World Health Organization

REGIONAL OFFICE FOR THE Eastern Mediterranean

TB Research Journey

A priority to END TB

National Pakistan SORT-IT Course

(Structured Operational Research and Training Initiative)

The SORT-IT course developed by The Union, MSF and WHO was first launched in Pakistan in 2016.

The initiative is intended to support organizations, projects and countries in undertaking operational research in accordance with their own priorities, develop adequate and sustainable operational research capacity, and create an organizational culture of policy and practice being informed by operational research, leading to improved programme performance.

Courses are now run in 35 countries worldwide.

- **Product**–oriented [a submitted research paper]
- **Modular approach** [3 modules over 10-12 months]
- **Milestones** must be achieved to stay in course

National TB Control Program

SORT IT
Improving health systems through research

The Global Fund
To Fight AIDS, Tuberculosis and Malaria

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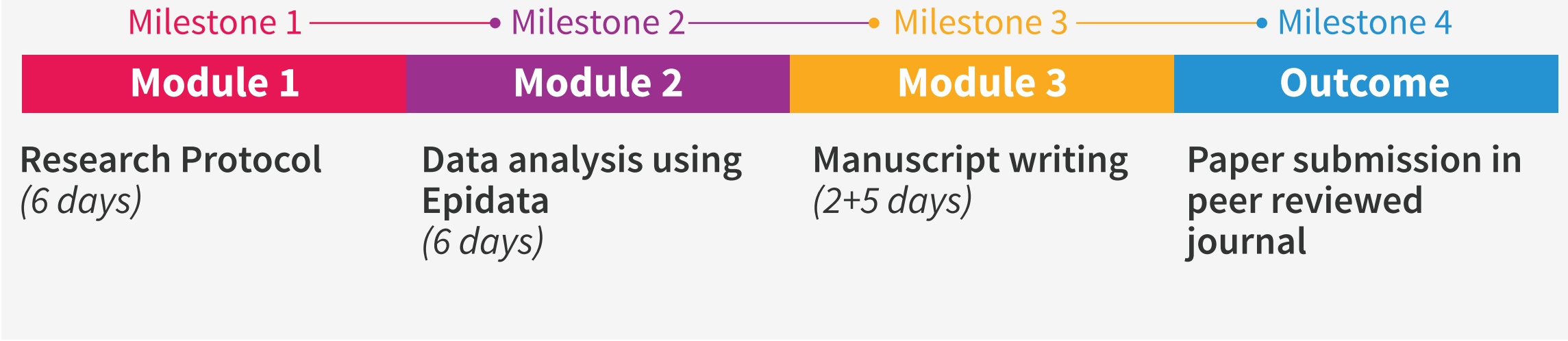
TDR
UNICEF • UNDP • World Bank • WHO

The SORT-IT Course



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Since the training of Pakistani participants started in 2016, approximately 40 participants from Pakistan have been enrolled in national and international SORT-IT courses.

5 courses have been successfully completed.

72 papers submitted

65 (90%) published

40% of participants were female

highlighting that both gender equity and gender balance are being promoted through the training of female researchers in the country.

