

NEWS RELEASE *from*

THE AMERICAN MEDICAL ASSOCIATION

535 North Dearborn Street, Chicago, Illinois 60610 • • Area Code 312 527-1500

FOR IMMEDIATE RELEASE

MENTAL RETARDATION

". . . the most handicapping of childhood diseases."

Prepared by

The American Medical Association

A handicapped child is not necessarily found in an iron lung or wheel chair. He does not walk with crutches and braces nor wear a hearing aid or the smoked glasses of the blind. He may, in fact, show no outward evidence of a handicap at all.

For his handicap is not outward but inward, not physical but mental--mental retardation.

"In terms of magnitude mental retardation is the most handicapping of all childhood disorders," says George Tarjan, M.D., Superintendent and Medical Director of the Pacific State Hospital, Pomona, Calif. and Vice-Chairman of the President's Panel on Mental Retardation.

Adds Julius B. Richmond, M.D., head of the Department of Pediatrics at the Upstate Medical Center, Syracuse, N.Y.: "There

are approximately five and a half million mentally retarded children and adults in America, and about 126,000 babies are born each year who will be retarded.

"But these are only the recognized cases. It is speculated that there is probably a much larger number who are not functioning well intellectually, but who have not been identified as retarded for one reason or another."

The vastness of the retardation problem is perhaps best exemplified by the efforts considered mandatory to combat it.

There is well-nigh unanimous agreement that the task of overwhelming mental retardation, in the opinion of experts, entails all branches of medicine--psychiatry, pediatrics, neurology, general practice--working in alliance with a whole spectrum of federal, state, local and voluntary agencies; and bulwarked by nationwide construction and expansion of care facilities.

We're already beyond the theorizing stage in all this. Bricks and mortar money is actually available in matching funds made available by the last session of Congress. And, the American Medical Association has called together experts in all phases of the problem to seek ways of speeding up the nationwide medical mobilization against retardation.

The apparent suddenness of these events may well raise the

question: "What have we been waiting for?"

As a matter of fact, we've had to wait for a whole lot of developments, according to Dr. Richmond, chairman of the forthcoming AMA conference, and Dr. Tarjan, special consultant to the conference, set for April 9-11, 1964, in Chicago.

First of all, they pointed out in a joint interview, retardation had to come out of hiding. It has literally taken centuries to dispel the general notion that a retarded youngster somehow represents a shameful stigma--a subject to be whispered about to the accompaniment of sad head-shakings. Many such misconceptions, points out Dr. Tarjan, were swept away by the high priority placed on combating mental retardation by the late President Kennedy, and by the action of Congress in approving \$355 million for the fight.

Another factor that has prevented an all-out attack is the subtlety of mental retardation.

"Strictly speaking, it is not a disease or a diagnosis but a functional disorder," explained Dr. Richmond. As such retardation is definable only in terms of intellectual levels of functioning. This, in turn, makes rigid standards impossible. In general, however, the degree of retardation is measured in terms of "I.Q." and a score less than 70 is usually considered a sign of retardation.

Further compounding the picture is the fact that it's not

always possible to determine the exact cause of the disorder.

"Generally speaking, some children are born retarded, others acquire it after birth due to environmental factors," Dr. Richmond continued. "Part of the complexity of coming to grips with mental retardation is to try to define how much stems from birth and how much from the environment.

"Until relatively recently medicine, of necessity, was largely preoccupied with lifesaving efforts. Not until we learned to control such things as infectious diseases and nutritional disorders in childhood was there time and energy enough to develop the sophistication to come to grips with the more difficult and complicated problems of retardation."

Moreover, the control of some forms of mental retardation depends to a large extent on the control of physical disorders. The two frequently go hand in hand.

During recent years, strides against retardation have been rapid. Often in the past it was difficult to even recognize retardation until a child was well into school. Then "doing something" was all but futile.

