

## **SUPPLEMENTAL DATA FILE**

### **INTEGRATION OF CRO AND CDMO SERVICES WITH A SINGLE VENDOR: NET FINANCIAL GAINS FOR CLINICAL TRIALS**

**Joseph A. DiMasi,<sup>1</sup> Abigail Dirks,<sup>1</sup> Kenneth A. Getz,<sup>1</sup>**

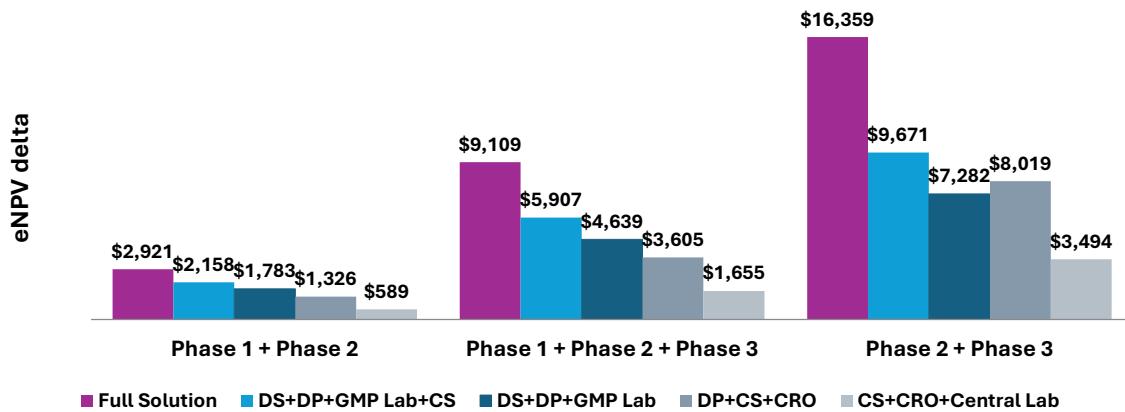
<sup>1</sup> Tufts Center for the Study of Drug Development, Tufts University

**Table S1. Reduction in Trial Cycle Times with Integrated CDMO-CRO Services for mAb Oncology Indications by Grouped Services**

	Reduction in Phase Duration (mos.)				
	Full Model	DS+DP+GMP Lab+CS	DS+DP+GMP Lab	DP+CS+CRO	CS+CRO+Central Lab
<b>Phase 1</b>	12.7	11.5	9.7	3.5	2.7
<b>Phase 2</b>	6.8	3.0	2.1	6.0	3.5
<b>Phase 3</b>	14.5	9.0	6.7	6.0	3.5

DS = drug substance; DP = drug product; GMP = Good Manufacturing Practices; CS = clinical supplies

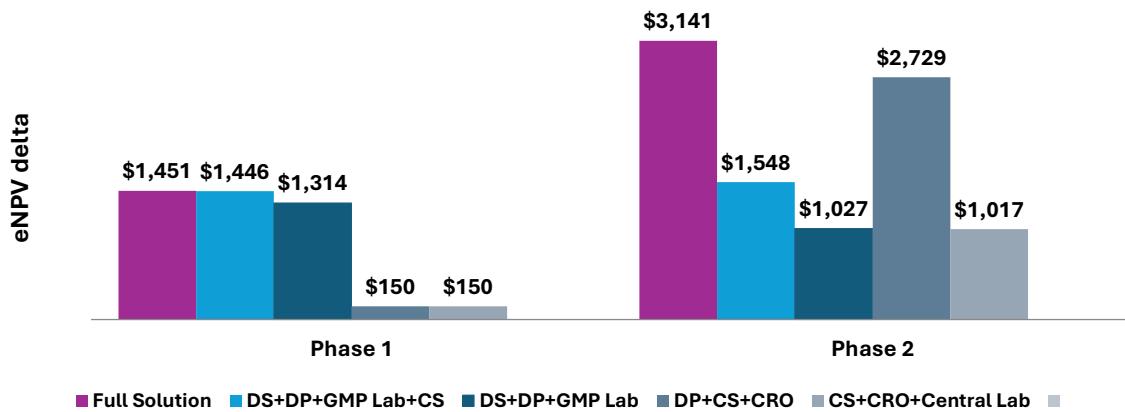
**Figure S1. Gains in eNPV (thousands 2023 USD) per Investigational mAb Oncology Indication with Integrated CDMO-CRO Solutions by Grouped Services (multiple phases)**



