EPU NEWSLETTER
December 2016

Season’s Greetings and
good wishes for a happy,
healthy and prosperous
New Year
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European Polio Union – International Non-profit Association (pursuant to Belgium law) - Internationale Vereniging Zonder Winstoogmerk
Regist. No. IVZW 0817.863.022 - Chaussée de Gand 1434, B-1082-Bruxelles, Tél. +32 2 421 69 62
From the President

I was most upset at not being able to join you in Piešťany for the AGM but other more pressing family matters had, on this occasion, to come first. You can read a comprehensive report on the weekend in this Newsletter. It's publication marks the beginning of a new initiative in the development of the EPU. Polio Survivors are all too often criticised for just looking backwards but the EPU is looking to the future, very firmly so. Earlier this year we launched the PoPSyCLE initiative to train primary care medical personnel in how to treat and manage PPS. It was thought that it would be based in the UK, with EU funding top up from sources such as the Gates Foundation, but that took a knocking when BREXIT occurred. Now there appears to be other ways to ensure the knowledge vested in European medical sources is not lost but can be spread more widely to benefit polio Survivors wherever they are in the world. BREXIT may mean that the UK is withdrawing from the EU, but the same certainly cannot be said for the British Polio Fellowship which is most certainly committed to the EPU. I am pleased to announce that David Mitchell, the BPF chair, whom many of you will have met in Piešťany has agreed to join the EPU board.

At the EPU Board meeting in October the primary purpose of the EPU was reaffirmed as being one of bringing together polio Survivors, networking and organising PPS conference. I am pleased to confirm that the 3rd European PPS conference will take place in Sweden in the summer of 2018.

There are other major developments in progress that will allow the EPU to develop into a fully fledged international force working for the well being of polio Survivors so that we can all live with dignity and independence. There will be an announcement on how the EPU will achieve this early in the New Year.

It just leaves me to wish you all a very Happy Christmas and healthy, prosperous New Year and to say I look forward to seeing old friends and making new ones at the EPU AGM in Lobbach, Germany over the weekend of 23-25 June, 2017.

John McFarlane
-President
-European Polio Union
Piešťany – the biggest and most well-known Spa in Slovakia – provided a great background for this venue. Not only because the Spa offered all sorts of treatments for the well-being of its guests but also because of the great organization and transport arrangements made by Stefan Gracjar who ensured that we all got picked up from whichever airport we arrived and taken by mini vans to the place of the venue. The weather was gorgeous and during our free time we could enjoy walks in the beautiful park surrounding the hotel and take advantage of the wonderful thermal waters and mud baths.

The meeting was a great success for the very fact that for the first time since the existence of the EPU a great number of polio survivors joined us from Eastern European countries and Austria. This was a great opportunity to exchange knowledge, information and experience and also it showed how important networking is with the various polio organizations in other countries. We need and want to learn from each other. PPS knowledge came very late to these Eastern countries of Europe due to the fact that most PPS information was in English and translations into the national languages were rare.

Slovakia

Dr. Gaspar – chief medical doctor at Piešťany Health Centre briefed us on this rehabilitation centre. 23 doctors of different specialisation work at this clinic. Most of the patients treated in 2015 suffered from back pain (including disc disorders, scoliosis) and a small number with neurological diseases (419 patients) among them polio and PPS patients, 10% of all patients come from Arab countries. The thermal water has 60 degrees Celsius, thermal mud about 36 degrees C. Since last year PPS has been recognised in Slovakia.

For further details please refer to the following link:

Health Spa Piešťany public 2016 (1).pdf
The following pages give summaries of the presentations made by Austria, Georgia, Tschec Republic, and original write-ups from Hungary and Poland.

**Austria**

Speaker: Axel Benesch  
Selbsthilfe Polio – Post-Polio Syndrome  
[www.polio-selbsthilfe.at](http://www.polio-selbsthilfe.at)

The Polio Support Group Austria is quite a young polio organization. It was founded in 2012 by Edith Farkas and Dr. Winter. The association is a member of the German Bundesverband Poliomyelitis. It is estimated that now there are 6,000 polio survivors in Austria against about 11,000 in 1989. The group meets twice a year, information is exchanged via internet and their website.

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**Georgia**

Speaker: Ekaterine (Eka) Okruashvili  
eokruashvili2002.@yahoo.com

No polio association in Georgia. Free vaccination, but no knowledge about PPS. Speaker made research on internet, found the British Polio Fellowship, visited BPF in England to inquire about her health issue (hip operation) and to get more information about post-polio syndrome.

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**Czech Republic**

Speaker: Marika Mruzkova, board member  
Asociace Polio  
[http://www.polio.cz](http://www.polio.cz)

Marika passed on the messages from Mr Beneš, President of the Czech polio association.

CZ may serve as example for medical care. Polio survivors get 4 weeks’ treatment per year in a treatment centre such as Janske Lazne, paid for by the health insurance.

In autumn last year huge discussions took place between the Czech Polio Organisation and the health care institutions for and against polio vaccinations, as polio is not active anymore and last case registered in the Czech Republic was in 1960. However, migration poses new threats of polio re-appearing.

It is planned to organise a conference for the Visegrad countries (Poland/Czech Republic/Slovakia/Hungary) to show that the V4 countries do have more to share than political issues. EPU would receive an invitation.  
2 Newsletters are issued per year.

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HUNGARIAN POLIO ORGANISATO

Speaker: Klari Schweitzer  (original text was provided)
Hungarian Polio Foundation
www.polio.hu

Good Afternoon Everybody,

My name is Klara Schweitzer and I come from Hungary. I am speaking in the name of the Hungarian Polio Foundation as a trustee. Tamás Kertész is the President and Károly Felegyi is a trustee, too. The fourth person is my husband, János Schweitzer, who helps us a lot in our work. (here we have to add to our great sorrow that Janos died a few days after the meeting).

First of all I would like to thank Mr.McFarlane for the possibility that we can attend this meeting, present our foundation and the situation of polio survivors in Hungary. We highly appreciate your attention.

Now I would like to say some words about us. We are all polio victims and worked full time when we were younger, some of us still do, but now that we are getting older, our children grew up and we now have more time to turn our attention to our polio community. We realized that their problems are multiplying with age and there isn’t a civil organisation that would explicitly represent the interests of polio survivors or give them any kind of help. After a lot of discussions we decided to establish a foundation for this purpose.

In accordance with and in the spirit of the UN Convention on the Rights of Persons with disability our aim is to promote: non-discrimination, full and effective inclusion in society, equality of opportunities and accessibility.