Now the detection of some forms of retardation can start before a child is a year old. And with proper care during the early, formative years--care aimed at "maximizing the abilities that a child

does possess"--many a youngster, who a generation ago would have been headed toward hopeless retardation, can now enter school with prospects of making educational progress.

Perhaps even more significant than the growing ability to help the retarded is the growing belief that most cases of retardation need never have happened. In theory, at least, about half of the cases of mental retardation are preventable.

Ironically, the very swiftness with which advances against retardation have come leads to a serious dilemma--how to make the greatest use of the accumulating skills and knowledge. This is the point which medicine is now belaboring.

In the opinion of most authorities in the field--including Drs. Tarjan and Richmond--mental retardation can best be identified by the family physician or pediatrician. For these are the very doctors who generally see children repeatedly during that so-important first year, and the years before school.

"The over-all aim of our April conference," said Dr. Richmond, "is to design ways of placing available diagnostic tools in the hands of all practicing physicians. It's true that we still have much to learn, but because we don't know everything about retardation doesn't mean we can't do something. After all medicine could treat rickets before it knew the disease was caused by a vitamin

deficiency."

"With what is now available," added Dr. Tarjan, "retardation no longer has to remain in the hands of the specialists. In other words, the general practitioner or pediatrician is now in a position where he can identify and care for the whole child--not only his physical condition but his mental abilities as well."

A further aim of the conference, continued Dr. Richmond, is to provide the physician with the wherewithal "to organize a whole program of care for the child--at home, at school and in all phases of community life."

"Part of what we hope the physician will learn," he said, "is to recognize the new areas of help that are available to him and to the child. Such help can come from many sources, such as parent-teacher associations, boards of education, social service organizations, state and federal agencies, and volunteer groups, including associations of parents of retarded children."

"In other words, the fight against mental retardation is more and more becoming a community endeavor."

This is all to the good. For the gist of today's medical opinion is that care of the retarded belongs within the community.

Study after study has shown that most forms of retardation respond best when modern techniques are allied in the familiar

atmosphere and day-to-day life of the community--including the home.

In other words, the large centralized institutions no longer can or should remain the focal point for care and therapy for the retarded.

"As a matter of fact," points out Dr. Tarjan, head of one of the larger mental retardation institutions in the country, "retardation is largely a community problem right now, although it's not always recognized.

"Only four percent of our five and a half million mentally retarded are in institutions. There are no facilities for the other 96 percent, including those who have grown from retarded children into retarded adults. Being outside an institution these people are inevitably part of a community. And, their problems necessarily become a community problem."

For these reasons, placing care of the retarded on a community basis does not come about by default but by design--a design not only for more effective treatment but for extending treatment to more of the retarded.

"Supplying all this requires, in a sense, bringing the 'institution' to the community--or rather some of its parts--diagnostic, therapeutic and special educational facilities. It also means that there have to be some new services. Parents, for

instance will have to be educated in the care of the retarded child since the child will remain at home for the most part.

"Much of what must be done in the field of retardation obviously goes beyond the physician's office and becomes involved with most, if not all, aspects of community life," said Dr. Richmond. "The physician can best organize the specific program to fit the requirements of the individual retarded. But to be effective, the components of care that are needed must be available, and the physician must be aware of them."

Probably few communities at this time could provide more than a fragment of the needs of the retarded. But with new impetus behind care for the retarded--with matching state and federal funds for clinics and centers and for educating specialists to staff them--medical leaders feel that community care is coming within grasp.

Aside from the obvious benefits to the retarded, community centers offer some other advantages. One of these is that ultimately the cost of community centers may well be less than the price of building more and more centralized institutions to care for the ever-growing number of retarded.

For one thing, existing community facilities will not have to be duplicated.

Through the community approach it will be possible in many

cases to use existing medical facilities--establishing a clinic in a local hospital for instance--rather than building a whole new clinic. Also, communities, unlike institutions, will be better able to tailor programs to meet actual rather than theoretic needs.