Costs and benefits discounted to the start of the earliest phase

eNPV delta = difference in eNPV for sponsors between conducting all trials for an oncology indication in the given phases using a single vendor versus using a multi-vendor industry solution.

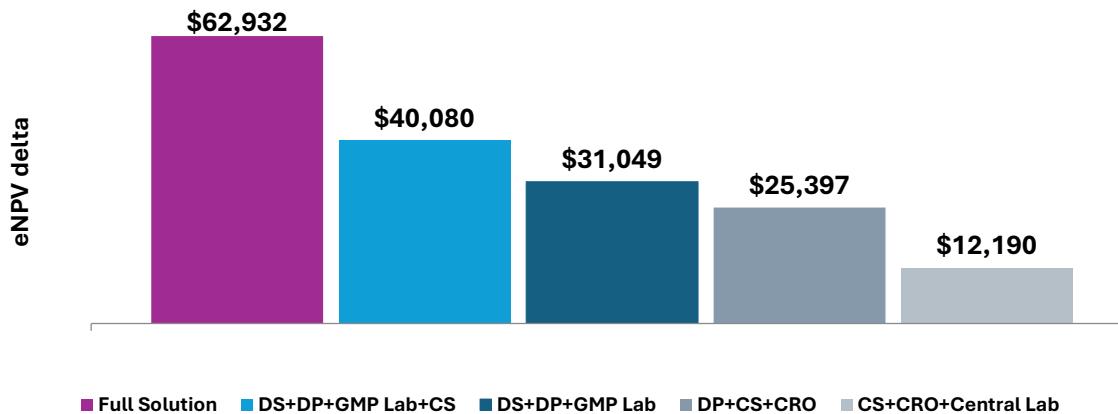
**Figure S2. Gains in eNPV (thousands 2023 USD) per Investigational mAb Oncology Indication with Integrated CDMO-CRO Solutions by Grouped Services (single phases)**



Costs and benefits discounted to the start of the earliest phase

eNPV delta = difference in eNPV for sponsors between conducting all trials for an oncology indication in the given phases using a single vendor versus using a multi-vendor industry solution.

**Figure S3. Gains in eNPV (thousands 2023 USD) per Investigational mAb Oncology Indication with Integrated CDMO-CRO Solutions by Grouped Services (phase 3)**



Costs and benefits discounted to the start of the earliest phase

eNPV delta = difference in eNPV for sponsors between conducting all trials for an oncology indication in the given phases using a single vendor versus using a multi-vendor industry solution.