We consider our task to

- To search for new therapy possibilities and/or new modern medical appliances, orthoses and promote their availability
- Publish information material on polio and PPS
- Establish international relations with co-organisations – like EPU

We are five years old this year and I think we can be proud of the job we have done till now. We have a website – www.polio.hu - organized conferences on polio and PPS, and several other events and try to give as much information to our community as we can. Unfortunately, our financial possibilities are quite limited so we cannot provide financial help or undertake bigger projects. We are all volunteers and came here on our own costs

Now some words about the situation of polio survivors in our country:
Unfortunately, there are no exact data about the number of survivors. The estimated number is between 3-4000. Between 1931 and 1976 about 16.515 cases were registered. The last big epidemic was in 1959 and the immunization started in 1960.

When we were children, there were several hospitals for our treatment, but by the mid 70’ we grew up and these institutions were closed down. Most of the documentations were destroyed or lost and since then nobody cared about us. Doctors speak about polio as history and only the older ones know what it is. The new generation of doctors and physiotherapist don’t get proper knowledge about our illness and when we have any kind of problems they don’t know what to do, so most of them think and tell us that our symptoms are due to polio and they cannot do anything with our complaints. It is very difficult to find a professional who takes our problems seriously and listen to us. Our plan is to provide an information package for the training centers/universities about polio and PPS.
The polio rehabilitation treatment started again in 2000 when a group of polio victims looked for and found an institution that was ready to accept this task and the health authorities were ready to pay for it.

Now there are 12 beds in a rehabilitation center in Hévíz – it belongs to the Hungarian Army – where we can be treated and the National Social Insurance covers the costs. We are entitled to spend there four weeks and get all sorts of treatments, there is even a pool with thermal water. We like it very much, though the physiotherapists are not very knowledgeable. Theoretically they know about PPS but still cannot change their methods, most of them do the old school. The doctors are the same. We have to tell them what we want and what is good or bad for us.

Hévíz is good but as only 156 polio patients can be treated there yearly it is not enough, the waiting list is too long. We are trying to get some more beds for rehabilitation either in Hévíz or in another hospital.

Those who are bound to a wheelchair have a lot of problems when they want to participate in medical check-ups like screening, CT, MRI, ODM or just get to a dentist because a lot of medical institutions or the equipment are not accessible with a wheelchair. We do our best to find accessible policlinics and put this information on our website.

Now about the social support we get from the government.

The seriously paralyzed polio patients can get a so called disability aid which is monthly about 20.000,- Fts, that is less than 70 Euros. There is a higher category for wheelchair users which is only 5000 forints more, it means it is about 80 Euros. Those who are entitled to this kind of support get a card and with this card they and their helpers can use the local public transport for free.

Another advantage of this card that if we have it, we can apply for a special card with which we can get our medicines and aids free. Of course not all types, there is a list of the medicines and aids from which the doctors can choose and if we want a better walking stick of crutches for example, we have to pay. This card is valid for two years and we have to have it renewed regularly. Without this card the national health pays only a certain % of the needed appliances and medicines.

As most of us worked in our younger years, we get a disability allowance. Previously its name was disability pension but the government changed the system and we lost our pension though we worked hard for it. Fortunately the amount of money we get has not changed. Its amount depends on our previous salary and the number of years we worked.

Like in other countries we can get a parking card which is valid for Europe. The government supports buying a car, in case of a new car we get one million Forints – 3200 Euros - but we must buy a Suzuki through a given bank and must buy it on a bank loan. It is not an ideal situation because Suzuki has not got a type that is perfect for wheelchair users. Unfortunately the bank loan is obligatory so we cannot pay by cash even if we could. The other possibility is a second hand car, in this case we can get 600.000.- Forints – 1900 Euros – but the car mustn’t be older than 5 years.

I think we are not in the worst situation in Europe but of course the system could and should be better. We are working on its improvement.

Thank you for your attention.

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**Polio survivors’ movement in Poland**

**Speaker**: Dr. Malgozata-Koter  
**Polskie Stowarzyszenie Polio**  
http://postpolio.lublin.pl

**In 2007, at the forum functioning within the framework of the “Internet portal of persons with disabilities”, a new thread was established which soon gathered many active participants. This was a thread named a bit archaic: “Children Paralysis HM” and was opened by polio survivors who wanted to exchange experiences with other persons with the same disease. Some of them, observing new symptoms, thought that it was a “recurrence” of polio. Most of them had no idea about post-polio syndrome. Neither had the doctors whom they visited.**

Somebody remembered a website created in 1999 by a polio survivor where the author posted some links to information about post-polio and especially to the only article about PPS which was in Polish – it was a translation of the Lauro Halstead article published in 1998 in the Polish magazine “World of Science”. For years this article remained almost the only publication in Polish about PPS for many years. Besides, in the journals for professionals only two publications appeared: translation of Management of postpolio syndrome by Gudni Thorsteinsson in the Polish journal Medical Rehabilitation 1999, and about Post polio syndrome – a case study in the journal Polish Neurology and Neurosurgery 2004. This fact is essential, since the knowledge of English and other foreign languages was rather poor in Poland, not only among “ordinary” people, but also among doctors...The forum was visited also by a Polish woman living in Belgium, who informed about establishing of EPU. Also one doctor, being himself polio-survivor, joined the forum. Although he was laryngologist, he had great knowledge about PPS and could give advice about methods of treatment which he practised on himself. This was inconvenient for forum administrators and they deleted Synaptic’s posts. After a stormy discussion the whole item was closed and the members of IPON’s forum began contacts by e-mail.

We established an internet support group called “Happy Thirteen Club” (as at the beginning our group consisted of 13 persons). We have made our own website where we posted translations of articles about various aspects of PPS (esp. by Dr. Bruno from USA, as we had his approval for this).

In the meantime we’ve managed to get the cooperation of professor Ewa Matyja, neurologist and polio survivor. We both participated in the post-polio conference in Copenhagen 2011, where Prof. Matyja presented her poster: “PPS and ALS - similarities, differences and diagnostic dilemmas”. Encouraged by us, she wrote a large review paper: Post-polio syndrome. Part I. The “legacy” of a forgotten disease, challenges for professionals and polio survivors; Part II. Therapeutic management, which was published (in Polish) in the scientific journal Polish Neurology and Neurosurgery 2012. Nevertheless, the knowledge of Polish doctors about PPS is improving very slowly.

In 2015, in one of the popular Polish TV channels, a documentary “Virus effect” about consequences of polio was broadcast (with a view to parents movement against vaccination). The hero of this documentary was an about 40 years old woman who, by accident, wasn’t vaccinated, had polio as a child at the age of 1 year and now is experiencing typical symptoms of post-polio. Invited to the program was a national consultant in infectious diseases who commented that this woman must “have had something else” because polio patients were recovering and the majority of them are, like the doctors who treated them, dead. This statement became an impulse to show that we are still alive and have essential health problems. We began the procedure of creating our association and on 15th February 2016 the Polish Polio Association was registered. It is worth to point out that we managed to do everything by using only mail (ordinary and electronic) and internet (e.g. for voting). Our first activity is to ensure that the symbol of PPS (G14) appears also in the Polish version of the International Classification of Diseases (ICD-10). We are exchanging letters with our Ministry of Health now.
Last autumn, the first ever post-polio scientific symposium in Poland was held as a part of symposium “Neurorehabilitation 2015”, which was an accompanying event of the 23. International Rehabilitation Fair in Łódź. There were 3 speakers: Prof F Nollet, Prof E Matyja and organizer Prof J. Opara.

