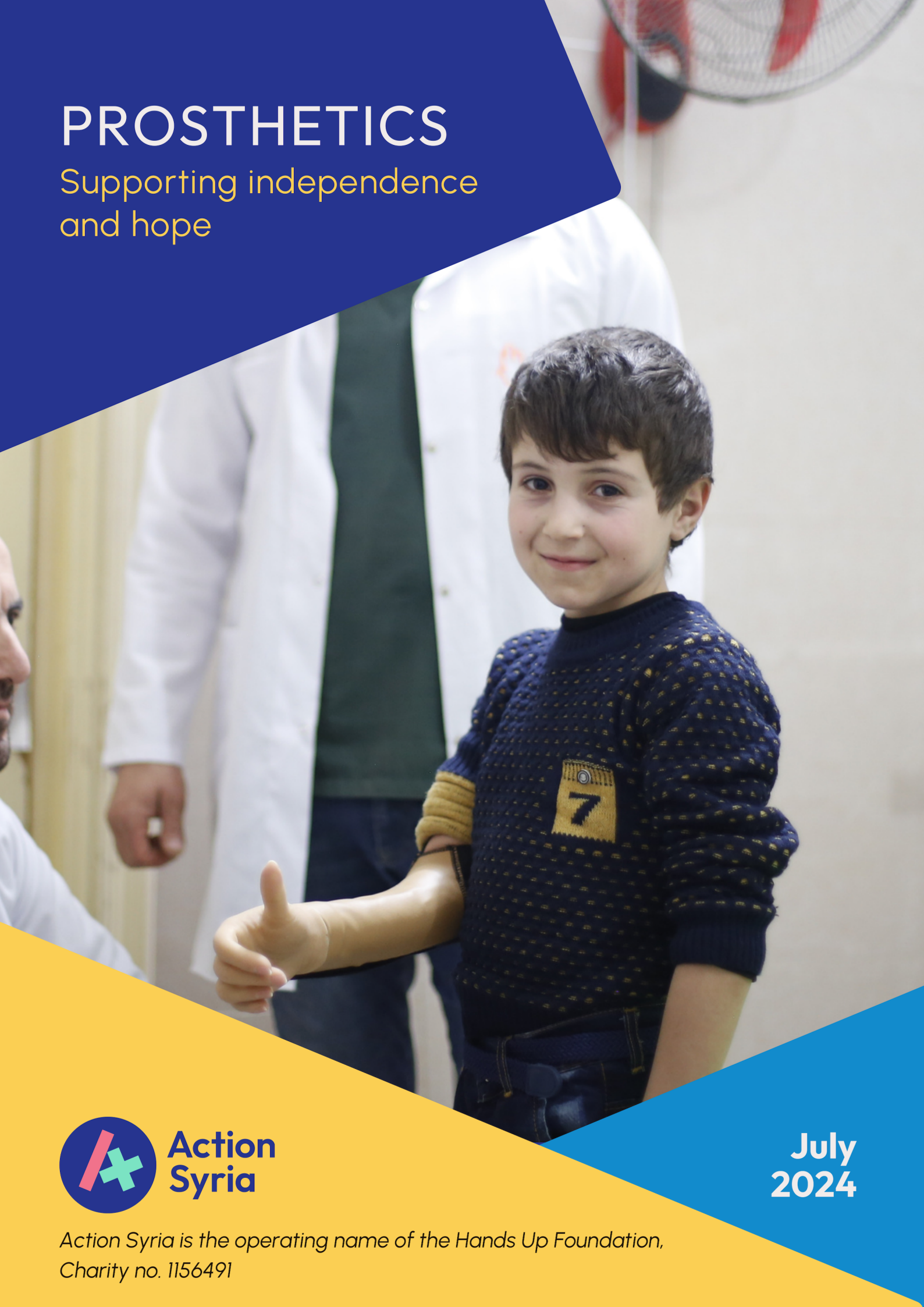


PROSTHETICS

Supporting independence
and hope



**Action
Syria**

*Action Syria is the operating name of the Hands Up Foundation,
Charity no. 1156491*

**July
2024**

Introduction

Over **1.5 million** people in Syria live with permanent disabilities, including **86,000** whose injuries have led to amputations **[1]**. This is the outcome of over a decade of conflict, a crumbling health infrastructure, and the devastating earthquakes that struck the Turkish-Syrian border in February 2023. With no affordable, working solution, many of these people have limited-to-no access to medical services and the support they need. This leaves them vulnerable to exclusion from society, a loss of independence and reduced employment opportunities.