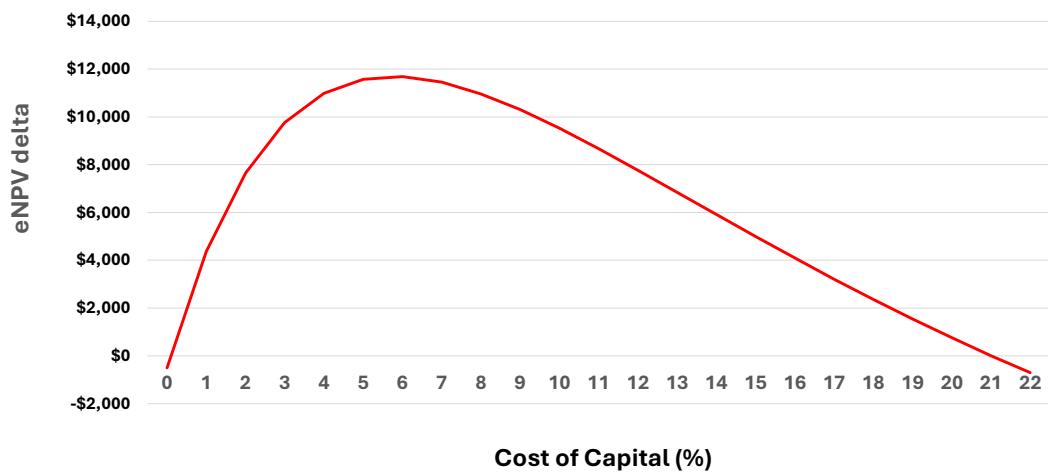
**Table S2. Incremental eNPV (thousands 2023 USD) for Integrated Services (full range of capabilities) for mAb Oncology Indications by Mean Phase Cost**

	Percent of Base Case		
	Base (100)%	-20%	+20%
<b>Phase 1</b>	\$1,451	\$1,577	\$1,325
<b>Phase 2</b>	\$3,141	\$3,285	\$2,998
<b>Phase 3</b>	\$62,932	\$66,013	\$59,851

Costs and benefits discounted to the start of the earliest phase

eNPV delta = difference in eNPV for sponsors between conducting all trials for an oncology indication in the given phase using a single vendor vs a multi-vendor industry solution.

**Figure S4. eNPV delta (thousands 2023 USD) for Integrated Services with Full Capabilities for Multiple Clinical Phases (Phase 1 + Phase 2 + Phase 3) for mAb oncology indications**



**Table S3. Incremental eNPV (thousands 2023 USD) for Integrated Services (full range of capabilities) for mAb Oncology Indications for Individual and Multiple Phases by the Cost of Capital**

	Cost of Capital		
	7.0%	10.5% (base)	14.0%
<b>Phase 1</b>	\$2,850	\$1,451	-\$127
<b>Phase 2</b>	\$4254	\$3,141	\$1,651
<b>Phase 3</b>	\$62,755	\$62,932	\$57,198
<b>Phase 1 + Phase 2</b>	\$4,868	\$2,921	\$636
<b>Phase 1 + Phase 2 + Phase 3</b>	\$11,450	\$9,109	\$5,919
<b>Phase 2 + Phase 3</b>	\$18,128	\$16,359	\$13,085

Costs and benefits discounted to the start of the earliest phase

eNPV delta = difference in eNPV for sponsors between conducting all trials for an oncology indication in the given phase using a single vendor vs a multi-vendor industry solution.

**Table S4. Incremental eNPV (thousands 2023 USD) for Integrated Services (full range of capabilities) for mAb Oncology Indications for Individual and Multiple Phases by Molecule Peak Annual Net Sales**

	Molecule Peak Annual Net Sales		
	\$2,878 (-25%)	\$3,837 (base)	\$4,796 (+25%)
<b>Phase 1</b>	-\$93	\$1,451	\$2,995
<b>Phase 2</b>	\$1,212	\$3,141	\$5,070
<b>Phase 3</b>	\$42,878	\$62,932	\$82,987
<b>Phase 1 + Phase 2</b>	\$475	\$2,921	\$5,368
<b>Phase 1 + Phase 2 + Phase 3</b>	\$4,690	\$9,109	\$13,527
<b>Phase 2 + Phase 3</b>	\$10,218	\$16,359	\$22,500

Costs and benefits discounted to the start of the earliest phase

eNPV delta = difference in eNPV for sponsors between conducting all trials for an oncology indication in the given phase using a single vendor vs a multi-vendor industry solution.