Unfortunately, there was a parallel session and the audience was very small.

There is another factor that could bring positive effects for Polish polio survivors: i.e. 3 medical centers in Poland (Warsaw, Poznan and Lublin) are involved in being sponsored by Grifols Institute international clinical Study of the Efficacy and Safety of Intravenous Immune Globulin in Patients with Post-polio Syndrome. Some members of our association are participating in this project and I hope it will give some benefits to them

17th Polio Day at the Koblenz Polio Centre, Germany
Introductory speech: Dr. med Axel Ruetz – head of Polio Centre Koblenz

Following the welcome of all participants Dr. Ruetz gave a short introduction of his treatment center where 2500 post-polio outpatients and 700 polio inpatients are treated every year. PPS is a complex disease, difficult to diagnose and they use a multidisciplinary approach. Rehabilitation and regular physiotherapy treatment have proved positive in slowing down muscle degeneration. During the last years attention has focused on finding medication for the treatment of PPS and this conference will concentrate mainly on studies that have been made or are still in progress. To hear the full speech please follow the link

The following will give summaries of the presentations that were made:

Speaker Prof Dr med Fischer
University Hospital Basel / Switzerland
Studies with L-Citrulline

Prof Fischer described studies they had made on patients with neurological diseases, and in particular a double-blind randomised study with L-citrulline on children with muscular dystrophy. The results obtained were very positive in comparison to the Placebo group and it was decided to make such a study with L-citrulline on people who suffered from post-polio syndrome. The objective was to find whether L-citrulline could influence and stimulate the energy metabolism in muscle and nerve cells to improve strength, fatigue, and functionality.

The study started mid-October and will run over 12 months, in two phases of 6 months each. 28 PPS patients were selected who met the screening criteria, i.e. to walk 6 minutes for 150 meters, with aids or without. In the beginning of the first 6 months’ period measurements of muscle strength, blood and MRI tests are made and will be compared with the same measurements at the end of this period to determine any normal muscle or strength degeneration. During this first 6 months’ period no L-citrulline will be administered.

For the second 6 months’ period the 28 patients will be divided into 2 groups, one will get 150 mg L-citrulline and the other group a placebo. After 3 months the effect on the muscle strength will be measured, blood samples be taken, and MRI tests be made and these measurements will be repeated at the end of the second 3 months’ period. The results will be compared, analysed and evaluated and will become available probably by the end of 2017. For details please refer to the link
Speaker Prof Dr med Arzu On  
University Hospital Ismir / Turkey  

Prof On has been treating PPS patients for more than 20 years. She has been using ‘Lamotrigine’ for 15 years with positive results on the symptoms and the life quality of polio survivors. She has also been using ‘pregabaline’ for 7 to 8 years with success. 

Prof On’s patients are on average younger than in European countries and in the United States. Her youngest polio patients are 28 and 17 years old, this is due to the fact that the last polio epidemic in Eastern Turkey was in 1998. Unfortunately there is a danger of polio reappearing in Turkey due to its border with Syria. 2 Mio refugees have entered Turkey and with them new polio cases have arisen. For that reason a vaccination campaign is carried out all over Turkey, and that is the main concern at this time rather than the PPS issue. 

In order to be able to use a precise therapy for PPS it is important to know the mechanisms of this disease, unfortunately we don’t know, therefore there is no cure or approved treatment specifically for PPS. The consensus is that many of the symptoms are caused by a progressive deterioration and loss of the motor neurons. The reason for this loss is unknown. The mechanism that GREEN & STOLLBERG suggests is that during the acute infection motor neurons die and cause paralysis. During recovery surviving motor neurons re-innervate more muscle fibers than normal, causing enlarged motor units which puts great strain on the surviving motor neurons and may cause distal degeneration of these enlarged motor units. When re-innervation reaches its upper limit it is no longer sufficient to compensate for the degeneration. That may cause loss of motor neurons, weakness and new paralysis. A combination of overweight, overuse, disuse and deconditioning might contribute to this degeneration. 

Prof On said that they have other hypotheses for this motor neuron loss. One of the hypothesis is glutamate-induced excitotoxicity which is the pathological process by which nerve cells are damaged or killed by excessive stimulation by neurotransmitters such as glutamate – one of the most potent neurotransmitters between neurons and nerve terminals. During the polio infection motor neurons die and glutamate may be released by the injured motor neurons leading to delayed cell death during the course of the disease. These processes cause weakness and fatigue. 

This hypothesis was the starting point for using lamotrigine on PPS patients. Lamotrigine decreases glutamate and has a neuroprotective effect. There are also many clinical studies that demonstrated that lamotrigine is very effective in relieving pain in a variety of chronic painful disorders. These findings of the effectiveness of lamotrigine on the symptoms and life quality of PPS people have been published in an article which was said to have been the most cited article in the field of post-polio syndrome during the last 30 years. 

Lamotrigine is a drug for epilepsy, but for PPS it is used in much smaller doses. Prof On has used this drug for her PPS patients for 15 years without major or minor side effect. Studies which were carried out on 30 patients – 15 patients got 50-100 mg of lamotrigine daily – the other 15 got a placebo - showed positive results on the lamotrigine group, such as relief of cramps, pain, and fatigue. No change in the placebo group. There are limitations however, more studies on more people over a longer period of time and a better follow-up are needed to verify the results. 

Pregabaline is particularly effective for sleep disorders and pain but it does have a number of side effects. 

For more detailed information please click on the following link: http://richmediafactory-source.mediasite.com/mediasite/Play/f70c9912bc8f483199545eceaa7f900d31d?catalog=03e7b634-261b-4a9b-a266-4c7ed48dd8e2

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Prof. Dr. Petri presented the IVIG study that is going on worldwide, in Germany these studies are in progress in Muenster, Hannover, Berlin and Jena. Polio is a viral disease, affecting the motor neurons – mainly those in the spine which innervate the muscles. Motor neurons die but the body has the capacity of compensating for the dead motor neurons by sprouting new axons which take over the function of the dead motor neurons. In the long run however, neural overload may lead to new symptoms – such as weakness and pain, temperature regulatory issues, even breathing and swallowing problems. The situation is aggravated by the fact that the weakness is being compensated one-sided paralysis which leads to overstraining of the other side which in turn leads to more pain and weakness and exhaustion. So neurological and orthopedic problems in joints and other muscle groups overlap and this is a vicious circle which is difficult to stop.

What can be done? Physical training is an important factor, no short-term powering but slow and regular exercises to provide the muscles with oxygen, ideally leg or/and arm movements and hydrotherapy are highly recommendable. Sufficient recovery periods between the exercises are extremely important and, of course, the use of aids in order to be more mobile and to cope better in everyday life.

