

### Background

- **Patients in Low and Middle Income Countries** cannot afford effective, expensive, evidence based Rx
- Oncologists must tailor Rx to individual resources
- **Navya approach:** Clinical informatics based mobile ExpertApp and patient service combines evidence, prior tumor board decisions, patient resource constraints, and quick review from TMC NCG experts to recommend tailored treatment plans
- **NCCN approach:** NCCN Resource Stratified-Framework, 4 tier prioritization scheme
- **This study maps NCCN to Navya** as an evidence based index for resource sensitive treatment selection

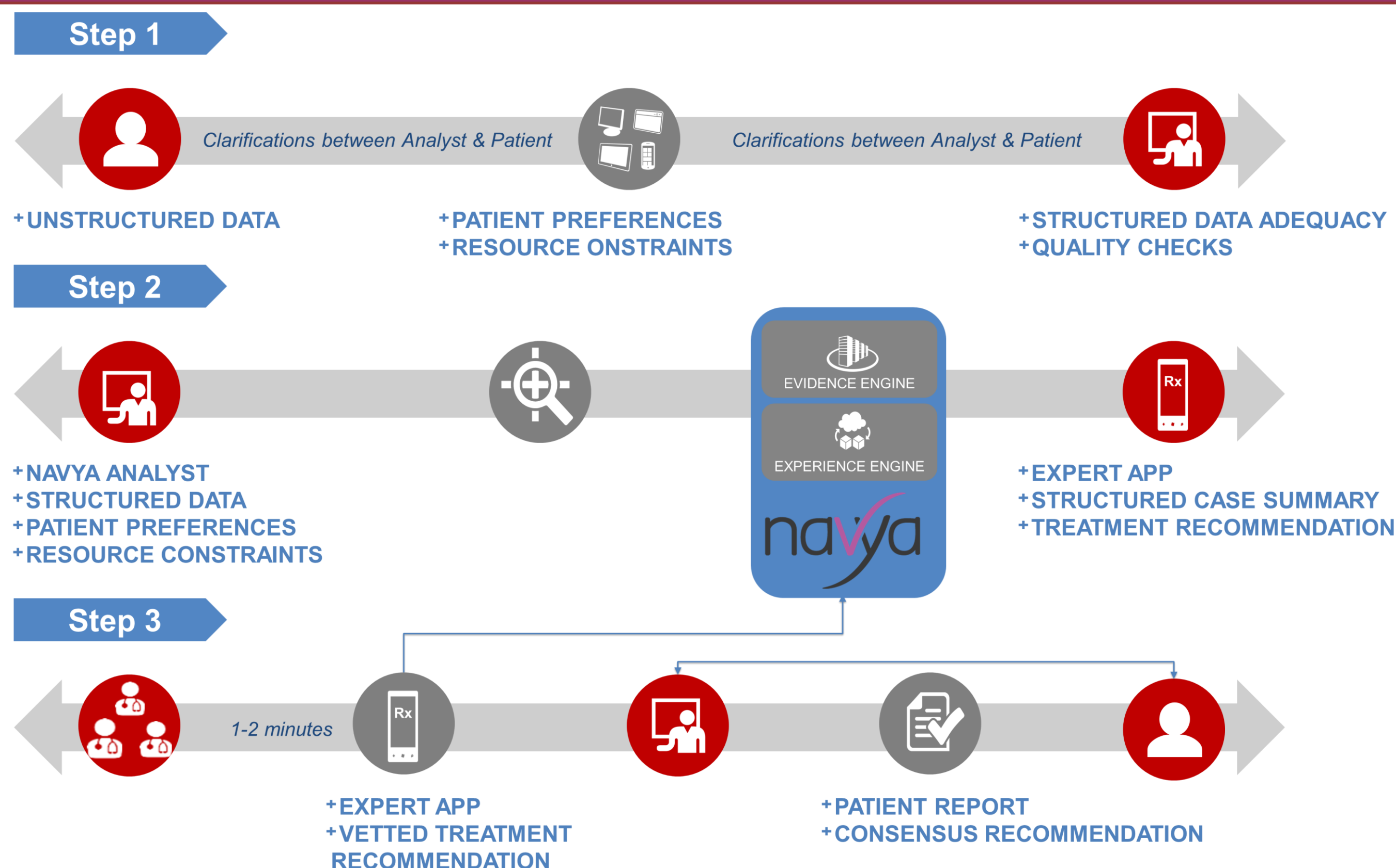
### Methodology

- **Inclusion Criteria:** All breast cancer patients who received an online expert opinion from TMC NCG Navya between July 1st 2014 and April 30th 2017
- Navya systematically gathered **information on patient resource constraints** (such as affordability for Trastuzumab). (Figure 1)
- **Navya recommendations** (breast and nodal surgery, radiation site and fractionation, drug and dose density etc.) **were mapped to NCCN-RSF resource tiers** (Basic, Core, Enhanced, Parent guideline)
- **Reasons were categorized** for Navya recommendations not present in NCCN-RSF

### Table 1 – Mapping NCCN Resource Stratified Framework to Navya

NCCN RSF Tiers	HIGH LEVEL: Multimodality treatment and sequencing (1203)	INTERMEDIATE: Within modality treatment categories (1188)	GRANULAR: Specific treatment protocols (1140)
Example Decisions	<b>Neoadjuvant vs Adjuvant Chemo</b>	<b>Anthracycline vs Taxane</b>	<b>Hypofractionation vs Standard XRT</b>
<b>At Least One Tier</b>	98.8%±0.6	96%±1.1	88.3%±2
<b>Enhanced</b>	94.4%±1.3	91%±1.7	78.5%±2.7
<b>Core</b>	1.9%±5.6	1.2%±5.7	1.2%±5.8
<b>Parent NCCN Guideline</b>	2.4%±5.6	3.8%±5.6	8.6%±5.5

Figure 1- Navya: How it Works (Adapted from ASCO 2017)



**STEP 1: Collection of clinical information for online decision making including patient preferences and constraints**

**STEP 2: Clinical Informatics System generates an Evidence and Experience based Rx Recommendation**

**STEP 3: System output enables Multidisciplinary Expert Opinion and Delivery to Patient**

### Results

- ✓ 616 patients (36.3% MBC), received 1203 recommendations.
- ✓ NCCN parent guidelines could only be mapped in 8.6% of the recommendations. 79.7% of recommendations required tailoring for resource constraints. (Table 1).
- ✓ 11.7% recommendations did not map.
- ✓ For instance, year long trastuzumab recommended by NCCN RSF did not map to shorter courses of trastuzumab recommended by Navya for patients who could not afford year long therapy.

### Conclusion

Navya's treatment recommendations are sensitive to resource constraints.

Navya's clinical informatics system and personalized patient service scales access to evidence based expert treatment selection for large numbers of patients in Low and Middle Income Countries

NCCN Resource-Stratified Framework can scale adoption and learning of resource constrained treatment guidelines by leveraging systems and service like Navya