It may even turn out that the needs will diminish under an intensive community program. In many cases, treatment can start earlier and with the prospects of better success. But above all, there may be less actual retardation for this is a disorder highly susceptible to prevention.

To understand why, it is necessary to understand the causes of retardation.

"There are about 200 known specific causes of retardation," said Dr. Tarjan. "Sometimes a single factor is involved, sometimes a combination of factors. Basically, however, all fall within two general categories--those arising from biological factors, such as disease and accident, and those stemming from deviant psychosocial development."

The biological causes that can be identified, he said, account for about 20 to 25 percent of the mental retardation in this country. Major ones listed by Dr. Tarjan are Mongolism, prematurity and congenital malformations of the brain. Other causes are phenylketonuria (PKU), congenital syphilis, measles, poisoning--

in particular lead poisoning--and RH or other blood group incompatibilities.

Except for Mongolism, a chromosomal disorder that may go back to the moment of conception, these diseases are treatable or preventable, he pointed out.

PKU--an inborn deficiency which prevents the body from neutralizing certain poisonous substances and which leads to brain damage--can be controlled by simple changes in diet; and RH incompatibilities by replacement blood transfusion.

As for measles, while this disease usually has no permanent effect on the brain, it can occasionally lead to severe involvement, producing gross retardation. With new vaccines, however, measles is largely preventable. So is congenital syphilis--another disease which attacks the brain--either by treating the mother before she gives birth, or what may be better, weeding out the roots of syphilis in this country through educational and public health measures.

As for the others, prematurity can often be prevented by proper pre-natal care; and the danger of lead poisoning--usually the result of a child eating plaster or paint chips--could be largely eliminated with a little household maintenance.

When it comes to lack of emotional development--the source of 75 to 80 percent of the mental retardation in this country--the

line of attack is not so clear cut as with biological causes. Disease elements are usually tangible, specific. Not so the elements of human nature, and in the case of mental retardation this means the nature of the parents.

"We know," said Dr. Tarjan, "that most cases of retardation have something to do with the early experiences of children. It particularly seems to have to do with the child's learning--the early transmission of information from parents to child."

Explains Dr. Richmond: "The brain of a child doesn't just develop, it has to be stimulated into developing. In the homes of many retarded children we don't find this stimulation--this vital transmission of information."

Paramount in the early stimulation of a child is talk--the cooing and prattle that most mothers seem almost instinctively to lavish upon their babies.

"All babies, except those with congenital disorders, start out about the same, babbling and cooing," said Dr. Richmond. "But if the child is not encouraged--if he's not coddled, cooed at and talked to--even his babbling starts falling off after a year or so. He won't make an effort to talk without hearing talk."

The importance of talk is hard to over-emphasize. For it is difficult, perhaps impossible, to think coherently without words.

To a large extent, the generation of ideas is the linking of words.

"Vocabulary and the linking of words," says Dr. Tarjan, "are tools of learning. If these tools aren't developed, the child can't develop."

In effect, the youngster becomes walled off from the world about him. Interest, curiosity, emotion and intellect--the very forces that help make man what he is--are given no chance to develop in such a child. In a word, he is retarded.

"It is theorized," continued Dr. Tarjan, "that the more complex the early input, the greater the baby's curiosity, interest and imagination, and the greater the eventual output by the child."

"Of course, it's also possible to over-coddle the child," said Dr. Richmond. "He can be pushed too hard--made to develop too fast. Because a rich stimulation of a child is good doesn't mean that more stimulation is better. A child can be over stimulated, and this creates its own set of difficulties."

Actually, even the ability to define causes is not enough. For the roots of the causes, whether biological or mental, become entwined in other factors--in particular social and economic factors, said Dr. Tarjan.

The pressures of subsistence, worry and the resultant problems can help spawn mental retardation in many ways. They can

divert parental interest away from the child instead of toward him. They can contribute to sub-standard housing--to cracked and peeling walls that invite lead poisoning. They can lead to a reluctance to seek out that all important pre-natal care for the expectant mother and pediatric care for the newborn child.'