Pain can be treated with drugs, patients with nerve pain can be helped with drugs that are suitable for so-called neuropathic pain, these drugs belong to the group used for epilepsy and depression, in general they affect the excitability of nerve membranes and can alleviate nerve pain. For pain that is located in the joints Ibuprofen may relieve pain. Physiotherapy is also very important to cope with pain. The fatigue which may affect muscles but also the entire body can be helped with regular light activity during the day or with antidepressants which during the day stimulate activities and at night regulate the sleeping pattern. If breathing problems occur the first step to treat this issue is a breathing therapy or a non-invasive respiratory mask to be worn at night. For speech and swallowing problems the first step is a logopedic therapy and nutritional advice.

What other drugs are there to treat post-polio syndrome?

L-carnitine is well-known to polio survivors with PPS, it has been used for a long time to improve the energy metabolism of the cells but might have gastrointestinal side effects and long-time use might have negative effects on liver and kidneys, therefore the use needs to be interrupted every now and then.

Creatin – is another muscle building drug but long-time use might damage the kidneys, therefore the use should be stopped at regular intervals.

Pridostigmin improves the transmission of signals from nerves to muscles, but a permanent therapy with this drug might aggravate the already damaged nerve cells in the long run. Antidepressants improve the perception of pain, the sleeping pattern and might be a stimulant during the day.

Immunoglobulins

IVIG (intravenous immunoglobulins) are ant-inflammatory and have been used for over 10 years. They have been successful in some PPS cases, but the clinical studies haven’t been very conclusive and more studies are necessary to obtain results which prove that IVIG is successful in the treatment of PPS so that the health care institutions will take over the cost for such a treatment.

What are immunoglobulins? Why immunoglobulins for post-polio syndrome?

Immunoglobulins are concentrates of human antibodies gained from blood donors, a preparation of immunoglobulins is a collection of plasma donations of more than 1000 donors and its main ingredients are highly concentrated.
antibodies of the type IgG, other globulins will be removed to avoid any serious complications. Immunoglobulins have a certain durability, i.e. 23 days, that means a therapy with immunoglobulins is always a continuous therapy, these infusions have to be repeated regularly. Immunoglobulins are not a new medication, they are well-known in clinical use and play an important role in many applications.

Now to the FORCE STUDY which is carried out in Germany and also worldwide, this is a study with Flebogamma, an immunoglobulin preparation to investigate the effect on patients with post-polio syndrome. The study has the title “multicentral, prospective (randomized, placebo-controlled), clinical parallel group to evaluate the effectiveness and the safety of the intravenous (human) immunoglobulins Flebogamma on patients with post-polio syndrome”. The study is initiated, organised and financed by the Instituto Grifols S.A. in Barcelona, Spain.

Why is this study carried out? The objective is to test in how far intravenous (human) immunoglobulins such as Flebogamma can improve the post-polio symptoms such as walking, pain, life quality, exhaustion, and muscle strength.

The study has been approved by the German Federal Office for drugs and medical products for use as an experimental drug to obtain information that might help the health care institutions to decide whether this drug is useful in the treatment of post-polio syndrome.

Duration of the study for each participant is 80 weeks
Each stage of this study comprises the following time span:

1. Screening period – 4 weeks
2. Treatment period – 56 weeks (1 visit to the study centre every 4 weeks)
3. Observation period – 24 weeks

The study comprises 2 stages, each stage comprising 80 weeks and the same flebogamma infusions over a period of one year.

The first stage comprises 3 treatment groups
1. Flebogamma 1 g / kg or
2. Flebogamma 2 g / kg
3. Physiological salt solution (placebo)

The second stage comprises 2 treatment groups
1. Flebogamma or
2. Physiological salt solution (placebo)

Which dose of Flebogamma will be used for Stage 2 of the study, will depend on the results obtained by Stage 1. The participants only participate in one stage.

Criteria for Inclusion in this clinical Study

1. Males or females between the age of 18 and 75 years.
2. Participants who have understood the conditions of participation, and voluntarily signed and dated them.
3. Participants with a body mass index (BMI) of under 35 kg / sqm
4. Participants that meet the clinical criteria for the diagnose of PPS set up by the March of Dimes organisation.
5. Participants who are able to walk, either with a cane or other aids.
6. Participants who have at least two muscle groups showing new weaknesses, one of which must be the lower extremity as indicated in the anamnesis and which shows point number three or more on the MRC scale in the SV process.
Participants with a body mass index (BMI) of under 35 kg / sqm
8. Participants that meet the clinical criteria for the diagnose of PPS set up by the March of Dimes organisation.
9. Participants who are able to walk, either with a cane or other aids.
10. Participants who have at least two muscle groups showing new weaknesses, one of which must be the lower extremity as indicated in the anamnesis and which shows point number three or more on the MRC scale in the SV process.
11. Participants in childbearing age must be able to present a negative pregnancy certificate (determination of the human choriongonadotropins).
12. Participants in childbearing age and their sexual partner must agree to contraception by use of a reliable method (i.e. use of hormones, barrier methods, copper-bearing intra-uterus contraceptive devices) to prevent a pregnancy during the duration of the study.
13. Participants must agree to stick to the study plan in all points, including blood samples and the storage of the samples during the entire study period.
14. Participants must be able to walk 6 minutes over a distance of 50 meters, however if they vary by more than 10% in their walking performance between the first and the second visit they cannot be included in the study because it would be difficult to determine whether this is in the natural variability or is it the effect of the drug.

Criteria for Exclusion of Patients in this Study
1. Patients who had an intravenous immunoglobulin treatment during the past 3 years
2. Patients who are not able to walk any more.
3. Patients where it is difficult to access veins
4. Patients who suffer from pain and use strong pain killers
5. Patients with allergies against one of the ingredients of this medication, such as e.g. Sorbitol.
6. Patients that have shown serious allergic reactions against blood products.
7. Patients that are treated with cortison products, an exception is cortison spray.
8. Patients with a history of thrombosis as a result of an IVG treatment in the past.
9. Patients with high blood pressure, who had a stroke or heart attack during the previous year.
10. Patients with angina pectoris or instable ECG.
11. Patients with drug or alcohol addiction
12. Patients with a psychiatric disease that’ll make it difficult to communicate with the treating personnel.
13. Patients suffering from depression
14. Patients being pregnant or breast feeding
15. Patients suffering from a serious disease
16. Patients that are on a test drug or have done so three months prior to the screening process.
17. Patients that do not adhere to the study plan and refuse to cooperate or are unable to provide the serum/plasma sample before the first infusion
18. Patients with a deficiency of immunoglobulin A
19. Patients with serious liver problems
20. Patients with serious kidney problems
21. Patients with blood formation issues such as deficiency of red or white blood cells
22. Patients with hepatitis or HIV infection
23. Patients with an intolerance to fructose which is an ingredient of the infusion.

