

Abstract Language: English

Title: “Decentralization of Chest X-ray Services to Improve Clinical Diagnosis of Tuberculosis in Imo State, Nigeria.”

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Keywords: Clinical Diagnosis, Tuberculosis, Chest X-ray, KNCV, Decentralization.

Introduction: Chest X-ray is a non-specific test prescribed by clinicians to diagnose active pulmonary tuberculosis disease. The National Tuberculosis and Leprosy Control Program (NTBLCP) provides free diagnosis of tuberculosis via Chest X-ray for patients presumed to have tuberculosis. This is done by engaging radiological centers to provide Chest X-ray services to these clients. NTBLCP and other implementing partners such as KNCV Tuberculosis Foundation Nigeria (KNCV) reimburse the centers monthly or quarterly. The Imo State TB Control Program (STBLCP) only had 1 center where presumptive clients could access free chest X-ray. This meant that patients had to travel long distance to access free chest X-ray or pay for it in centers close to their residence. This limited evaluation and diagnosis using Chest X-ray.

Method: Decentralization involved engaging other private X-ray centers to provide free Chest X-ray to presumptive TB clients. The centers are paid an agreed rate by end of the quarter/month. KNCV pioneered this process in Imo state after the onset of USAID funded TB-LON Project in April 2020. Three new radiological centers were officially engaged in August 2020 in Owerri Municipal, Owerri West and Orlu LGAs. By March 2021, 11 new centers across the 3 senatorial zones of Imo state were providing free Chest X-ray. Decentralization within Imo state increased access to free chest X-ray services.

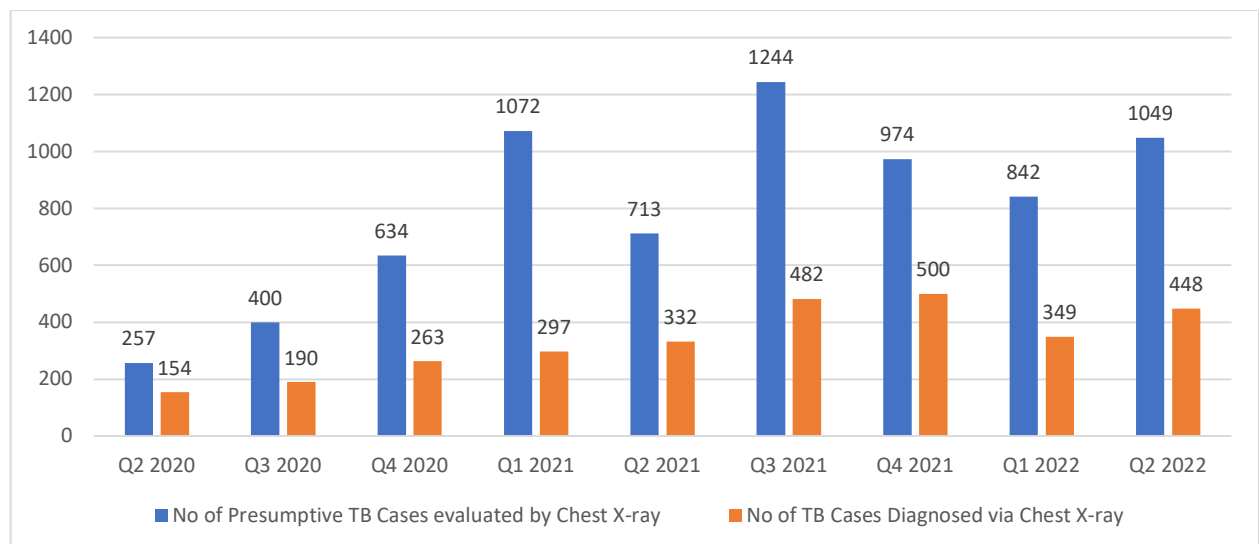
Results:

Quarter/ year	No of Presumptive TB Cases Evaluated	No of Presumptive TB Cases evaluated by Chest X-ray	% Presumptive TB Cases Evaluated by Chest X-ray	No of TB Cases Diagnosed	No of TB Cases Diagnosed via Chest X-ray	% TB Cases Clinically Diagnosed
Q2 2020	3095	257	8%	393	154	39%
Q3 2020	6514	400	6%	485	190	39%
Total	9609	657	7%	878	344	39%

After Decentralization

Q4 2020	6412	634	10%	594	263	44%
Q1 2021	6509	1072	16%	682	297	44%
Q2 2021	6014	713	12%	727	332	46%
Q3 2021	7306	1244	17%	835	482	58%
Q4 2021	7334	974	13%	937	500	53%
Q1 2022	7617	842	11%	1018	349	34%
Q2 2022	8154	1049	13%	994	448	45%
Total	49346	6528	13%	5787	2671	46%

From the table above, the % of presumptive TB cases being evaluated by Chest X-ray increased from 7% before decentralization to 13% after decentralization in Q3 2020. This increased the % of TB cases diagnosed clinically from 39% before decentralization to 46% after decentralization in Q3 2020.



Conclusion: Increasing access to clinical diagnosis of Tuberculosis is key to finding missing TB cases for NTBLCP and KNCV to meet set targets of reducing the incidence of TB in Nigeria by 90% by 2035. This model is recommended for scaling up across other state TB programs.