**Research Task 7: Ethical Implications of Decision Making**

**Syracuse Women’s Lacrosse 2024 – Ethical Decision Report**

**Purpose:** Translate prior statistical analysis and AI-generated narratives into actionable, ethically sound recommendations for Syracuse Women’s Lacrosse coaching staff.

**Executive Summary (≤300 words)**

Our analysis of the 2024 Syracuse Women’s Lacrosse season highlights both strengths and areas for improvement. The team demonstrated elite offensive efficiency, converting **46.8% of shots vs. 38.6% for opponents**

Key contributors included **Emma Tyrrell** (92 points) and **Katelyn Mashewske** (234 draw controls), driving possession advantage. Despite this, close-game outcomes suggest that **defensive lapses cost at least two wins**, making defense the critical improvement area

Recommendations are organized into risk tiers:

* **Low Risk (Operational):** Provide **targeted offensive coaching** to Emma Tyrrell and other top scorers to maintain conversion efficiency.
* **Medium Risk (Investigatory):** Implement structured **defensive training and matchup role adjustments** for Natalie Smith, who demonstrated versatility (36 ground balls, 36 draws)
* **High Risk (Strategic):** Consider roster or lineup changes, which require **legal/HR review and ethical oversight** to ensure fairness and compliance.

Confidence is **moderate**: descriptive statistics are reliable, but malformed score data in parts of the dataset limited certain outcome analyses

All AI outputs have been labeled and validated against raw data where possible.

**Background & Decision Question**

**Stakeholders:** Syracuse Women’s Lacrosse coaching staff and athletic director.  
**Decision:** Should the team prioritize **offense or defense** in the off-season to secure at least **two additional wins** next year?  
**Risk Level:** Medium (affects team success but not medical/safety outcomes).

**Data & Methods**

* **Data Source:** Syracuse Women’s Lacrosse 2024 season stats. Collected by official SU staff. Known limitation: malformed Score entries prevented outcome analysis by scoring threshold
* **LLM Prompts & Outputs:** See **Task 05 prompts.md** for offensive/defensive strategy, top performers, efficiency, and clutch players
* **Narrative & Interview:** Task 06 transcript (synthetic coach interview) provides narrative framing
* **Process Documentation:** Task 06 README includes details on TTS workflow and ethical labeling

**Findings**

1. **Offense:** 46.8% shot efficiency vs. 38.6% opponent average. Emma Tyrrell: **92 points** (70 goals, 22 assists)
2. **Possession:** 234 draw controls (Mashewske), team edge of 384 vs. 334
3. **Defense:** Weakness in late-game stops and limiting opponent shot quality
4. **Clutch Performance:** Emily Hawryschuk and Megan Carney provided game-winning goals

**Uncertainty & Validation**

* **Statistical Checks:** Descriptive stats reproduced; confidence intervals feasible but not yet computed.
* **Limitations:** Score column errors restrict correlation between scoring and win outcomes
* **Sanity Checks:** No extreme outliers in individual stats; roles validated against transcript narratives.

**Bias & Fairness**

* Player recognition focused on those with available stats; underrepresentation risk for defensive specialists.
* LLM outputs edited and validated for factual accuracy; clearly labeled as **AI-generated**.
* Ethical safeguard: no impersonation of real coaches, voices labeled as synthetic

**Recommendations (Tiered by Risk)**

* **Low Risk (Operational):** Continue offensive drills for Emma Tyrrell; reinforce shot quality focus.
* **Medium Risk (Investigatory):** Defensive scheme adjustment with Natalie Smith as a focal point. Controlled trials in practice scrimmages recommended.
* **High Risk (Strategic):** Lineup or roster changes if defense remains insufficient. Requires legal/HR oversight to avoid bias or unfair impact.

**Ethical / Legal Concerns**

* **Transparency:** All AI-generated text/audio labeled clearly
* **Data Privacy:** Stats used are public athletic data, no personal/private identifiers.
* **Fairness:** Avoid recommendations that unfairly penalize under-represented players.
* **Compliance:** High-stakes recommendations require HR/legal review.

**Next Steps & Validation Plan**

1. **Quantify uncertainty:** Compute bootstrap confidence intervals on scoring efficiency.
2. **Expand dataset:** Correct malformed score column for future outcome analysis.
3. **Bias checks:** Review subgroup representation (e.g., defenders, non-scorers).
4. **Validation:** Run controlled trials in scrimmages to test defensive adjustments.

**Appendices**

* **Appendix A:** Prompts from Task 05 – prompts.md
* **Appendix B:** Transcript from Task 06 – transcript\_2024
* **Appendix C:** Process README (Task 06) – README\_process\_2024
* **Appendix D:** Synthetic Audio (Task 06).