A long list of inclusion and exclusion criteria which is necessary to avoid complications.

The study plan foresees that the participants have to come to the study centre every 4 weeks and are subject to examinations on two consecutive days to get the infusions. In Hannover the patients are accommodated in hotel-like rooms on the campus where they will get food and where they are available for all the examinations.

Which examinations will be made?
Various muscle groups on arms and legs will be tested and the strength measured with a hand dynamometer or a chair dynamometer respectively.
What are the risks of IVIG treatment?
Flebogamma is a drug that was gained from human blood and theoretically may contain viruses or bacteria, but this danger has been reduced by screening the donors and by carefully filtering and treating this product. Nevertheless the transmission of infectious viruses cannot be ruled out although no such complications have as yet been encountered. If there were new viruses which cannot be detected then theoretically there might be a danger but Dr. Petri has not experienced any such complications.

Flebogamma contains fructose and if the patient is allergic and hasn’t known about his allergy it might cause diarrhea, bloating, pain, and in that case the study needs to be stopped immediately.

What we notice after the infusion in one of 10 patients is headaches, a slight inflammation at the point of infusion, and a slight temperature increase.

Sometimes one in 100 persons experiences shaking, dizziness, vomiting, allergic reactions, sickness, joint pain, low or high blood pressure, and some backache.

Very rarely – that is one in 10,000 patients – is a heart attack, stroke, thrombosis in the legs or lungs.

In general, all patients, particularly those who receive immunoglobulins for the first time or after a treatment pause of 8 weeks when they receive another infusion, they might suffer from a temperature, sickness, shaking and vomiting. Careful observation of the patients and ensuring the dose recommendations are adhered to, these complications can be kept at a minimum.

At the moment we have 79 patients participating in this study, some of them have already been through stage 1 of the study, 13 patients have terminated their participation before the end. We are looking for about 40 more patients. At first sight the list of what could happen is a little frightening but reading the side effects on prescriptions are also quite shocking, but regulations say that any possible risk must be indicated.

The study centres in Germany are Muenster, Hannover, Berlin and Jena, but there might be more perhaps even in Koblenz.

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SPEAKERS: Arun and Mayoor Patel
Founders of the “Polio Children” Charity

Arun Patel who had polio at the age of one, came across an article in the newspaper about a school in India with 300 polio children. He was 50 at that time and was surprised that polio still existed.

He contacted the school and upon the headmaster’s invitation he and his two brothers travelled to India to visit this boarding school. The school was very poor, the food was inadequate, it had poor electricity and not sufficient water. And no education for girls. The Patel brothers founded a charity in 2002 to help polio children in India. They managed to raise 1.8 Mio Euros, built a hostel in India for 140 girls to make it possible for them to have an education. They invested in a whole infra-structure. Mayoor Patel, Arun’s brother, explained what work they do and have done.

What is “Polio Children” all about?
It is about children devastated by polio and very poor. Mayoor runs through a few clips to give an idea of what sort of children they help. There is this girl who cannot walk but slides through the sand on her body. There is the boy who came to the London Olympics whose legs were paralysed but he climbed up a 15 feet high pole and showed his aerobatics. And then there is the boy who cannot use his arms and he uses his feet to feed himself.
How does “Polio Children” work?
The first thing to look at is nutrition and education, then academic education and for those who are not academic to provide vocational training. The objective is to bring them through nutrition and education into the main stream of life.

How does Polio Children do that?
Since 2002 when the charity “Polio Children” was founded, they have sponsored 200 students through university, paying for food, clothes, education, - another 65 are now in the programme. Through education these polio children become teachers, doctors, IT specialists, etc. Once they get a job many of them pay not only to feed themselves but also their immediate and their extended families. The first success Polio Children had was very exciting, a girl in their programme whom they got through university, became a teacher, she married an able-bodied boy, unheard of in that culture because if you are poor, a girl and disabled, you have no chance in hell. And this girl had an able-bodied baby. Many of the girls who have polio think that their children will also have polio. What a thought to live with.

Then there is another exciting success story, a girl with both legs and one arm paralysed became a teacher through Polio Children’s education programme. She now pays for the education of two of her brothers, she pays for her mother and grandmother. Polio Children gave her a scooter so she can get around more easily.

Moving from India to Tanzania it is exciting to see more girls coming into the education scheme of Polio Children and from there they are going further to college or university. It is exciting for Polio Children to see this development because in Africa there is a saying that it takes a woman to bear a child but it takes a village to bring up a child. And in India the saying goes if you educate a girl you educate the family. Mayoor told about this girl who considered education so important that she ‘walks’ to school on her knees, 3 miles one way, 6 miles altogether. When her knees bleed she wraps cloths around them but still goes to school every day.

As far as this project in Africa is concerned, Polio Children are looking at various aspects. There is the project of a chicken farm or they are teaching farming skills, some of the youth have become lecturers or carpenters and they use their skills to teach on the campus. The projects run for 3 years and then they become self-sufficient. It is important to teach them a skill.

Then there is a case in Nigeria. The polio youth was at a university in England but couldn’t pay the fees any more. He got in touch with Polio Children and they sponsored him, he did his masters, went back to Nigeria and became the head of the statistics department at the Ministry of Planning and Economy. Meanwhile he has been promoted again and all he wants to do is work for Polio Children in Nigeria. From there Mayoor moved to Sera Leone, where they set up the Makeni Polio Camp. The country was at civil war for 10 years, no schooling for children, and just as they were coming out of this civil war they were hit by Ebola. The Polio Children camp where 100 families lived, was cordoned off, Polio Children supplied them with food and clothes, and kept them in the camp. None in the camp got Ebola. The main project then was to get children back to school.

Transparency
Whenever donors and sponsors give they like to see the transactions. For everything the people receive they sign, those who cannot write put a fingerprint behind what they receive. Everything is totally accounted for.

Now to Kenya. Earlier Mayoor talked about children using hands and knees to move around. In Kenya there was a woman who couldn’t walk and lived in a hut all her life and never got out, bathroom, cooking, eating, sleeping all in one room. Polio Children gave her a tricycle and she cried all the time while the Polio Children team was there. And why was she crying? Because nobody ever thought of her, she was crying because for the first time in her life she could get out of her hut. Because for the first time in her life she can go to the market and she can sell some fruit and some vegetables and make a little money, and that is the dignity she was looking for.
At the end of the presentation Arun said everybody is talking about eradication of polio, it certainly is the right thing to do, but so much publicity and coverage has been given to organisations such as e.g. the Bill Gates Foundation, WHO, Rotary, etc who are talking about eradication of polio. But WHY? What is POLIO? They don’t know. The people that have had polio, who had to live with it, physically, psychologically, mentally, every day in their life, they have been forgotten, they have fallen through the net. Talking of statistics that POLIO CHILDREN helped 1200 children — that they got 220 through university — these statistics don’t mean anything, it is about real people and there we need to say that POLIO Children have brought about a change, a transformation through education. In India e.g. a disabled child is at the bottom of the family, a disabled girl is very often killed because the family is too poor to feed her. And here Polio Children have brought about a change, a lot of girls are now supporting their families. Well, and this gathering here of post-polio people, Polio Children don’t want to talk to their beneficiaries about post-polio syndrome, they have enough on their plate as it is.