In response, Action Syria has been working with Physicians Across Continents (PAC), a local Syrian-run NGO, and Koalaa, a UK-based company, to deliver prosthetics to people with upper limb difference on the Syrian-Turkish border. Alongside, the project funded the running costs of PAC's distribution clinic and staff salaries, in turn supporting local stability. The idea was to see whether soft, lightweight, and fast to fit prosthetics made by Koalaa could be a cost-effective alternative or additional solution for those in need of them in north-west Syria – and depending on the results, scale this up in the area and perhaps beyond.

Over the implementation period (**September 2022 to December 2023**), we provided **94** people with lightweight, comfortable Koalaa prosthetics, physiotherapy, and psychosocial support to help them adapt to life with an amputation and their new prosthetic. Like all humanitarian aid programmes, particularly in this complex operating environment, there were lessons to be learnt (detailed below), but the impact of the programme went far beyond the provision of soft prostheses. We were also able to reach many more people through the clinic's general work, including providing over **2,000** physiotherapy sessions and over **200** traditional prosthetics.

Freedom of movement, opportunity, and hope. These are the things the right prosthetic can give. We are delighted to provide our final report and conclusion for the programme.

We are so grateful to the teams at Koalaa and PAC for their support and knowledge.

[1]

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7424144/#:~:text=According%20to%20WHO%2C%20the%20are,led%20to%20amputations%20%5B5%5D>

Progress

Programme Coordinator and Management

In **June 2022**, we hired a part-time, London-based programme coordinator, to manage the prosthetics project. He has a wealth of programme management experience in Turkey, Syria, and the wider region. Originally from Aleppo, Syria, he came to the UK on a Chevening Scholarship and was instrumental in consolidating our partnership with PAC. He managed the programme from start to finish and was a key part of the decision-making around the feasibility of scaling the programme up after this second phase.

The Programme Coordinator worked closely with PAC and Koalaa, as well as the UN Health Cluster in Gaziantep, Turkey, to discuss Action Syria's aims and the need for such a project inside Syria with the head of the prosthetic sub-working group.

Partnership

Action Syria's Board approved a partnership with PAC in **August 2022**, and the first shipment of Koalaa prosthetics (**x50**) arrived in Syria in **October 2022**, the second (**x50**) in **June 2023**.

PAC's prosthetics clinic is based in the town of A'zaz, north-west Syria. Before the implementation of this project, the organisation was delivering their own traditionally-made prosthetics, alongside physiotherapy and psychosocial support, with a proven track record as experts in the field. This delivery continued throughout the duration of the project with the clinic running costs supported by Action Syria.

Humanitarian aid funding in this part of Syria is reducing drastically and prosthetics in particular are underfunded [2]. Our partnership with PAC meant we could enable key parts of their work to continue by funding the core costs of the clinic. This was in recognition of their expertise in prosthetics, physiotherapy and psychosocial support; all key requirements for the successful delivery of our Koalaa prosthetics. Core costs we covered included staff salaries (e.g. project manager, physicians, psychosocial support officer) and centre running costs.

[2] https://www.hi.org/sn_uploads/document/IB-3-mhpss-rehab-finale-2022.pdf

Training was carried out in **November 2022** and **June 2023**, to enable PAC's staff to measure for and fit Koalaa prosthetics effectively. While they are experts in their field, Koalaa prosthetics were new to the technicians, so it was important to work with them on measuring, fitting, and delivery, to ensure users received the maximum care and benefit.

The **November 2022** training was delivered by Action Syria and Koalaa online alongside a consultant technician in Gaziantep, Turkey, who had taken part in the pilot programme. This technician facilitated as translator. Training was attended by **five** members of PAC's field team, including physicians, a Psychosocial support officer, and a project manager.