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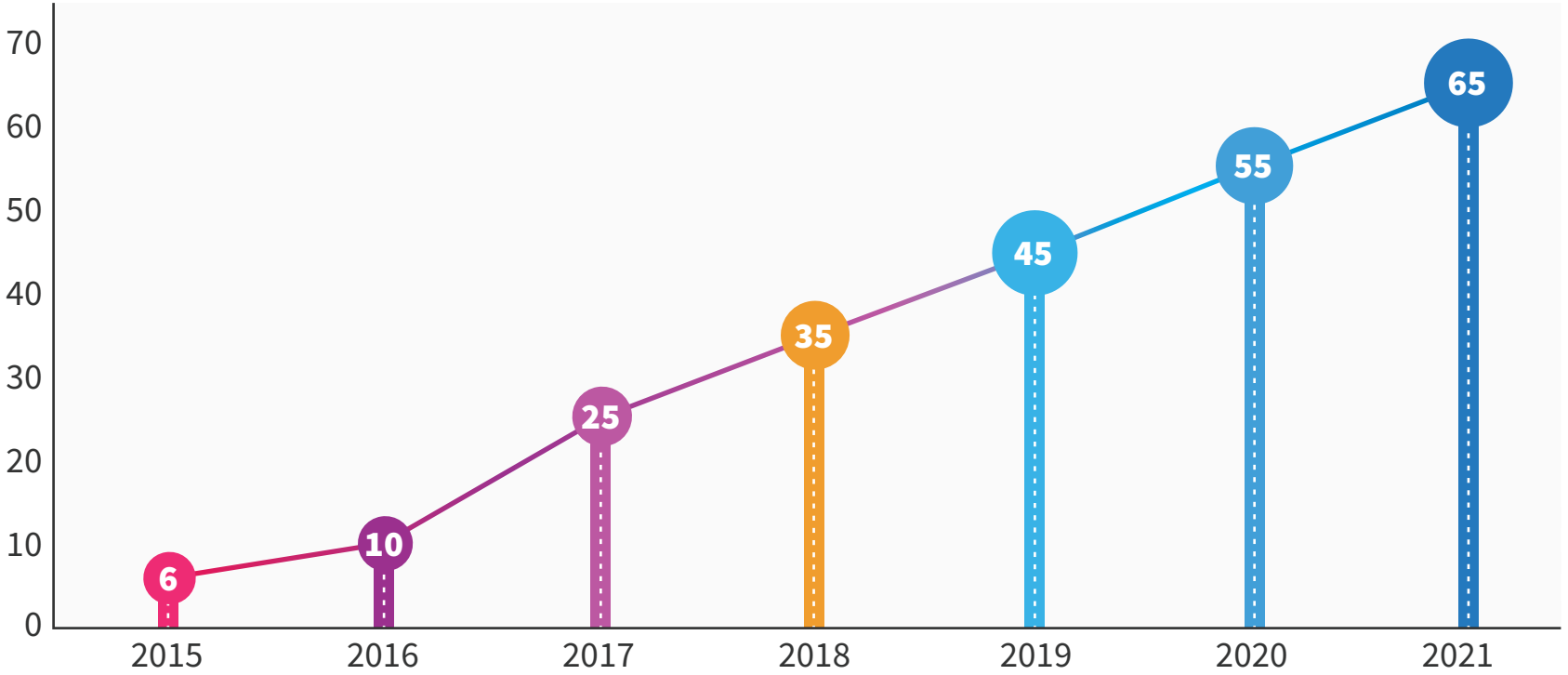
INCREASING TREND OF RESEARCH PAPERS PUBLISHED



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Effectiveness and feasibility of 2 months hospitalization (hospital-based) and 1 week hospitalization (community-based) delivery of care for multidrug-resistant tuberculosis (MDR-TB) in Pakistan: a randomized controlled trial (ongoing)

A randomized controlled trial was held in three programmatic management of drug-resistant TB sites:

- Gulab Devi Hospital, Lahore
- OJHA, Karachi
- Samli Sanitarium, Murree.

1

Two types of service delivery model were evaluated for their effectiveness and cost-effectiveness in the low-resource settings of Pakistan:

- **Community-based**
  (1 week hospitalized and early discharge to peripheral care)
- **Hospital-based**
  (2 months hospitalized and late discharge to peripheral care).

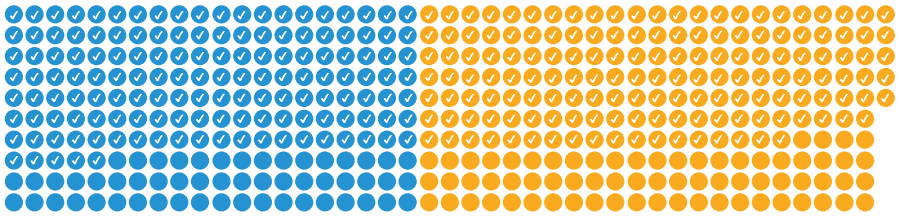
2

Cost-effectiveness analysis is ongoing at the Woolcock Institute of Medical Research, Australia.

3

Study findings

Among
425 MDR-TB
patients,



Treatment success was
74.2% (161/217)

Treatment success was
67.8% (141/208)

217 were allocated to community-based care
208 to hospital-based care.