For further details please follow the link

http://richmediafactory-source.mediasite.com/mediasite/Play/294ea6bb7d4b4e688feb2ea37acfb2b61d?catalog=03e7b634-261b-4a9b-a266-4c7ed48dd8e2

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Some interesting links

Coffee with Polio Experts: Carol Pandak, Rotary International
https://www.youtube.com/watch?v=1ZeOj-ABPlQ&feature=youtu.be

Polio Children Newsletter

“Of Frozen Fingers and Polio Feet”
A warming winter tale for everyone who hates the cold.
By Dr. Richard L. Bruno Chairperson, International Centre for Polio Education www.postpolioinfo.com

file:///C:/Users/margret/Downloads/December%20%202016%20Update.pdf
I understood from Dr. med. Urs Herzog, polio responsible of the Switzerland/Liechtenstein Rotary, that a tulip is cultivated in the Netherlands that is called ‘polio’ and has the colours Red and Gold (just like the logo of ‘End Polio Now’). I had the idea that one could create a bed of this Polio tulip at the 2017 tulip festival in Morges. The people responsible have given me their ok for going ahead. We bought and sold these tulips in a Switzerland-wide action. One bag contains 25 tulip bulbs at the price of CHF 30, 20 CHF of which went to the organisation for the world-wide extinction of the polio virus. I ‘deal’ with the Western part of Switzerland. Up to the end of August we achieved an extremely good result selling these tulip bulbs. Besides many Rotarians from all Swiss regions private persons (acquaintences, friends, relatives, SIPS board members, ASPr members) joined in this ambitious campaign and in the Welsh area cities such as Morges, Rolle, Nyon and Biel participated. So next year the famous Tulip Festival in Morges will display a bed with polio tulips. The municipal garden centre of Basel which also participated in this action, has suggested to set up a polio information stand by this bed of tulips. The sales action for the year of 2016 has finished – over 450 bags of polio tulip bulbs have been sold in the German part of Switzerland, in Romandie and the Tessin – and this action could be repeated next year. At this point I would like to thank Mr. Urs Herzog for the very constructive and extremely agreeable cooperation. It is a great joy to work with such a team on such an important matter.
Statement on the 8th IHR Emergency Committee meeting regarding the international spread of poliovirus

WHO statement
1 March 2016

The eighth meeting of the Emergency Committee under the International Health Regulations (2005) (IHR) regarding the international spread of poliovirus was convened via teleconference by the Director-General on 12 February 2016. As with the seventh meeting, the Emergency Committee reviewed the data on circulating wild poliovirus as well as circulating vaccine-derived polioviruses (cVDPV). The latter is particularly important as cVDPVs reflect serious gaps in immunity to poliovirus due to weaknesses in routine immunization coverage in otherwise polio-free countries. In addition, it is essential to stop type 2 cVDPVs in advance of the globally synchronized withdrawal of type 2 OPV in April 2016.

The following IHR States Parties submitted an update on the implementation of the Temporary Recommendations since the Committee last met on 10 November 2015: Afghanistan, Pakistan and Guinea.

Wild polio

The Committee noted that since the declaration that the international spread of polio constituted a Public Health Emergency of International Concern (PHEIC) in May 2014, strong progress has been made by countries toward interruption of wild poliovirus transmission and implementation of Temporary Recommendations issued by the Director-General. There has been an overall decline in the occurrence of international spread of wild poliovirus. The Committee was particularly encouraged by the intensified efforts and progress toward interruption of poliovirus transmission in Pakistan and Afghanistan despite challenging circumstances, and the renewed emphasis on cooperation along the long international border between the two countries.

The Committee noted however that the international spread of wild poliovirus has continued, with two new recent reports of exportations from Pakistan into Afghanistan which occurred in October and November 2015. These cases occurred in Nangarhar and Kunar Provinces, in the eastern region, adjoining the Pakistan border. While there has been no new exportation from Afghanistan to Pakistan, ongoing transmission particularly in inaccessible parts of the Eastern Region of Afghanistan close to the international border presents an ongoing risk.

The Committee noted that while Pakistan and Afghanistan have historically shared a vast common zone of poliovirus transmission, the ongoing spread between the two countries is occurring from discrete zones of persistent transmission in each country. Strong programmatic action in these zones should interrupt such cross-border transmission, as illustrated by the experience in regions that were previously polio-endemic.

The committee re-emphasized that under the IHR, spread of poliovirus between two Member States can constitute international spread. The Committee acknowledged that cross border collaboration efforts have continued to be strengthened. Whilst border vaccination between these two countries is limited to children under ten years of age, efforts are being made to vaccinate departing travellers of all age groups from airports when leaving this epidemiological block formed by the two countries. The committee was particularly pleased that the Temporary Recommendations for international travellers of all ages are now being implemented in Afghanistan at the international airport in Kabul. In this respect, it noted that all countries, and particularly those with embassies in Afghanistan and Pakistan, should facilitate implementation of Temporary Recommendations through adopting procedures that include proof of polio vaccination as part of visa application processes for travellers departing from Afghanistan or Pakistan.

The committee noted that globally there are still significant vulnerable areas and populations that are inadequately immunized due to conflict, insecurity and poor coverage associated with weak immunization programmes. Such vulnerable areas include countries in the Middle East, the Horn of Africa, central Africa and parts of Europe. The hard-earned gains of the GPEI can be quickly lost if there is re-introduction of poliovirus in settings of disrupted health systems and complex humanitarian emergencies. The large population movements across the Middle East and from Afghanistan and Pakistan create a heightened risk of international spread of polio. There is a risk of missing polio vaccination among refugee and mobile populations, adding to missed and under vaccinated populations in Europe, the Middle East and Africa. An estimated three to four million people have been displaced to Turkey, Lebanon, and Jordan and are at the centre of a mass migration across Europe.
The committee was very concerned by the weakening of AFP surveillance in Equatorial Guinea, and urged renewed efforts to strengthen surveillance and routine immunization there. Insecurity in Africa, notably in parts of Cameroon and Somalia, continues to pose a threat to polio eradication in that continent.