**Table S5. Incremental eNPV (thousands 2023 USD) for Integrated Services (full range of capabilities) for mAb Oncology Indications for Individual and Multiple Phases by Years to Peak Sales**

	Years to Peak Sales		
	7	8 (base)	9
<b>Phase 1</b>	\$1,571	\$1,451	\$1,340
<b>Phase 2</b>	\$3,291	\$3,141	\$4,973
<b>Phase 3</b>	\$64,489	\$62,932	\$61,493
<b>Phase 1 + Phase 2</b>	\$3,111	\$2,921	\$2,746
<b>Phase 1 + Phase 2 + Phase 3</b>	\$9,452	\$9,109	\$8,792
<b>Phase 2 + Phase 3</b>	\$16,835	\$16,359	\$15,918

Costs and benefits discounted to the start of the earliest phase

eNPV delta = difference in eNPV for sponsors between conducting all trials for an oncology indication in the given phase using a single vendor vs a multi-vendor industry solution.

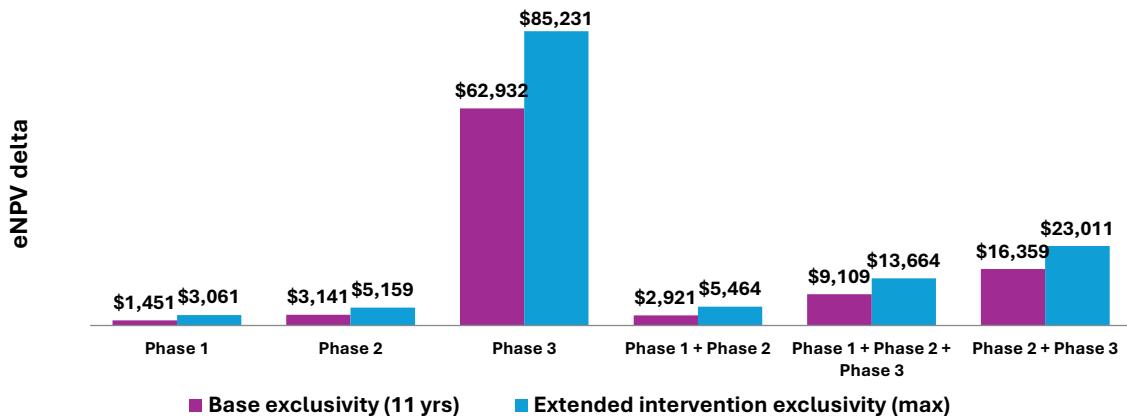
**Table S6. Incremental eNPV (thousands 2023 USD) for Integrated Services (full range of capabilities) for mAb Oncology Indications for Individual and Multiple Phases by Years of Market Exclusivity**

	Years of Market Exclusivity				
	11 (base)	12	13	14	15
<b>Phase 1</b>	\$1,451	\$1,604	\$1,741	\$1,862	\$1,970
<b>Phase 2</b>	\$3,141	\$3,333	\$3,503	\$3,655	\$3,790
<b>Phase 3</b>	\$62,932	\$64,921	\$66,697	\$68,277	\$69,677
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<b>Phase 1 + Phase 2</b>	\$2,921	\$3,164	\$3,381	\$3,573	\$3,744
<b>Phase 1 + Phase 2 + Phase 3</b>	\$9,109	\$9,547	\$9,938	\$10,286	\$10,595
<b>Phase 2 + Phase 3</b>	\$16,359	\$16,968	\$17,512	\$17,996	\$18,424

Costs and benefits discounted to the start of the earliest phase

eNPV delta = difference in eNPV for sponsors between conducting all trials for an oncology indication in the given phase using a single vendor vs a multi-vendor industry solution.

**Figure S5. Gains in eNPV (thousands 2023 USD) per Investigational mAb Oncology Indication with Integrated CDMO-CRO Solutions and Extended Length of Market Exclusivity**



Costs and benefits discounted to the start of the earliest phase

eNPV delta = difference in eNPV for sponsors conducting all trials for an oncology indication in the given phases using a single vendor versus using a multi-vendor industry solution.