INTRODUCTION: TSH cutoffs (CO) levels in congenital hypothyroidism (CH) neonatal screening programs (NSP) tend to lower worldwide. Nevertheless, reports on benefits and risks are not clear. The Buenos Aires City Government NSP for CH uses since 2001 a TSH CO of 10 mIU/L blood. METHODS: A prospective pilot NSP with TSH CO: 8 mIU/L blood (IFMA-DELFIA) was performed from 1/6/2013 to 1/6/2018. DBS were obtained from heel prick at maternity discharge. Newborns with TSH >10 mIU/L blood were recalled and usual confirmation procedures were triggered while babies with TSH levels 8-9.9 mIU/L blood assisted to a unique center to be clinically and biochemically evaluated. With serum TSH above the normal age related limit, a TC99 thyroid scintigraphy was performed. Babies were followed up until confirmation or exclusion of CH. RESULTS: Out of 130,405 newborn screened 496 with TSH >10 mIU/L were recalled and 108 CH confirmed (Recall rate (RR): 0.38%). 208 extra babies were recalled with the new cutoff (Overall RR: 0.54%). 206 were localized and evaluated. In 176 (85%) TSH and thyroid hormones normalized within the first month of life. 30% of them reported iodide exposure and 4% were premature. 12 (5.8%) were lately localized by social service having already normal thyroid function. In 18 (8.7%) TSH remained high: Nine (1 extreme preterm) confirmed CH (2 goiters with high thyroglobulin, 1 ectopic thyroid gland, 3 eutopic glands and 3 could not be characterized) and were treated (median age: 8 days). Nine (3 exposed to iodide, 1 preterm, 1 with maternal autoimmunity and 4 without relevant history) had persistent hyperthyrotpinemia. At a median age of 13 days their median serum TSH was 12.4 mIU/L with normal Free Thyroxine. All had an eutopic thyroid and when followed up without treatment, 5 normalized TSH levels within the first 3 months, 2 did it after 2 years of follow up and 2 are still in control, all with normal outcomes. CONCLUSION: In view of the higher detection and still acceptable RR, our screening program decided to keep the lower cutoff. However, the follow up of the detected children will clarify the benefits on their early detection.