**Vaccine derived poliovirus**

The current circulating vaccine-derived poliovirus (cVDPV) outbreaks across four WHO regions illustrate serious gaps in routine immunization programs, leading to significant pockets of vulnerability to polio outbreaks. In 2015, six outbreaks of circulating vaccine derived poliovirus have occurred – three cVDPV type 1 outbreaks (Ukraine, Madagascar and Lao People’s Democratic Republic) and three cVDPV type 2 outbreaks (Myanmar, Nigeria and Guinea). Six additional cases of cVDPV type 2 have been reported in Guinea since the last meeting. This increases the threat of international spread, particularly to neighbouring countries, where the Ebola epidemic has weakened health systems including routine immunization. This is of particular concern given the imminent global withdrawal of type 2 oral polio vaccine (OPV2) in April 2016. The committee noted with concern that AFP surveillance does not meet international standards in parts of Guinea, heightening concern about whether circulation could be missed. Post-Ebola there was a new community reluctance to accept vaccination, and this needs to be urgently addressed. The committee acknowledged the efforts to improve the quality of supplementary immunization activities (SIAs), and urged that this continue.

The committee noted that in Lao People’s Democratic Republic and Myanmar there was ongoing circulation of vaccine derived polioviruses, particularly in hard to reach populations in both countries, underlining the importance of communication to counteract vaccine hesitancy.

While there have been no new cases of cVDPV in Ukraine, Madagascar, South Sudan or Nigeria since the last committee meeting, threats remain. More needs to be done in each of these countries to improve routine coverage and AFP surveillance. In Ukraine, the committee was concerned by the restricted availability of polio vaccines (including non-availability to persons >10 years of age) and suboptimal routine immunization, and reports of lack of community acceptance of polio vaccines. This reluctance to be vaccinated needs to be addressed through well-crafted communications. In South Sudan and Nigeria, there was heightened risk of further circulation in areas affected by conflict and insecurity. Complacency is another risk in Nigeria, and as the number of SIAs decreases, the strengthening of routine immunization needs to be a high priority.

**Conclusion**

The Committee unanimously agreed that the international spread of polio remains a Public Health Emergency of International Concern (PHEIC) and recommended the extension of the Temporary Recommendations for a further three months. The Committee considered the factors expressed in reaching this conclusion at the seventh meeting still applied:

- The continued international spread of wild poliovirus during 2015 involving Pakistan and Afghanistan.
- The risk and consequent costs of failure to eradicate globally one of the world’s most serious vaccine preventable diseases.
- The continued necessity of a coordinated international response to improve immunization and surveillance for wild poliovirus, stop its international spread and reduce the risk of new spread.
- The serious consequences of further international spread for the increasing number of countries in which immunization systems have been weakened or disrupted by conflict and complex emergencies. Populations in these fragile states are vulnerable to outbreaks of polio. Outbreaks in fragile states are exceedingly difficult to control and threaten the completion of global polio eradication during its end stage.
- The importance of a regional approach and strong cross-border cooperation, as much international spread of polio occurs over land borders, while recognizing that the risk of distant international spread remains from zones with active poliovirus transmission.
- Additionally with respect to cVDPV:
  - cVDPVs also pose a risk for international spread, and if there is no urgent response with appropriate measures, particularly threaten vulnerable populations as noted above;
  - The emergence and circulation of VDPVs in four WHO regions demonstrates significant gaps in population immunity at a critical time in the polio endgame;
  - There is a particular urgency of stopping type 2 cVDPVs in advance of the globally synchronized withdrawal of type 2 component of the oral poliovirus vaccine in April 2016.

**Risk categories**
The Committee provided the Director-General with the following advice aimed at reducing the risk of international spread of wild poliovirus and cVDPVs, based on the risk stratification as follows:

**Wild poliovirus**

- States currently exporting wild poliovirus;
- States infected with wild poliovirus but not currently exporting;
- States no longer infected by wild poliovirus, but which remain vulnerable to international spread.

**Circulating vaccine derived poliovirus**

- States currently exporting cVDPV;
- States infected with cVDPV but not currently exporting;
- States no longer infected by cVDPV, but which remain vulnerable to the emergence and circulation of VDPV.

The Committee applied the following criteria to assess the period for detection of no new exportations and the period for detection of no new cases or environmental isolates of wild poliovirus or cVDPV:

### Criteria to assess States no longer exporting (detection of no new wild poliovirus or cVDPV exportation)

- **Poliovirus Case:** 12 months after the onset date of the first case caused by the most recent exportation PLUS one month to account for case detection, investigation, laboratory testing and reporting period, OR when all reported AFP cases with onset within 12 months of the first case caused by the most recent importation have been tested for polio and excluded for newly imported WPV1 or cVDPV, and environmental samples collected within 12 months of the first case have also tested negative, whichever is the longer.

- **Environmental isolation of exported poliovirus:** 12 months after collection of the first positive environmental sample in the country that received the new exportation PLUS one month to account for the laboratory testing and reporting period.

### Criteria to assess States no longer infected (detection of no new wild poliovirus or cVDPV)

- **Poliovirus Case:** 12 months after the onset date of the most recent case PLUS one month to account for case detection, investigation, laboratory testing and reporting period OR when all reported AFP cases with onset within 12 months of the last case have been tested for polio and excluded for WPV1 or cVDPV, and environmental samples collected within 12 months of the last case have also tested negative, whichever is the longer.

- **Environmental isolation of wild poliovirus or cVDPV (no poliovirus case):** 12 months after collection of the most recent positive environmental sample PLUS one month to account for the laboratory testing and reporting period.

### Temporary recommendations

#### States currently exporting wild poliovirus or cVDPV

(Previously Pakistan (last wild poliovirus exportation: 3rd November 2015) and Afghanistan (last wild poliovirus exportation: 6 June 2015).

Exporting countries should:

- **Officially declare,** if not already done, at the level of head of state or government, that the interruption of poliovirus transmission is a national public health emergency; where such declaration has already been made, this emergency status should be maintained.

- **Ensure that all residents and long-term visitors (i.e. > four weeks) of all ages,** receive a dose of oral poliovirus vaccine (OPV) or inactivated poliovirus vaccine (IPV) between four weeks and 12 months prior to international travel.

- **Ensure that those undertaking urgent travel (i.e. within four weeks),** who have not received a dose of OPV or IPV in the previous four weeks to 12 months, receive a dose of polio vaccine at least by the time of departure as this will still provide benefit, particularly for frequent travellers.

- **Ensure that such travellers are provided with an International Certificate of Vaccination or Prophylaxis in the form specified in Annex 6 of the IHR to record their polio vaccination and serve as proof of vaccination.**

- **Restrict at the point of departure the international travel of any resident lacking documentation of appropriate polio vaccination.** These recommendations apply to international travellers from all points of departure, irrespective of the means of conveyance (e.g. road, air, sea).

- **Recognising that the movement of people across the border between Pakistan and Afghanistan continues to facilitate exportation of wild poliovirus,** both countries should further intensify cross-border efforts by significantly improving coordination at the national, regional and local levels to substantially increase vaccination coverage of travellers crossing the border and of high risk cross-border populations. Both countries have maintained permanent vaccination teams at the main border crossings for many years. Improved coordination of cross-border efforts should include...
closer supervision and monitoring of the quality of vaccination at border transit points, as well as tracking of the proportion of travellers that are identified as unvaccinated after they have crossed the border.