But whatever the roots, social, economic or parental lapses; whatever the causes, emotional or physical, this point remains: Retardation, like cancer, can often be reversed if detected early enough, and like polio can often be prevented with forethought.

It is along these lines that medicine is mobilizing. The conquest will not be spectacular. In contrast with many breakthroughs against physical disease, progress may seem plodding. There is no vaccine that will all of a sudden overwhelm retardation.

Still, there is the promise that inevitably we can, by and large, strip from the minds of children that impairment responsible for an ever-growing number of today's handicapped children.

NEWS RELEASE *from*

THE AMERICAN MEDICAL ASSOCIATION

535 North Dearborn Street • • • Chicago 10, Illinois • • • Phone: Whitehall 4 - 1500

For Release Sunday, December 2, 1962

YELLOW FEVER MOSQUITO THREATENS U.S. HEALTH

Nature has rarely spawned a more deadly beast than a little mosquito with the big name, *Aedes aegypti*. For, this particular insect is a unique specialist at infecting man with yellow fever.

Within the tiny hollow of his body he can transport enough virus to kill a dozen people. Indeed, his breed has devastated whole cities and destroyed armies.

Evolved in the antiquity of South and Central America, *aegypti* (ē-jip' tī) today has all but disappeared from his ancestral haunts--exterminated by medical science.

But he still maintains one vast stronghold--a 300,000 square mile area sweeping from North Carolina to Texas. Here he ranges virtually unheeded and unhindered--"a health menace of immense proportions," according to Dr. Raymond L. White, director of Environmental Medicine for the American Medical Association.

This great storehouse of mosquitos in our South has the whole

of Latin America jittery. As long as it exists, say officials of the Pan American Health Organization, the shaky balance of power that keeps yellow fever at bay in the Western Hemisphere can collapse in a deadly and unnecessary epidemic.

As matters now stand, the U.S. has the mosquito but fortunately these are not infected with the disease virus. Much of Latin America, on the other hand, has an apparently inexhaustable supply of the virus but has largely stamped out most of its aegypti mosquitos and forced yellow fever back into the jungles, where it poses no epidemic threat.

Should virus and mosquito get together--a relatively easy matter in this busy age--tens of thousands on two continents could be stricken.

There are two ways of worrying about this distinct possibility. In Latin America there is growing concern that the "made in U.S.A." aegypti will reinfest those areas from which it has painstakingly been eradicated.

Even more likely, says Dr. White, is the possibility that yellow fever will infest aegypti mosquitos in the United States.

"There's one sure way to make certain this doesn't happen--eradicate them."

International insistence on a U.S. eradication program has been continual since 1947 when the Pan American Sanitary Bureau

launched a hemisphere--wide fight against aegypti.

Eight years later Dr. Fred Soper of Washington, then director of the health organization, reported that the U.S. was "practically alone in its failure to initiate aegypti eradication."

"There hasn't been a coherent eradication program in our South in more than half a century," adds Dr. White. "We are in a humiliating position. Doctors from this country showed the world how to eliminate the mosquito. Yet we go on harboring it, threatening our own health and that of Latin America."

But is the costly job of eradicating the mosquito really necessary? The fact is that there hasn't been a case of yellow fever reported in this country since 1924, or an epidemic since 1905.

"The fact is," replies Dr. White, "we've been lucky."

"True, we have stockpiles of yellow fever vaccine in the south. But a stockpile can't prevent an epidemic, and it would be weeks before a mass immunization program could get underway and begin to show any effect.

"Let's not forget, the virus is only hours away by air. It can be imported in the bloodstream of a traveler and seeded in our aegypti before anyone knows there's a case on the loose.

"Once the virus gets among our mosquitos, we're in for big trouble. I think all public health authorities agree on that."

Yellow fever trouble, in fact, can come from two directions, for it travels in two different circles--urban and rural. The disease is the same but the carriers or "vectors" are different.