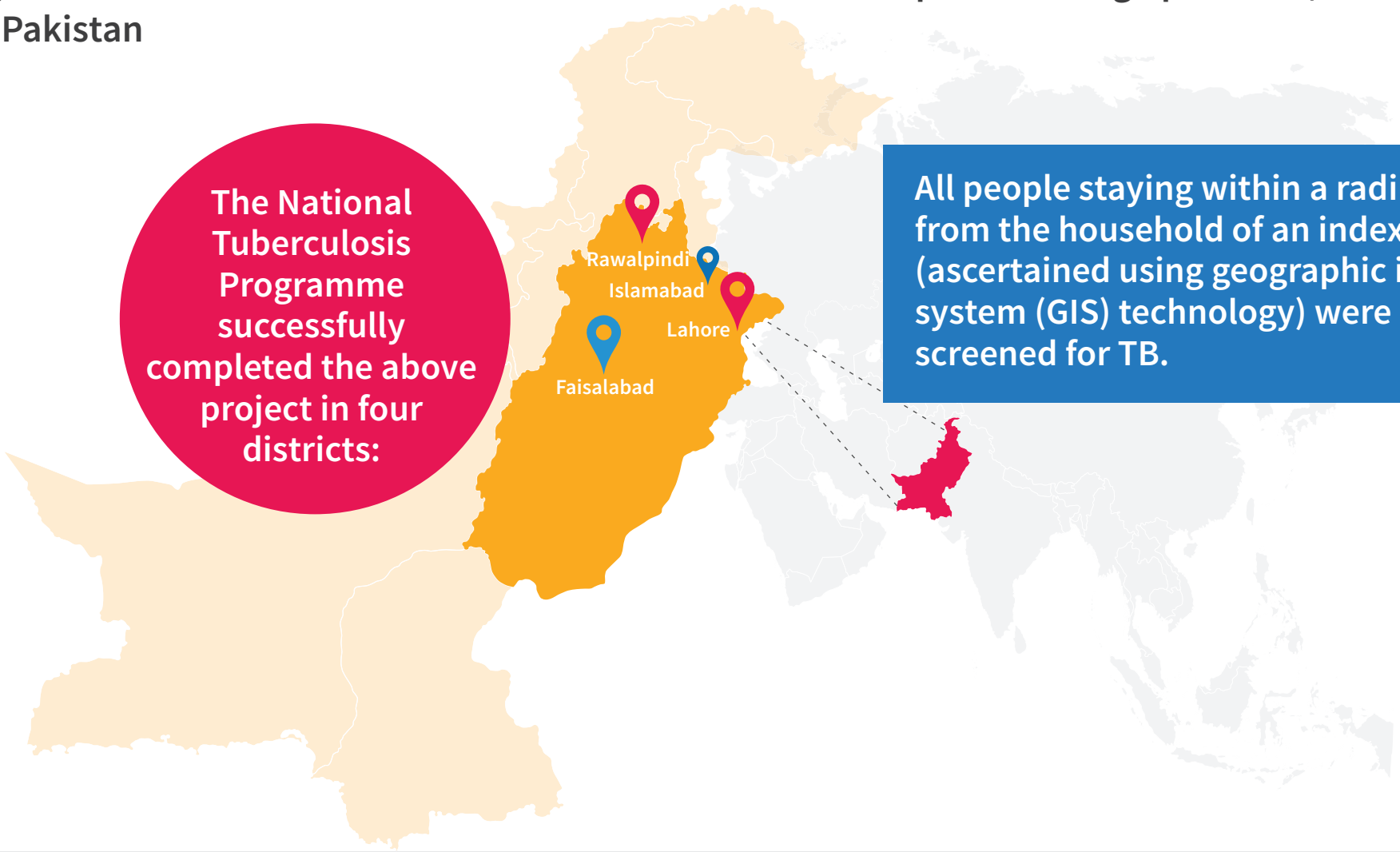
Baseline characteristics were similar between the community and hospitalized arms as well as in selected sites.

giving a covariate-adjusted risk difference (community versus hospital model) of 0.06 (95% CI = −0.02 to 0.15; p = 0.144).

Given the other substantial advantages of community-based care over hospital-based care (for example, more patient friendly and accessible, with lower treatment costs) these findings support the adoption of the community-based care model, as recommended by the World Health Organization.

