conducted in December by the United States Conference of Mayors, found that 40 were already providing AIDS education and 24 others were planning such programs. Similarly, 17 of 25 states that responded to the survey were developing or planned such programs.

"We were surprised by the amount that was already going on," said Richard Johnson, director of health programs for the mayors' group.

Most of the programs were at the high school or junior high school level. "At the elementary level, there was almost nothing," Mr. Johnson said. San

"After almost six years of an epidemic, the Federal Government has utterly failed to undertake a massive public education campaign aimed at preventing the spread of AIDS," the Gay Men's Health Crisis asserted in a statement recently distributed by the New York group.

"We're not even thinking in the right ball park," said Harvey V. Fineberg, dean of the Harvard School of Public Health, who served on the Academy of Sciences committee.

"The task of transferring information on AIDS is enormous and the task of behavior modification is mind-boggling," Mr. Fineberg said. "The difference between what we are expecting people to do and the amount we are spending on it suggests to me that we are off by an order of magnitude."