Urban yellow fever, as far as is known, is spread only by the aegypti mosquito. The insect feeds on the blood of a disease victim and draws virus as well as corpuscles into its system. Within the mosquito the virus incubates--multiplies and becomes stronger. This takes 10 to 14 days, depending upon the outside temperature.

During this incubation period the mosquito is not capable of transmitting the disease. But afterwards the mosquito is infectious for life.

When such a mosquito buries his proboscis into a human being the virus is released into the blood stream where it multiplies and eventually attacks the liver. This causes jaundice and gives the "yellow" to the fever. The circulatory system is also affected, sometimes causing dark blood to collect in the stomach and leading to "black vomit"--a more ancient name for the disease.

Mosquitos other than aegypti can gulp the virus, but they do not pose epidemic threats to mankind. Either they don't live long enough for the virus to "mature" within them, or just plain stay away from humans.

Aegypti, on the other hand, is long-lived and has domesticated habits. Its association with man is as close as that of dogs

and cats, and often a good deal closer. It breeds in barrels, tin cans, refuse heaps, cisterns, flower pots, vases, rain gutters and even wet basements--any bit of water as long as its close to man.

This liking for civilization is what makes aegypti such a serious threat to cities and large population centers. But also it makes the job of exterminating him easier. He doesn't have to be battled far afield.

Getting at rural or jungle yellow fever, as it is more commonly called, is something else again. With a range of millions of square miles of forest its elimination is at present impossible.

In the jungles of South and Central America monkeys--particularly the red howler monkey--play the part of hosts instead of man, and a mosquito known as Haemagogus spegazzinii takes the place of aegypti.

This insect breeds in rain-drenched vegetation and usually lives high in the leafy world of the monkeys. It probably wouldn't bother man except it is phototropic--excited by light. Any disturbance in the forest which increases the amount of light stimulates spegazzinii into a vigorous attack upon the nearest warm-blooded animal. Since man seems to cause the greatest disturbance in the forest, he frequently gets bitten.

Man then returns to his community--a place spegazzinii disdains--and if there are any aegypti around may infect them.

This, in turn, could touch off a new epidemic.

Although the United States has no jungles, it still may not be immune to jungle yellow fever. Since 1948, when the monkey-borne disease leaped the Panama canal, it has been creeping steadily northward and now fringes southern Mexico.

This would be no cause for alarm except for the fact that yellow fever has now been shown to infect certain small mammals that don't necessarily live in the jungle. And it may be that another type of mosquito, found on both sides of the Rio Grande, is the culprit carrying yellow fever from mammal to mammal, and perhaps even mammal to man.

Thus, yellow fever may creep into the U.S. like a "wetback" from Mexico, as well as arriving by jet.

Columbus was perhaps the first white man to see yellow fever. He described a case in his journal, written in 1495.

Over the next 400 years aegypti dined sumptuously on explorers and settlers, and seemed to have a special liking for military expeditions. More than half of the 15,000-man English army that occupied Havana in 1762 fell victim to yellow fever and a French army, 25,000 strong, was virtually wiped out in Santo Domingo by the disease. During the Spanish-American War, more soldiers died from aegypti bites than fell to enemy bullets.

In the United States epidemics have struck as far north as Boston. New York had seven major epidemics and Philadelphia 11. New Orleans became a storm center of the disease. Eight thousand of its citizens died in 1853 and 25 years later yellow fever claimed another 16,000 lives there. During 1878 more than 100 communities in Louisiana, Mississippi and Tennessee were invaded. Cases numbered 120,000 and 20,000 died.

But if New Orleans knew the scourge of the aegypti onslaught, it also knew triumph. For there in 1905 Dr. William Gorgas stamped out the last epidemic to hit the United States. Significantly, he performed this medical miracle of the time by eradicating aegypti. It was probably the only concentrated attack ever made on the mosquito in this country.

With the experience gained at New Orleans, Dr. Gorgas wiped out yellow fever across the Isthmus of Panama five years later and made possible construction of the canal--a feat the French were forced to abandon because of yellow fever.