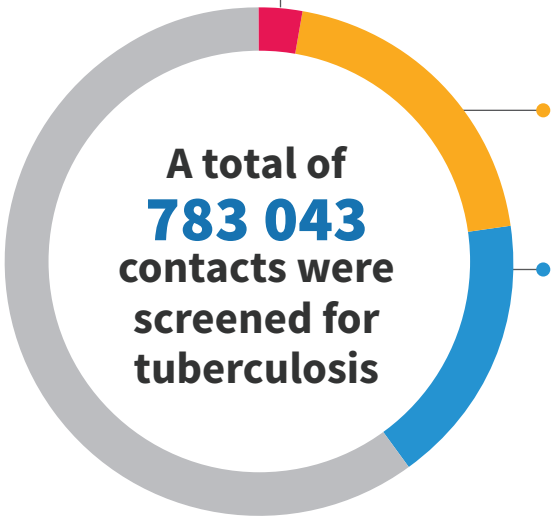
GIS-based innovative strategy for extending “contact tracing” into the community within a 50-metre radius around an index tuberculosis patient using Xpert MTB/RIF in urban settings in Pakistan

The National Tuberculosis Programme successfully completed the above project in four districts:



All people staying within a radius of 50 metres from the household of an index TB patient (ascertained using geographic information system (GIS) technology) were contacted and screened for TB.

Study findings



23 741(3.0%) presumptive TB patients were identified

among whom

4710 (19.8%) all forms

4084 (17.2%) bacteriologically confirmed TB patients were detected

The overall yield of all forms TB patients among those investigated was:

22.3% among household members

19.1% in the close community

The intervention contributed an increase of case detection of bacteriologically confirmed tuberculosis of 6.8% and of all forms TB patients of 7.9%.

National child TB inventory study, Pakistan

Aim: To quantify the level of under-reporting to the national surveillance system among diagnosed childhood TB cases.

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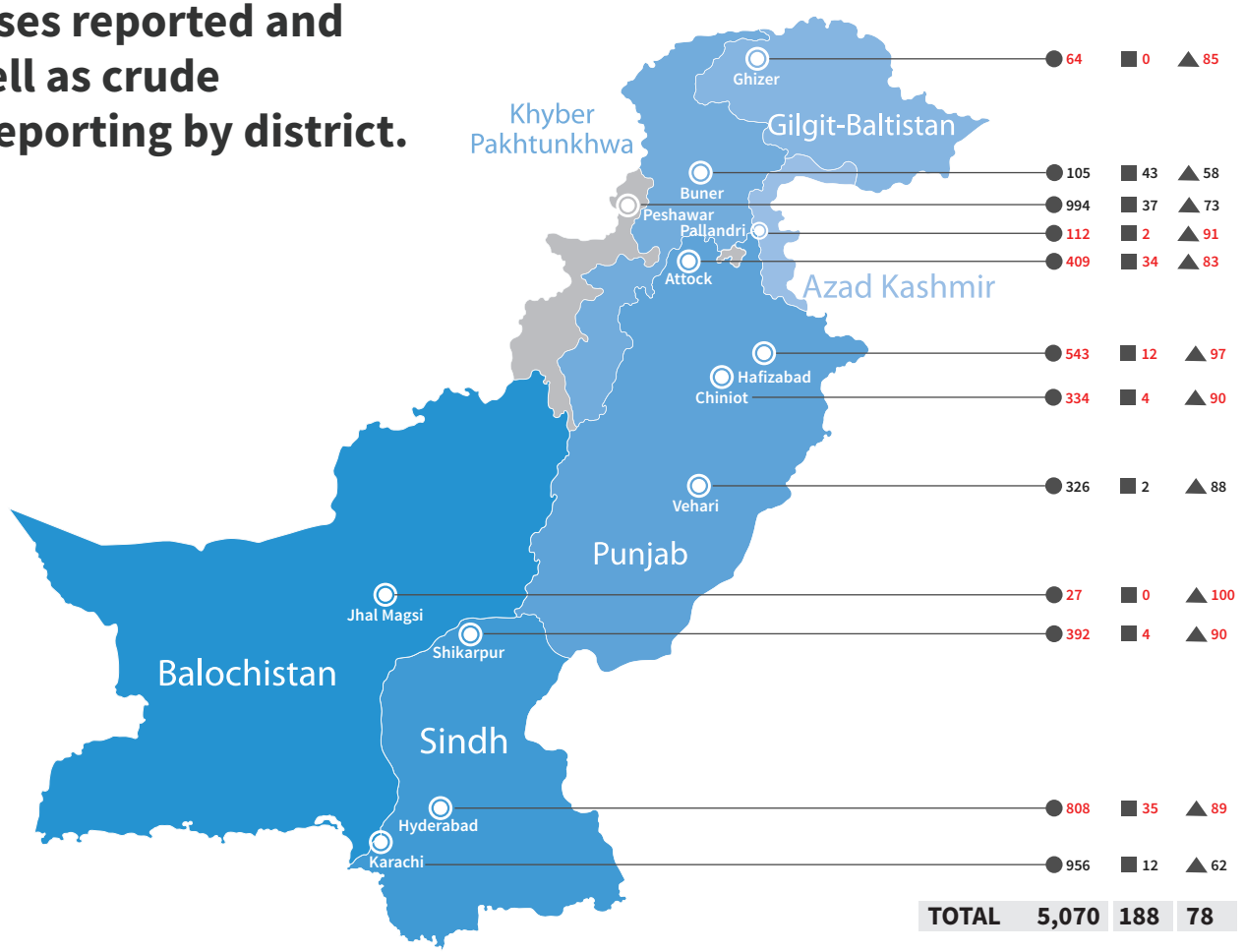
National child TB inventory study, Pakistan – results