The **June 2023** training was conducted in-person in Gaziantep by Action Syria and Koalaa. **Four** PAC technicians attended and the time was extremely useful for understanding and addressing the challenges the technicians faced during the first implementation phase of the project, as well as celebrating the successes to date.

In the early stages of the project, we explored the option of working through a second delivery partner. Following rigorous research and multiple scoping conversations, it was agreed that the best course of action was to continue delivery with PAC after the initial **50** prosthetics, given the dedicated training which had previously occurred, their diligent delivery, and knowledge of the project.



*Action Syria, Koalaa
and PAC team
members at training
Gaziantep, 2023*

Koalaa Prosthetics

Koalaa (read more [3]) are on a mission to make prosthetics accessible, affordable and comfortable, for anyone on the planet. Given their expertise and energy, it was a privilege to work with them to assess whether these prostheses could be a solution in the Syrian context. For our project, patients received **5** parts to each prosthetic:

- Main prosthetic
- Main prosthetic sleeve
- Dock for tools
- **x1** cosmetic hand tool*
- **x1** tool (from the selection below)

**We found many users in Syria were more interested in a cosmetic hand than a functional tool. We agreed with Koalaa to provide these with each prosthetic alongside a functional tool. Patients were given a choice in tool type.*



Rushton

For gripping a range of larger objects, the Rushton tool is a large bulldog clip gripper that can be used to hold glasses, mugs, and other wider objects.



Amy

The Amy is a small gripper that can be used to hold thinner items such as a mobile phone, a book or paper during arts and crafts.



Janet

Using a hook and loop strap that can wrap securely around objects, The Janet is a multi-functional tool that holds a wide range of items from pens, paint brushes and cutlery to cooking utensils, hockey sticks and rackets.



Kitty

A tool with a ball joint and lock. Like the Janet tool, the Kitty has a hook and loop strap that allows it to hold a huge variety of objects from pens, paint brushes and cutlery to cooking utensils, drumsticks and bows.

[3] <https://www.yourkoalaa.com>

Results

In total, **95** Koalaa prosthetics were delivered to **94** patients (with one patient with a bilateral amputation receiving two). There were a total of **13** female and **81** male patients.

Beneficiaries & Impact

The tables below set out the direct beneficiaries of Koalaa prosthetics and the number of qualified staff supported with a salary throughout the programme.

Direct Beneficiaries - Koalaa Prostheses	Age ≥ 18 years		Age < 18 years		Totals
	Male	Female	Male	Female	
Koalaa upper limb - Phase 1	24	5	9	5	43
Koalaa upper limb - Phase 2	40	0	8	3	51
Total Number of Direct beneficiaries					94

Qualified professional staff supported	Number
Prosthetic Limb Technicians	5
Leather Sewing Technicians	1
Physiotherapists	2
Psycho-social Support Worker	1
Receptionist	1
Warehouse and administrative officer	1
Guards and cleaners	2
Total	13

*Abdulaziz tries his
Koalaa prosthetic,
the Janet tool
A'zaz, 2023*



All patients were assessed for physiotherapy and psychosocial needs, receiving corresponding and ongoing support to ensure their prosthetic fitted well, was accepted (there are often mental and emotional barriers to accepting prosthetics), comfortable, and functional.

A monitoring and evaluation plan was designed to assess patient satisfaction and the extent to which the prosthetics have a meaningful and positive impact in their lives. This plan included pre and post surveys, as well as regular monitoring by PAC's physiotherapy and psycho-social staff. Thanks to Koalaa, we were also supported pro bono with a 60DB survey, which added to our own evaluations. The results of these findings were analysed by Action Syria, Koalaa and PAC on throughout the project, to adjust and adapt to challenges, as well as inform a decision on scaling up.