Dr. Gorgas' success sprang directly from the work of Dr. Carlos J. Finlay, son of a French immigrant to Cuba. After graduating from medical school in the United States and setting up practice in Havana, Dr. Finlay went to work on a number of medical riddles, including leprosy, cholera and cancer.

He long theorized that yellow fever was carried by mosquitos and in 1881 first suggested that the mosquito might be *Aëdes aegypti*. Eradicate the mosquito, he predicted, and yellow fever would be finished.

His words, however, were practically ignored. He could furnish no proof, since he did not understand that an incubation period in the mosquito was necessary, and his colleagues were busy pursuing the cause of yellow fever in other fields.

Then in 1900 the fourth U.S. Commission for the Study of Yellow Fever went to Cuba under the direction of Dr. Walter Reed, a major in the Army Medical Corps. At that time hopes of finding the cause and vector of yellow fever looked glum. Most of the theories seemed unacceptable.

Without much enthusiasm, at first, Dr. Reed began looking into the theory of Finlay's. Progress was startling. Within a few months his team had conclusive proof, and early in 1901 Reed announced to the world that Finlay had been right all along.

Eight years after the Reed report public health had scored one of its greatest triumphs. Through a systematic program of spraying, screening and surveillance, *aegypti* had been controlled and epidemics disappeared from the big cities of two continents.

So satisfactory was this work that action against *aegypti* slackened off. Soon the mosquito re-established his age-old

domesticity with man, but nobody paid much attention. Aegypti had lost the virus and no longer bred the disease. The situation was much like that in the Southern United States today.

The truce lasted 20 years. Then in Rio de Janeiro an epidemic struck with the severity of any in the days before Finlay, Reed and Gorgas. Aegypti was reinfected and startled health officials, who had been saying "it can't happen again," suddenly realized that there had been a drastic miscalculation somewhere along the line.

The miscalculation was in thinking yellow fever is strictly a disease between man and mosquito. As early as 1907 a researcher in the jungle of Brazil had warned that yellow fever is also found in monkeys. By then, however, control of yellow fever through aegypti eradication was proving so fruitful that the report got little attention.

It took the Rio epidemic to spur scientists into rediscovering jungle yellow fever and forced upon them the conclusion that jungle and urban yellow fever are irrovocably linked as long as aegypti is free to roam.

While taking a renewed look at yellow fever and re-evaluating opinions about the disease, researchers for the first time got some clear indications of the nature of a virus and the immunity that can follow its attack. These early studies eventually unfolded into the fields of virology and immunology, which have equipped modern doctors with such tools as the polio vaccines.

But while medicine was bounding ahead with its new-found sciences, the age-old aegypti, which helped spur it all, was being forgotten in the United States.

This the yellow fever experts consider appalling. Said Dr. Soper at a symposium in commemoration of Dr. Carlos Finlay:

"I do not believe that the people of the United States, who have faced up to the costs of preventing poliomyelitis, desire to have it said that this country cannot and will not spend the money to eradicate a mosquito which, by remaining in the United States, creates a threat to the reinfestation of neighboring countries which have or are eradicating it as part of a continental program to guarantee the Americas forever against urban yellow fever."

Actually there should be no lack of awareness of the threat in this country. By 1957 aegypti was so populace that the U.S. Surgeon General was forced to declare nearly the whole South a "receptive area" to yellow fever in accordance with international quarantine regulations.

That same year and again in 1959, yellow fever "scares in Latin America put health authorities in this country on the alert for an invasion of the disease, which fortunately did not materialize.

"With all this warning," said Dr. White, "you would think our country would have done something for its own protection by now.

-11-

Yet if we're doing anything at all, it hasn't even gotten out of the planning stages.

"As long as the virus exists in the big South American reservoir, as long as we coddle the mosquito that can spread it, we are senselessly flirting with an epidemic outburst of a disease whose horrors make other ailments we spend millions on each year pale in comparison."

-0-