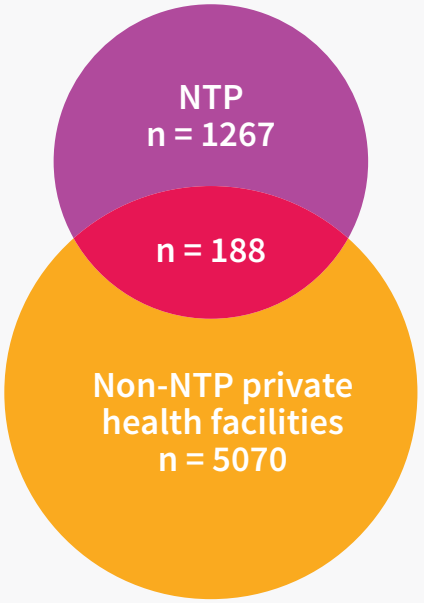
Number of child TB cases reported and reported to NTP, as well as crude percentage of under-reporting by district.

- Non-NTP
- NTP
- Under-reporting (%)



Ghizer	64	0	85
Buner	105	43	58
Peshawar	994	37	73
Pallandri	112	2	91
Attock	409	34	83
Hafizabad	543	12	97
Chiniot	334	4	90
Vehari	326	2	88
Jhal Magsi	27	0	100
Shikarpur	392	4	90
Hyderabad	808	35	89
Karachi	956	12	62
TOTAL	**5,070**	**188**	**78**

Level of under-reporting: 78%



Tobacco cessation within TB programmes:

a “real world” solution for countries with a dual burden of disease

The University of York in the United Kingdom is collaborating with the National Tuberculosis Programme on a study that:

Aims: to reduce the burden of tobacco-related lung diseases by integrating inexpensive tobacco-cessation strategies of proven efficacy into TB control programmes.

Methodology: multi-centre two-arm, double-blind placebo-controlled randomized controlled trial to assess the effect of cytisine combined with a behavioural support intervention.