Conclusion

The results of the data collected showed Koalaa prosthetics provide a comfortable, lightweight, and easy-to-fit solution for people with below-elbow limb difference in Syria. The short timeframe needed to fit these prosthetics (one session) compared to traditional prosthetics (several sessions) was noted as a particular positive, as was the ease of use for patients and the cosmetic look. We also learned patient satisfaction was overall similar to traditional prosthetics, suggesting the international delivery of this product may not be warranted over and above traditional prostheses, made in Syria. Additionally, PAC's team had to work hard to identify enough patients with a below-elbow amputation within the clinic's catchment area and struggled to reach patients suitable for the smallest prosthetics (5 left in stock). This evidence, alongside the team's feedback, indicated there is not significant need for below-elbow only soft prosthetics. Currently, Koalaa prosthetics only provide for this type of amputation. Results also showed a strong preference for the cosmetic Koalaa prosthetic, with some patients expressing a desire for further functionality of the other tools for everyday use, particularly in the work place, where often there is a need for a prosthetic with greater load-bearing capacity. **Given this, despite the clear positive benefits Koalaa prosthetics provide as an alternative solution for people with limb difference, we have concluded it is not worthwhile scaling the project further at this stage. We would add Koalaa prosthetics could be an excellent additional solution in an emergency humanitarian setting, as part of a wider programme.**

We are proud that the project enabled us to reach **94** patients with Koalaa prosthetics, psycho-social and physiotherapy support, as well as providing stable salaries for thirteen staff (this was in addition to the broader work carried out by PAC at the clinic, see below for details). The opportunity to trial a new and innovative solution in the Syrian humanitarian context was so valuable, because it allowed us to assess the needs from a different perspective as well as inform our ongoing response. While we have decided not to scale up the delivery of Koalaa prosthetics in Syria, we are continuing to work with PAC to deliver traditional prosthetics via the clinic in A'zaz.

An unanticipated positive outcome of the project was that it unlocked significant funding from the World Health Organization for the first inpatient physical therapy clinic at the centre in A'zaz, run by PAC. This was inspired by the impact of our work we were already making with Koalaa and PAC. Given the broad and considerable challenges faced by health service providers in northern Syria, this kind of funding makes a meaningful and lasting contribution.

The impact of this programme goes beyond the patients and staff who received and delivered Koalaa prostheses respectively. Through our support to the core costs of the clinic, PAC were also able to provide the following to patients:

Direct Beneficiaries - wider clinic services (non-Koalaa)	Number
Traditional prostheses	214
Orthotics	267
Neurology consultations	80
Orthopedic consultations	146
Physiotherapy consultations	877
Physiotherapy sessions	2358
Number of PSS sessions	2127
Number of nursing visits	2481

Challenges & Risk Management

Finding enough patients within the catchment area with below-elbow amputation:

As Koalaa prosthetics are specifically designed for patients with below-elbow amputations, the model limited the number of suitable patients. There are fewer children and women with this type of amputation, making it challenging to find patients who needed the smallest size of prosthetic, provided in the first delivery of 50. Therefore, four small size prosthetics remain, with PAC continuing outreach efforts with the health cluster to identify patients who may benefit from these. To mitigate this issue, patients in phase 2 were identified and measured prior to ordering the Koalaa prosthetics, ensuring each prosthetic was matched and sized to its user.

Staff limitations: At the start of the programme, our initial consultant in Gaziantep, Amr, was unable to cross into Syria due to the Turkish government's strict border rules. So we relied on our implementing partner, PAC, to provide data and case studies for monitoring and evaluation.

We worked with PAC to make sure they could provide a full overview of each patient with corresponding case studies, pictures, and videos where possible, so we could see the programme's results. All necessary consent was obtained first.

Acceptance of soft prostheses: Koalaa prosthetics offer a new and innovative solution for people with upper limb difference in Syria, where there is already a stigma around disability. Many who have experienced an amputation also experience mental health trauma, making it challenging to assess the true impact of a prosthetic, as they may be inclined to ignore the positives, while lacking the motivation to test and make the most of the opportunities it offers. Consequently, we worked with PAC's Monitoring & Evaluation department to develop a rigorous monitoring plan for measuring impact, both to improve the product for users and demonstrate their value. This included producing easily understood materials highlighting how the prosthetic may be used, along with extra training with the PAC team to ensure prosthetics were fitted properly, patients' concerns were addressed, and time was taken to explain the benefits of their new prosthetic.

Expectation of patients: One of the issues we faced was around expectation. Some, upon hearing of a new, innovative prosthetic, expected a very hi-tech piece of equipment, more like a bionic arm. We worked with PAC to manage the expectations of potential patients and their caregivers during initial consultations and when conducting outreach to find patients.