- Maintain these measures until the following criteria have been met: (i) at least six months have passed without new exportations and (ii) there is documentation of full application of high quality eradication activities in all infected and high risk areas; in the absence of such documentation these measures should be maintained until the state meets the above criteria of a ‘state no longer exporting’.

- Provide to the Director-General a monthly report on the implementation of the Temporary Recommendations on international travel, including the number of residents whose travel was restricted and the number of travellers who were vaccinated and provided appropriate documentation at the point of departure.

**States infected with wild poliovirus or cVDPVs but not currently exporting**

(Currently Nigeria, Guinea, Madagascar, Ukraine, Lao People’s Democratic Republic and Myanmar)

<table>
<thead>
<tr>
<th>Country</th>
<th>Virus type</th>
<th># cases since outbreak began</th>
<th>Most recent onset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>cVDPV2</td>
<td>1</td>
<td>16th May 2015</td>
</tr>
<tr>
<td>Ukraine</td>
<td>cVDPV1</td>
<td>2</td>
<td>7th July 2015</td>
</tr>
<tr>
<td>Guinea</td>
<td>cVDPV2</td>
<td>8</td>
<td>14th December 2015</td>
</tr>
<tr>
<td>Madagascar</td>
<td>cVDPV1</td>
<td>11</td>
<td>22nd August 2015</td>
</tr>
<tr>
<td>Lao People’s Democratic Republic</td>
<td>cVDPV1</td>
<td>10</td>
<td>11th January 2016</td>
</tr>
<tr>
<td>Myanmar</td>
<td>cVDPV2</td>
<td>2</td>
<td>5th October 2015</td>
</tr>
</tbody>
</table>

These countries should:

- Officially declare, if not already done, at the level of head of state or government, that the interruption of poliovirus transmission is a national public health emergency; where such declaration has already been made, this emergency status should be maintained.

- Encourage residents and long-term visitors to receive a dose of OPV or IPV four weeks to 12 months prior to international travel; those undertaking urgent travel (i.e. within four weeks) should be encouraged to receive a dose at least by the time of departure.

- Ensure that travellers who receive such vaccination have access to an appropriate document to record their polio vaccination status.

- Intensify regional cooperation and cross-border coordination to enhance surveillance for prompt detection of poliovirus and substantially increase vaccination coverage among refugees, travellers and cross-border populations.

- Maintain these measures until the following criteria have been met: (i) at least six months have passed without the detection of wild poliovirus transmission or circulation of VDPV in the country from any source, and (ii) there is documentation of full application of high quality eradication activities in all infected and high risk areas; in the absence of such documentation these measures should be maintained until the state meets the criteria of a ‘state no longer infected’.

- At the end of 12 months without evidence of transmission, provide a report to the Director-General on measures taken to implement the Temporary Recommendations.

**States no longer infected by wild poliovirus or cVDPV, but which remain vulnerable to international spread, and states that are vulnerable to the emergence and circulation of VDPV**

(Currently Somalia, Iraq, Israel, Equatorial Guinea, Cameroon and South Sudan)

These countries should:

- Urgently strengthen routine immunization to boost population immunity.

- Enhance surveillance quality to reduce the risk of undetected wild poliovirus and cVDPV transmission, particularly among high risk mobile and vulnerable populations.

- Intensify efforts to ensure vaccination of mobile and cross-border populations, Internally Displaced Persons, refugees and other vulnerable groups.
• Enhance regional cooperation and cross border coordination to ensure prompt detection of wild poliovirus and cVDPV, and vaccination of high risk population groups.

• Maintain these measures with documentation of full application of high quality surveillance and vaccination activities.

• At the end of 12 months without evidence of reintroduction of wild poliovirus or new emergence and circulation of cVDPV, provide a report to the Director General on measures taken to implement the Temporary Recommendations. GPEI and other international organizations, particularly Gavi, should provide all necessary support to reduce the risk of emergence and circulation of VDPV.

These countries should provide a final report as per the table below:

<table>
<thead>
<tr>
<th>Country</th>
<th>Most recent case onset / +ve environmental isolate</th>
<th>Final Report due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Israel</td>
<td>30-Mar-14</td>
<td>Apr-16</td>
</tr>
<tr>
<td>Iraq</td>
<td>7-Apr-14</td>
<td>May-16</td>
</tr>
<tr>
<td>South Sudan</td>
<td>19-Apr-15</td>
<td>May-16</td>
</tr>
<tr>
<td>Equatorial Guinea</td>
<td>3-May-14</td>
<td>Jun-16</td>
</tr>
<tr>
<td>Cameroon</td>
<td>9-Jul-14</td>
<td>Aug-16</td>
</tr>
<tr>
<td>Nigeria</td>
<td>16-May-2015*</td>
<td>Aug-16</td>
</tr>
<tr>
<td>Somalia</td>
<td>11-Aug-14</td>
<td>Sep-16</td>
</tr>
</tbody>
</table>

* most recent cVDPV2 in Nigeria

Additional considerations for all infected countries

The Committee strongly urged global partners in polio eradication to provide optimal support to all infected countries at this critical time in the polio eradication program for implementation of the Temporary Recommendations under the IHR. The Committee advised that in view of the evolving situation, periodic review and assessment of the risk of international spread and measures to mitigate these risks are warranted.

The Committee recommended that international partners assist countries affected by cVDPV with development of appropriate communications strategies and materials to ensure clear public understanding of cVDPV, their distinction from wild poliovirus, and maintenance of confidence in the effectiveness, safety and necessity of polio vaccines during the polio endgame. Recognizing that cVDPV illustrates serious gaps in routine immunization programs in otherwise polio free countries, the Committee recommended that the international partners in routine immunization, for example Gavi, should urgently assist affected countries to improve the national immunization program.

The Committee again requested the Secretariat to conduct an analysis of the public health benefits and costs of implementing the temporary recommendation requiring exporting countries to vaccinate all international travellers before departure.

Based on the advice concerning wild poliovirus and cVDPV, and the reports made by Afghanistan, Pakistan, and Guinea, the Director-General accepted the Committee’s assessment and on 26 February 2016 determined that the events relating to poliovirus continue to constitute a PHEIC, with respect to wild poliovirus and cVDPV. The Director-General endorsed the Committee’s recommendations for ‘States currently exporting wild polioviruses or cVDPV’, for ‘States infected with wild poliovirus or cVDPV but not currently exporting’ and for ‘States no longer infected by wild poliovirus, but which remain vulnerable to international spread, and states that are vulnerable to the emergence and circulation of VDPV” and extended the Temporary Recommendations as revised by the Committee under the IHR to reduce the international spread of poliovirus, effective 26 February 2016.

The Director-General thanked the Committee Members and Advisors for their advice and requested their reassessment of this situation within the next three months.