Findings

Between
6 June 2017

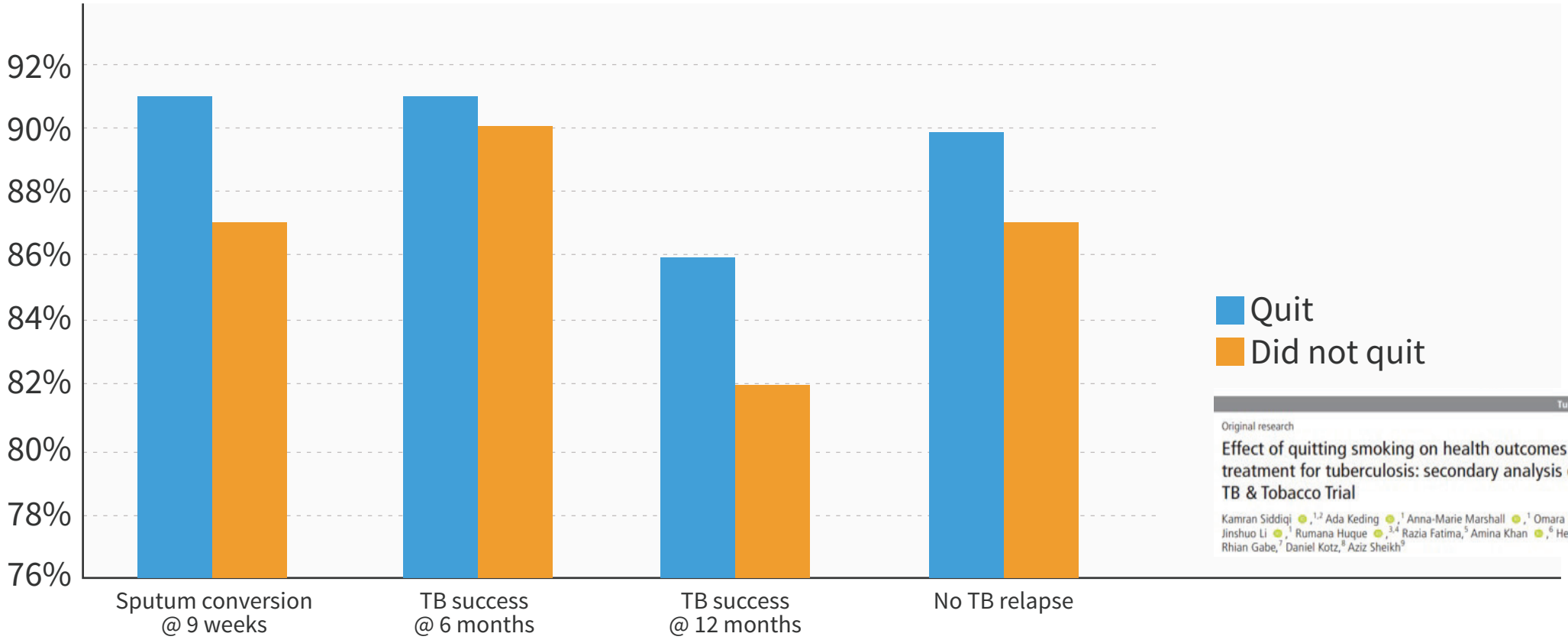
945 patients were enrolled and randomly assigned to receive cytisine or placebo.

And
30 April 2018

At 6 months, **32.4%** of participants in the cytisine group and **29.7%** of participants in the placebo group had achieved continuous tobacco abstinence.

Risk difference 2.68% (95% CI = −0.96 to 6.33) Relative risk 1.09 (95% CI = 0.97 to 1.23, p = 0.114).

TB outcomes, quitters vs non-quitters



Tuberculosis

Original research

Effect of quitting smoking on health outcomes during treatment for tuberculosis: secondary analysis of the TB & Tobacco Trial

Kamran Siddiqi,[1,2] Ada Keding,[1] Anna-Marie Marshall,[1] Omara Dogar,[1] Jinshuo Li,[1] Rumana Huque,[3,4] Razia Fatima,[5] Amina Khan,[6] Helen Elsey,[1,2] Rhian Gabe,[7] Daniel Kotz,[8] Aziz Sheikh[9]

Thorax: first published as 10.1136/thoraxj

Assessment of clinically diagnosed TB in Pakistan

Two districts in Pakistan were randomly selected within each of the three tertiles of districts with the following proportions of all TB case notifications diagnosed clinically in the four quarters Q3–2018 to Q2–2019 prior to study initiation:

- High (99%)
- Medium (53.2%)
- Low (46.2%).

Data were collected from clinicians, laboratory technicians, new or relapsed pulmonary TB patients and facility managers using structured and semi-structured interviews.

Low clinical notification proportion study districts	Haripur
	Bhakkar
	Mardan (added to meet required sample size)
Medium clinical notification proportion study districts	Karachi West
	Matiari
High clinical notification proportion study districts	Umerkot
	Rahim Yar Khan

Study findings

Among 53 abnormal chest x-rays available for audit, 45.8% were not compatible with TB diagnosis.

This suggests the possibility of over-diagnosis of TB.

Characteristics	Total (unweighted)		Total (weighted)			
				95% CI		
	n	%	n	%	n	%
Chest x-ray available for audit				*total = 1800*		
Not done/ available	198	11.0	1747	97.0	91.0	99.1
Original score: abnormal	1577	87.6	53	3.0	0.9	9.1
Original score: normal	25	1.4	0	0.0	0.0	0.0
Agreement between original & audited score						
Abnormal (original diagnosis) = abnormal (audit)	71	100.0	53	100.0	100.0	100.0
Abnormal chest x-ray compatible with clinical TB upon audit						
Not TB compatible	22	31.0	24	45.8	7.0	90.5
TB compatible	49	69.0	29	54.2	9.5	93.0

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