Volatile security situation: Operating on the Syrian-Turkish border is complicated by the volatile security situation, which continues to be unstable, putting staff, patients, and programme longevity at risk.

- We ensure all our partners have risk registers in place, identifying key security risks and corresponding mitigation measures.
- Evacuation plans in the event of attack are in place as well as contingency plans.

The earthquake: The devastating earthquakes which struck in **February 2023** displaced **millions**, injured **hundreds of thousands** and claimed **55,000** lives [4]. In the aftermath, it was vital for PAC to focus on saving lives, providing aid and making sure their own staff were safe. This delayed the roll-out of the project and created challenges around logistics, given the destruction of infrastructure. Many members of PAC's team were dealing with the personal ramifications of the earthquakes, from the destruction to psychological trauma. Alongside this, many of the patients initially identified for the Koalaa project were displaced and uncontactable. We adapted the timeline, therefore, and worked closely with the PAC team to support them to deliver as many prosthetics as possible to the end of **December 2023**.

[4] <https://www.worldvision.org/disaster-relief-news-stories/2023-turkey-and-syria-earthquake-faqs>



*Ahmad with his
Koalaa cosmetic
prosthetic
A'zaz, 2023*

Looking ahead

The need for comfortable, cost-effective, functional prosthetics remains. In northern Syria, where there are so many barriers to people with limb difference having access to the relevant equipment, care and expertise, it is critical that clinics like the one in A'zaz remain open and operating. We are, therefore, delighted to continue our partnership with PAC, providing prosthetics, physiotherapy and psychosocial support services over the next year. Informed by the results of the now completed project, for now, we will be focusing on traditional prosthetics designed to serve a wider range of amputations. As the only humanitarian facility offering free prosthetic, orthopaedic, and physical therapy services in the district, this clinic is a beacon of hope.

We are extremely grateful to Koalaa for their solidarity, generosity and support throughout the project and hope we may work together again in the future.

The number of people with amputations has only grown following the **2023** earthquakes, and we are committed to ensuring as many of them as possible have the services and support they need. We are proud of what we have achieved so far, and the results above speak for themselves. It is only by trialling new approaches and ideas that we can grow and learn, both here in the UK, but critically in Syria, where **16.7 million** people need humanitarian assistance.




*Farah using her Janet
prosthetic to hold a pen
A'zaz, 2023*

Budget

At the end of the project, the full costs were **£109,086**. These costs came in under budget by **£10,608**. This was due to receiving pro bono support for due diligence, lower-than-expected costs for training days, customs fees, transportation of patients, and not using our contingency budget. A few line items cost slightly more than expected but this was balanced out by underspend elsewhere. A summary is below.

TOTAL COSTS	Project budget	Actual Spent
Operation Costs	£90,030	£84,590
Staffing Costs	£20,148	£21,389
Admin & Monitoring Costs	£3,816	£3,107
Contingency @5%	£5,699.70	£ -
TOTAL COSTS INC CONTINGENCY	£119,694	£109,086



*Shaima trying her
sleeve and cosmetic
prosthetic
A'zaz, 2022*

Hassan's Story

One day, while Hassan, aged 16, was at his mosque in Tel Rifaat, Syria, he was wounded by a gunshot. As a result, he lost his arm.

Without his arm, he explains that he felt he lost his dignity and his friends, as he was too embarrassed to play with the other children; "I can't go to school anymore; I can't even hold a pen."

While the trauma Hassan has faced cannot be removed, supplying him with a prosthetic to regain independence, dignity, and ease of movement has made a marked impact on his life. It has allowed him to take part in the daily tasks his amputation prevented him from doing, like writing again.

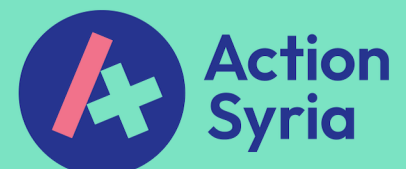
The PAC team told us **"our reward was Hassan's laugh and his hope that he would get used to the prosthesis and start a new chapter of his life."** To support him in this new chapter, Hassan also received psychosocial support and physiotherapy.

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Hassan
at the clinic
A'zaz, 2023

Thank you



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